Tychonis Brahe Dani Thesaurus Observationum, Tomus II

(1924)

by Tycho Brahe (1546–1601), observations; J. L. E. Dreyer (1852–1926), editor, with J. Raeder

Translation by Scott Weisman

Ars Astronomica

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Translator Version 2

Upright reason dictates that the recipients of the good, of whatever type and level of beneficence it may be, must show gratitude and blessing to the beneficent person in every way possible, commensurate with the value of the beneficence. And one who has benefited all the people of the world — for example, one who invented a new instrument for the good of the world, or a good book — it is fitting for every discerning person, out of the obligation of love of fellow beings, to at least purchase it, so that the man will profit and his heart will be encouraged thereby to invent yet more good instruments in the world. And similarly, all other wise-hearted people will likewise strive and exert themselves to invent good things and instruments needed for the repair of the world and its perfection.

And therefore, whoever says: "What do I need this new instrument for?" — he does not act well towards the world. For if not for the man who invented it, where would you be? And what would your city do? And more than this, if the man did not exert himself, what would the world do?

— R. Pinchas Eliyahu Hurwitz, *Sefer HaBris HaShalem* (1797)

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A note on the work

For twenty-one years on the island of Hven, and afterwards in Bohemia, Tycho Brahe and his assistants recorded what they saw. The observations were entered nightly into folio logbooks that survived Tycho's death, passed to Kepler, were kept by Kepler's son, and were finally bought for the Danish crown; they have been in the Royal Library in Copenhagen ever since. They were the data from which Kepler derived the elliptical orbit of Mars, and they remain the most accurate body of naked-eye positional astronomy ever assembled. This volume is the second part of J. L. E. Dreyer's *Thesaurus Observationum*, the edition that printed those logbooks complete from the manuscripts for the first time, covering 1586 through 1589.

This is a transcription of manuscripts, not a re-edition of a printed book, and it should be read differently from Dreyer's volumes of Tycho's published works. In editing the *Progymnasmata* he emends freely and his notes say what Brahe ought to have written; here his task was to establish what the codices actually say. His footnotes accordingly record manuscript variants and readings of particular codices far more often than corrections.

The manuscripts themselves have never been digitized. Until they are, this edition and Erasmus Bartholin's seventeenth-century collated copy at the Paris Observatory are the only complete witnesses to Tycho's observation books; the *Historia Coelestis* printed at Augsburg in 1666 from Viennese copies is complete but, in Dreyer's own judgement, has "scarcely a column which is not full of errors."

A note on the translation process

This translation was produced with the translation-pipeline. See the linked repository for details on the process.

This edition has been checked at citation grade. Every part of the translation was first compared, clause by clause, against a line-by-line transcription of its own page, and each divergence was settled before the work moved on. Then, on a stratified sample, the layer a citing reader depends on — figures, numbers, names, and every letter the transcription left undecided — was read again, point by point, from the original page by readers given no sight of either the transcription or the translation. Every disagreement in that layer, including whether a passage is present at all, was settled against the page before publication, and none was left open.

What that does and does not mean. The independent re-reading is a claim about those points in a sample, not about every line: it did not re-read whole pages, and a point it did not reach is neither confirmed nor denied. The clause-by-clause comparison covered the whole translation, but it checks the English against a transcription, not against a second reader. Where the page itself will not settle a reading, this edition withdraws rather than guesses: a bracketed pair marks a genuine ambiguity the original cannot decide, and a question mark a

character that could not be read. Those marks are deliberate refusals, and they are worth more than the confident readings they replace.

A note on the references. A scriptural or bibliographic reference given in brackets or parentheses is, in most cases, an **editorial identification of an allusion rather than a citation printed in the source**. Books of this kind quote and weave scripture constantly without naming it, and the identification is supplied here as a convenience to the reader. Where the source does print a reference of its own, it is given as printed. **An identified allusion is not evidence that the author cited that passage —** look at the original before resting an argument on one.

This text is the product of a highly refined automated translation process. It has undergone only cursory human review and should not be treated as an authoritative or scholarly rendering. It is offered solely as a reference and reading aid — a way to make an otherwise inaccessible work approachable — and any passage of real consequence should be checked against the original source.

Acknowledgements

The scanned copy used here was digitized by the University of Toronto Libraries and placed in the public domain through the Internet Archive; the copy was purchased for the University of Toronto Library from a Canada Council special grant for the history of science. The edition was printed at the expense of the Carlsberg Institute under the auspices of Det Danske Sprog- og Litteratur-Selskab.

Translated with the assistance of Claude. The translator thanks the Anthropic team for making this work possible.

Notation and abbreviations

A few conventions have been applied uniformly throughout this translation, so that one quantity is always written one way. They change how a value is *written*, never what it is; where the printed source and this translation differ in notation, the source's own form is recorded in the editorial apparatus.

Numerals are Arabic, even where the source sets Roman ones. Roman numerals are kept only in headings, running headers and signatures, which are transcribed as printed.

Dates are given as year, month, day — *1572 November 11*. Dates are Julian, as the source gives them, and have not been converted to the Gregorian calendar.

Times are written with raised unit letters: $7^{h}\ 36^{m}\ 12^{s}$ for seven hours, thirty-six minutes and twelve seconds. An interval longer than a day carries a raised d — $3^{d}\ 7^{h}$. The degree and minute signs below are never used for time.

Angles are written with the conventional signs — 23° 27′ 30″. Early modern astronomy divides the degree sexagesimally and often runs to places for which modern writing has no common symbol; the orders used in this book are:

sign	order	the source's term
°	degrees	*partes*, *gradus*
′	minutes of arc	*scrupula prima*, *minuta*
″	seconds of arc	*scrupula secunda*
‴	thirds	*scrupula tertia*

A **sign** is 30° — one twelfth of the circle — and is written with a raised s: 5^{s} 3° 57′ is five signs and 3° 57′, that is 153° 57′. The source uses the sign both as a place in the zodiac and as a plain unit of 30° for a motion or a distance, and this translation keeps that distinction by writing the count rather than naming a constellation.

The signs of the zodiac. Longitude is reckoned eastward from the first point of Aries.

	Latin	English	longitude
♈	Aries	the Ram	0°–30°
♉	Taurus	the Bull	30°–60°
♊	Gemini	the Twins	60°–90°
♋	Cancer	the Crab	90°–120°
♌	Leo	the Lion	120°–150°
♍	Virgo	the Virgin	150°–180°
♎	Libra	the Scales	180°–210°
♏	Scorpius	the Scorpion	210°–240°
♐	Sagittarius	the Archer	240°–270°
♑	Capricornus	the Goat	270°–300°
♒	Aquarius	the Water-bearer	300°–330°
♓	Pisces	the Fishes	330°–360°

The Sun, Moon and planets.

	Latin	English
☉	Sol	the Sun
☿	Mercurius	Mercury
♀	Venus	Venus
♂	Mars	Mars
♃	Iuppiter	Jupiter
♄	Saturnus	Saturn

Abbreviations used in table headings: **Long.** longitude; **Lat.** latitude; **Decl.** declination; **Alt.** altitude; **Az.** azimuth; **Diff.** difference.

Where a table in the source spreads one quantity across separate columns for degrees, minutes and seconds, those columns have been joined into a single column and the value written whole. Where a value runs to thirds and beyond, the columns are kept, since there the columns are the notation.

[Front board of the binding: plain blue cloth with no title on the board. A library barcode label near the upper left reads "UNIVERSITY OF TORONTO" and "3 1761 01179847 7".]

[Inside of the front board: a library bookplate is pasted at the centre, and the rest of the leaf is blank. At the top of the bookplate is the engraved seal of the University of Toronto: a shield with a crown, open books and a tree above it, with "UNIVERSITY OF TORONTO" round the rim and a Latin motto on a ribbon, "VELUT ARBOR ÆVO" ("like a tree, with time"). The text beneath reads:]

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[Leaf with no page number, running head, or printed ornament.]

[Nothing is printed on this side of the leaf. The series title of the edition, "The Complete Works of Tycho Brahe the Dane" [TYCHONIS BRAHE DANI / OPERA OMNIA], shows faintly through it from a printed leaf lying beneath.][1]

[Half-title leaf, with no page number, running head, or ornament.]

The Complete Works of Tycho Brahe the Dane [TYCHONIS BRAHE DANI / OPERA OMNIA][2]

[Back of the half-title leaf, with no page number, running head, or ornament.]

Under the auspices of the Society for Danish Language and Literature [AUSPICIIS SOCIETATIS LINGUÆ ET LITTERARUM DANICARUM]

([Danish:] The Danish Language and Literature Society) [(DET DANSKE SPROG- OG LITTERATUR-SELSKAB)][3]

[Title page of the volume, with no page number or running head.]

The Complete Works of Tycho Brahe the Dane [TYCHONIS BRAHE DANI / OPERA OMNIA]

Edited by J. L. E. Dreyer [EDIDIT / I. L. E. DREYER]

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[1] these two lines of capitals stand a little above the middle of the leaf in an extremely pale image, far fainter than printing ink. A native-resolution crop shows no ink on the surface of this leaf and an unmirrored, diffuse image, so they are show-through from a printed page beneath this leaf (most likely the half-title that follows), not a printing on this page. three pencil marks in a later hand stand at the head of the leaf. Just right of centre are the figures 2 and 3 with a small raised stroke between them, not read [?]. At the upper right is the number 17, enclosed in a hand-drawn oval. In the extreme top-right corner is an L-shaped stroke, cut off at the edge of the scan and not read [?]. These appear to be library or bookseller's notations, not part of the 1924 imprint.

[2] the two lines of black capitals stand centred a little above the middle of the leaf and are the only printing on it. Fainter lettering from the neighbouring pages shows through the paper above, below and beside them; it is not part of this page.

[3] the two lines stand centred a little above the middle of the page, set in small capitals with full-size initials; the second line gives the Society's own Danish name for the Latin title of the first. Nothing else is printed on the page.

Volume XI [TOMUS XI]

; below it three small crowned beasts, apparently lions, two side by side and one beneath, and a downward-tapering cluster of nine small hearts.]

Copenhagen, 1924 [HAUNIÆ MCMXXIV]

At the Gyldendal Bookshop [IN LIBRARIA GYLDENDALIANA]

Printed by Nielsen & Lydiche (Axel Simmelkiær) [TYPIS NIELSEN & LYDICHE (AXEL SIMMELKIÆR)][4]

[Back of the title leaf. Nothing is printed on this page; the title page shows through from the other side of the leaf, mirror-reversed.][5]

[Title page of the *Thesaurus Observationum*, volume II, with no page number or running head.]

The Treasury of Observations of Tycho Brahe the Dane [TYCHONIS BRAHE DANI / THESAURUS OBSERVATIONUM]

Edited from the manuscripts [ad fidem codicum] and published complete for the first time by J. L. E. Dreyer [AD FIDEM CODICUM PRIMUM / INTEGRUM EDIDIT / I. L. E. DREYER]

At the expense of the Carlsberg Institute [SUMPTIBUS INSTITUTI CARLSBERGICI]

Volume II [TOMUS II]

Copenhagen, 1924 [HAUNIÆ MCMXXIV]

At the Gyldendal Bookshop [IN LIBRARIA GYLDENDALIANA]

Printed by Nielsen & Lydiche (Axel Simmelkiær) [TYPIS NIELSEN & LYDICHE (AXEL SIMMELKIÆR)][6]

[Back of the title leaf. Nothing is printed on this page; the title page shows through from the other side of the leaf, mirror-reversed.]

Observations of the Year 1586 [OBSERUATIONES ANNI 1586.]

Observations of the Sun [OBSERUATIONES SOLIS.]

11 January [DIE 11 JANUARIJ.]

Time	Observation	Value	Re-mark
	Meridian altitude of the Sun, by the Tychonic quadrant [Q. Tich.]	14° 12′ 50″	

[4]the first line of the title, TYCHONIS BRAHE DANI, is printed in red; everything else on the page is in black. The editor's initials are printed I. L. E., with I for J as the Latin title page sets it.

[5]two later additions stand on the page. Left of centre, a shelfmark handwritten in pencil: Q B / 3 / B83 / t. 11. Lower left, an oval ink stamp set at a slant: LIBRARY / MAY 7 1970 / UNIVERSITY OF TORONTO — a University of Toronto Library stamp dated 1970 May 7.

[6]the editor's initials are printed I. L. E., with I for J as the Latin title page sets it. The page carries no publisher's device.

Time	Observation	Value	Re-mark
	by the portable quadrant	14° 12′ 45″	
	Declination, by the subterranean armillae [Arm. fubt.]	19° 52′ 0″	
	with the other pinnule [pinnacidium]	19° 52′ 40″	

14 January [DIE 14 JANUARIJ.]

Declination of the Sun by the corrected armillae:

Time	Observation	Value	Remark
$11^h\ 20^m$		18° 57¾′	with both pinnules
$11^h\ 50^m$		18° 57′	with both
$12^h\ 0^m$		18° 57½′	
		18° 57′	with the other pinnule

15 January [DIE 15 JANUARIJ.]

After the revolving quadrant [Quadrans volubilis] had been corrected once again. Altitude of the Sun on the meridian:

Time	Observation	Value	Remark
	by the revolving quadrant	15° 7′ 45″	
	by the new sextant	15° 8′ 50″	
	by the Tychonic quadrant	15° 8′ 30″	with the old pinnule
		15° 8′ 40″	with the new
	by the lesser rulers [Regulae minores]: reading 12158, corresponding to	15° 8′	
	Declination by the subterranean armillae	18° 57′ 15″	with one pinnule
		18° 57′ 10″	with the other pinnule
	Therefore set the declination at	18° 57′ 8″	

It was not perfectly clear.

21 January [DIE 21 JANUARIJ.]

Declination of the Sun by the subterranean armillae:

Time	Observation	Value	Remark
$11^h\ 38^m$		17° 22′	with one pinnule
		17° 22¼′	with the other pinnule
$11^h\ 42^m$	the same	17° 22′	with one pinnule
		17° 22⅙′	with the other
	repeated	17° 21¾′	with one pinnule
		17° 21⅚′	with the other

But at that time it was not very clear.

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	16° 43⅓′	
	by the old sextant	16° 44½′	
	by the new sextant	16° 44′	
$0^h\ 4^m$	Declination of the Sun by the subterranean armillae	17° 21¾′	
		17° 22′	with the other pinnule

It was not very clear.

22 January [DIE 22 JANUARIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant, with both pinnules	17° 0′ 10″	
	by the new sextant	17° 0′ 40″	the plumb-line [perpendiculum] was not behaving well enough
	by the old sextant	17° 1′ 10″	
	by the lesser rulers: reading 11894, corresponding to	17° 1′	
	Declination by the subterranean armillae	17° 5¼′	with both pinnules
$12^h\ 10^m$	repeated	17° 5¼′	with one pinnule
		17° 5′ 0″	with the other
$12^h\ 15^m$	repeated	17° 5¼′	with both
	Declination by the Tychonic quadrant	17° 5⅓′	agrees well

The wind was blowing to some extent.

23 January [DIE 23 JANUARIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	17° 17′ 15″	
	by the new sextant	17° 17′ 50″	
	by the old sextant	17° 18′ 45″	
	Declination of the Sun by the subterranean armillae	16° 48′ 45″	
	with the other pinnule	16° 48′ 50″	
$12^h\ 2^m$	declination repeated	16° 48¾′	
	with the other pinnule	16° 48¾′	
$12^h\ 7^m$	repeated	16° 48¾′	with both
	Or at the least, declination by the repeated observation	16° 48½′	
	Declination by the Tychonic quadrant	16° 48¼′	
	by the new sextant	16° 47⅔′	
	by the old sextant	16° 46¾′	

Time	Observation	Value	Remark
$2^h\ 3\frac{1}{3}^m$	Sun 30° 55′ from the meridian; declination by the subterranean armillae	16° 46½′	with both pinnules; altitude of the Sun 12½°
$2^h\ 18\frac{5}{6}^m$	declination repeated	16° 46′	with both; altitude of the Sun 11⅓°

Time	Declination	Altitude
$3^h\ 11^m$	16° 42½′	6½°
$3^h\ 31^m$	16° 39½′	5°
$3^h\ 36^m$	16° 38⅓′	4½°
$3^h\ 38\frac{2}{3}^m$	16° 37¼′	4⅙°
$3^h\ 46^m$	16° 36′	3°
$3^h\ 51^m$	16° 34½′	2⅔°

3 February [DIE 3 FEBRUARIJ.]

At midday it was exceptionally clear, and the air was purer than it had been at any time since the beginning of this year. So, with the greater subterranean armillae, right around midday, the declination of the Sun was taken

twice or three times, with both pinnules, as 13° 21′ south.[7] The Tychonic quadrant fixed to the wall agrees with this fully: with both pinnules it gave the altitude of the Sun, quite precisely, as 20° 44½′, and subtracting this from the elevation of the equator, 34° 5½′, leaves the apparent declination of the Sun as 13° 21′, in full agreement with the observation by the armillae. With both sextants, however, which had recently been corrected, the altitude of the Sun came out as 20° 44⅚′, the two giving exactly the same value; on this reckoning the declination of the Sun would be 20 seconds, or a third of one minute, smaller than the one observed with the armillae. But the observation by the mural and by the armilla is rather to be trusted.

Quantity	Value
Observed altitude of the Sun	20° 44′ 30″
Parallax of the Sun, added	2′ 45″
True altitude	20° 47′ 15″
	34° 5′ 30″
Declination, again	13° 18′ 15″
observed by the armillae	13° 21′ 0″
Parallax, subtracted	2′ 45″
	13° 18′ 15″

The true declination of the Sun therefore comes out the same both ways, by the armillae and by the quadrant alike: 13° 18¼′. According to the table of declination, this corresponds to a place of the Sun at 24° 47′ ♒. Our ephemerides

[7] the page prints *A.* after the value, i.e. austral.

give the place of the Sun as 24° 38′ ♒. But since the refraction of the rays could amount to 2½′, the true declination, taking account of the parallax as well as the refraction, was 13° 20′ 45″. And to this corresponds a place of the Sun at 24° 39′ ♒, which agrees well enough with the observation. Mästlin's ephemerides have 24° 6′ ♒, the Alphonsine 24° 57′ ♒.

To investigate the refraction of the Sun, moreover — since it was so very clear on this day — I also observed the declination of the Sun in the afternoon [P. M.] at noted times, with the altitude given, in order to determine the refraction; and this in the following way.

Time	Altitude	Apparent declination	Corresponding declination
$3^h\ 3^m$	10° 50′	13° 17′	13° 18½′
$3^h\ 7^m$	10° 20′	13° 16½′	
$3^h\ 12^m$	9° 50′	13° 16′	
$3^h\ 20^m$	9° 0′	13° 15′	
$3^h\ 55^m$	5° 20′	13° 11′	
$4^h\ 0^m$	4° 50′	13° 10½′	13° 17′ 40″
$4^h\ 7^m$	4° 0′	13° 9½′	
$4^h\ 12^m$	3° 20′	13° 8¼′	
$4^h\ 15^m$	3° 0′	13° 7½′	13° 17′ 30″

It is clear, then, that relative to the apparent declination at midday, 13° 21′, the Sun produced a refraction at 3 o'clock, at an altitude of about 11°, of 1½′. At 4 o'clock, at an altitude of approximately 5°, it produced about 7′. Further, at 4¼ hours, at an altitude of three degrees, it produced 10′; so it is no wonder that at midday itself, at an altitude of 21°, there was a refraction of about 2½′ relative to the place where there is none. For the values set out here are to be understood only in respect of the change from the declination taken at the meridian, which was itself also subject to parallax.

7 February [DIE 7 FEBRUARIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	22° 6′ 35″	with both
	by the new sextant	22° 8⅔′	but this is doubtful, for 22° 7½′ was taken straight afterwards, the Sun being close to the meridian
	by the old sextant	22° 7¼′	
	Declination of the Sun, by the subterranean armillae	11° 58¾′	with both
$0¼^h$	declination repeated	11° 58½′	with both

13 February [DIE 13 FEBRUARIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the mural	24° 15⅓′	with the old pinnule
		24° 15⅚′	with the new pinnule
	by the lesser rulers: reading 10855, corresponding to	24° 15⅓′	
	by the new sextant	24° 16⅓′	
	by the old sextant	24° 16′ 0″	

Declination by the armillae:

Time	Value	Remark
$12^h\ 7^m$	9° 49¼′	with one pinnule
$12^h\ 7⅓^m$	9° 49⅔′	with the other
$12^h\ 12^m$	9° 49½′	with one — better
$12^h\ 13½^m$	9° 49⅓′	with the other — better
$12^h\ 17½^m$	9° 49⅓′	good
	9° 49½′	good

21 February [DIE 21 FEBRUARIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the greatest quadrant [Q.Max.]	27° 15¼′	
	by the Tychonic quadrant	27° 16′	with both pinnules
	by the new sextant	27° 16½′	
	Declination of the Sun, by the armillae	6° 50′ south [M.]	with both pinnules

5 March [DIE 5 MARTIJ.]

Time	Observation	Value	Remark
	Altitude of the Sun, by the Tychonic quadrant	31° 56′ 20″	with both
	by the greatest quadrant	31° 55⅔′	

9 March [DIE 9 MARTIJ.]

Meridian altitude of the Sun:

Time	Observation	Value	Remark
	by the Tychonic quadrant	33° 30′	
	by the revolving quadrant	33° 30¼′	
	by the old sextant	33° 30½′	
	by the greatest quadrant	33° 30⅔′	

It was not clear enough.

Declination of the Sun by the subterranean armillae:

Time	Observation	Value	Remark
$12^h\ 13^m$		0° 34′ south [A.]	with one pinnule
		0° 34¼′	with the other pinnule
$12^h\ 16^m$		0° 34½′	with one — it was clearer then
		0° 34⅔′	with the other — it was clearer then
$12^h\ 20^m$		0° 34½′	with one — it was clearer then
		0° 34½′	with the other — it was clearer then

10 March [DIE 10 MARTIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant [Tich.]	33° 54′ 0″	
		33° 54½′	with the other pinnule
	by the greatest quadrant	33° 54¼′	
	by the revolving quadrant	33° 54′ 0″	
	by the lesser quadrant [Q. minor.]	33° 54′ 0″	
	by the new sextant	33° 55′	
	by the old sextant	33° 53⅚′	
	by the lesser rulers: reading 9404½, corresponding to	33° 54′	
	Declination of the Sun, by the subterranean armillae	0° 11′ 30″ south [Mer.]	

It was not very clear.

11 March [DIE 11 MARTIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	34° 18⅙′	with the new pinnule
		34° 18⅓′	with the old pinnule
	by the greatest quadrant	34° 18½′	
	by the revolving quadrant	34° 18⅓′	
	by the lesser quadrant	34° 18⅔′	
	by the old sextant	34° 18⅓′	
	Declination, by the subterranean armillae	0° 12½′ north [Bor.]	

It was very clear.

12 March [DIE 12 MARTIJ.]

Time	Observation	Value	Re-mark
	Meridian altitude of the Sun, by the greatest quadrant	34° 41⅔′	
	by the revolving quadrant	34° 41⅓′	
	by the lesser quadrant	34° 41′	
	by the new sextant	34° 41½′	
	by the old sextant	34° 41⅔′	
	by the lesser rulers	34° 42′	
	Declination, by the armillae	0° 36′ north [B.]	

It was not entirely clear.

17 March [DIE 17 MARTIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	36° 39⅔′	with the old pinnule
		36° 39⅓′	with the new
	by the greatest quadrant	36° 40⅓′	
	by the rulers: reading 8977½, corresponding to	36° 39⅓′	
	by the revolving quadrant	36° 39½′	
	by the new sextant	36° 40¼′	
	Declination of the Sun, by the armillae	2° 33′ north [Bor.]	
$12^h\ 24^m$	repeated	2° 33¾′	

19 March [DIE 19 MARTIJ.]

Time	Observation	Value	Remark
	Altitude of the Sun, by the Tychonic quadrant [Tichon.]	37° 26′	with one pinnule
		37° 26⅙′	with the other
	by the greatest quadrant	37° 27′	
	by the revolving quadrant	37° 25½′	
	by the lesser quadrant	37° 25½′	
	by the lesser rulers	37° 26′	
	by the old sextant	37° 26⅙′	
	by the new sextant	37° 25′ 40″	
	Declination, by the armillae	3° 19½′	
		3° 19¾′	

28 March [DIE 28 MARTIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	40° 52¼′	with one pinnule
		40° 52½′	with the other
	by the greatest quadrant	40° 53′	

Time	Observation	Value	Remark
	by the revolving quadrant	40° 52½′	
	by the lesser quadrant	40° 52⅓′	
	by the old sextant	40° 52½′	
	by the new sextant	40° 52¼′	
	Declination, by the subterranean armillae	6° 46⅓′	with one pinnule
		6° 46¾′	with the other

30 March [DIE 30 MARTIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	41° 37′	with both pinnules
	by the greatest quadrant	41° 37½′	
	by the revolving quadrant	41° 37¼′	
	by the lesser quadrant	41° 38′	
	by the old sextant	41° 37½′	
	by the new sextant	41° 37¼′	
	Declination, by the armillae	7° 32′	

Observed precisely enough among drifting clouds.

1 April [DIE 1 APRILIS.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	42° 21⅚′	with one
		42° 22⅙′	with the other
	by the greatest quadrant	42° 22⅓′	
	by the revolving quadrant	42° 21¼′	
	by the lesser quadrant	42° 21′	
	by the old sextant	42° 22⅓′	
	by the new sextant	42° 21½′	
	by the lesser rulers	42° 22′	
	Declination, by the subterranean armillae	8° 16⅙′	
	repeated	8° 16½′	

12 April [DIE 12 APRILIS.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	46° 14⅚′	with both pinnules
	by the revolving quadrant	46° 14′	
	by the greatest quadrant	46° 16′	
	by the old sextant	46° 15¼′	
	by the new sextant	46° 15′	
	by the lesser rulers	46° 15′	
	Declination, by the subterranean armillae	12° 8¼′	with one

Time	Observation	Value	Remark
		12° 8½′	with the other

13 April [DIE 13 APRILIS.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	46° 34⅝′	
	by the greatest quadrant	46° 34⅝′	
	by the revolving quadrant	46° 34½′	
	by the old sextant	46° 35′	
	by the new sextant	46° 34½′	
	by the lesser rulers	46° 34½′	
	Declination, by the subterranean armillae	12° 29′	with both

16 April [DIE 16 APRILIS.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	47° 34′	
	by the revolving quadrant	47° 33¾′	
	by the old sextant	47° 33′	
	by the new sextant	47° 33½′	
	by the rulers	47° 33⅓′	
	Declination, by the subterranean armillae	13° 28′	with one pinnule
		13° 28⅓′	with the other

18 April [DIE 18 APRILIS.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	48° 12⅓′	with one pinnule
		48° 12½′	with the other
	by the revolving quadrant	48° 11½′	
	by the new sextant	48° 11⅓′	
	by the old sextant	48° 11¾′	
	Declination, by the armillae	14° 6¼′	with one pinnule
		14° 6½′	with the other

19 April [DIE 19 APRILIS.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	48° 31′	with one pinnule
		48° 30¾′	with the other pinnule
	by the revolving quadrant	48° 30¾′	
	by the old sextant	48° 31⅙′	

Time	Observation	Value	Remark
	by the new sextant	48° 30½′	
	Declination, by the subterranean armillae	14° 26′	with both pinnules

23 April [DIE 23 APRILIS.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	49° 44′	with the new pinnule
		49° 44⅙′	with the old
	by the revolving quadrant	49° 43½′	
	by the new sextant	49° 43¼′	
	Declination, by the subterranean armillae	15° 38½′	with one pinnule
		15° 38¼′	with the other

27 April [DIE 27 APRILIS.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	50° 52⅔′	with the new pinnule
		50° 52½′	with the old pinnule
	by the revolving quadrant	50° 51¾′	
	by the new sextant	50° 52′	
	by the lesser rulers: reading 6701,	50° 51′	
	Declination, by the subterranean armillae	16° 47⅙′	with one pinnule
		16° 47′	with the other pinnule

5 May [DIE 5 MAIJ.]

Time	Observation	Value	Remark
	Altitude of the Sun, by the Tychonic quadrant	52° 56⅙′	with the new pinnule
		52° 56⅓′	with the old pinnule
	by the revolving quadrant	52° 56½′	
	Declination, by the subterranean armillae	18° 50½′	with one pinnule
		18° 50⅓′	with the other pinnule

6 May [DIE 6 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	53° 10¼′	with both pinnules
	by the greatest quadrant	53° 9′	
	by the revolving quadrant	53° 9¼′	
	by the lesser rulers	53° 9′	
	Declination, by the subterranean armillae	19° 9′	

7 May [DIE 7 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	53° 24′	with the new pinnule
		53° 24⅓′	with the old pinnule
	by the greatest quadrant	53° 23½′	
	by the revolving quadrant	53° 22¾′	
	by the lesser rulers: reading 6289,	53° 21′	
	Meridian declination of the Sun [Decl. ⊙ merid.]	19° 18′	
		19° 18¼′	with the other pinnule

The same day, the 7th [EODEM DIE 7.][1]

Afternoon observations of the Sun [Obſeruationes Solis pomeridianæ.]:

Time	Altitude of the Sun	Apparent declination [Declinatio viſa]
$2^h\ 0^m$	46° 53′	19° 20′
$2^h\ 19^m$	45° 4½′	20¼′
$2^h\ 43^m$	42° 15′	20½′
$3^h\ 8^m$	39° 16⅓′	21′
$3^h\ 34^m$	35° 50½′	21¼′
$4^h\ 4^m$	32° 0′	21⅓′
$4^h\ 16^m$	30° 8⅔′	21½′
$4^h\ 35½^m$	27° 40′	22¼′
$5^h\ 57^m$	16° 20′	23½′
$6^h\ 14^m$	13° 50′	23¾′
$6^h\ 33^m$	12° 22½′	24¾′
$6^h\ 45½^m$	9° 45′	25⅓′
$6^h\ 52^m$	8° 50′	26⅓′
$6^h\ 56^m$	8° 10′	26½′
$7^h\ 4^m$	7° 25′	27′
$7^h\ 9^m$	6° 40′	27½′
$7^h\ 16^m$	6° 0′	28½′
$7^h\ 19⅔^m$	5° 30′	29′
$7^h\ 22¾^m$	5° 0′	29½′
$7^h\ 26½^m$	4° 30′	30⅙′
$7^h\ 31^m$	4° 0′	31′
$7^h\ 35½^m$	3° 30′	32½′
$7^h\ 40^m$	3° 0′	33¾′
$7^h\ 44⅓^m$	2° 30′	35½′
$7^h\ 48⅔^m$	2° 0′	37⅓′
$7^h\ 53⅚^m$	1° 30′	40′
$7^h\ 58⅓^m$	1° 0′	42½′
$8^h\ 3½^m$	0° 30′	45½′

These observations were made for the purpose of investigating the refraction of the Sun.

The Sun set by sight [⊙ occidebat ad viſum]:

Setting	Time
with its lower limb	$8^h\ 6^m$
as to its centre	$8^h\ 7\frac{2}{3}^m$
with its upper limb	$8^h\ 10\frac{1}{6}^m$

8 May [DIE 8 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	53° 37½′	with both pinnules
	by the greatest quadrant	53° 37⅔′	
	by the lesser rulers: reading 6245,	53° 36⅔′	

11 May [DIE 11 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	54° 15⅓′	with the new
		54° 15⅔′	with the old pinnule
	by the greatest quadrant	54° 15⅚′	
	by the revolving quadrant	54° 16¼′	
	by the lesser rulers	54° 13⅓′	
	Declination, by the armillae	20° 10′	with both pinnules

12 May [DIE 12 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	54° 27¾′	with the new
		54° 28′	with the old pinnule
	by the greatest quadrant	54° 28′	
	by the revolving quadrant	54° 28′	
	Declination, by the armillae	20° 22′	
		20° 22¼′	with the other pinnule

13 May [DIE 13 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	54° 39⅚′	with both
	by the greatest quadrant	54° 39′	
	by the revolving quadrant	54° 40′	
	Declination, by the armillae	20° 34′	with both

18 May [DIE 18 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	55° 33′	with both
	by the revolving quadrant	55° 33′	
	by the greatest quadrant	55° 32′	
	Declination, by the subterranean armillae	21° 28′	
		21° 27¾′	with the other pinnule

20 May [DIE 20 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	55° 52′	with the new
		55° 52⅓′	with the old pinnule
	by the greatest quadrant	55° 51⅙′	
	by the lesser rulers: reading 5874,	55° 50′	

24 May [DIE 24 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	56° 24⅚′	with the new
		56° 25⅙′	with the old pinnule
	by the greatest quadrant	56° 25′	
	by the lesser rulers: reading 5780,	56° 24′	
	by the revolving quadrant	56° 25½′	
	Declination, by the subterranean armillae	22° 20′	

25 May [DIE 25 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	56° 32′	with the new
		56° 32⅕′	with the old pinnule
	by the revolving quadrant	56° 32⅓′	
	by the greatest quadrant	56° 32½′	
	by the lesser rulers	56° 32′	
	Declination, by the subterranean armillae	22° 26½′	
		22° 26¾′	with the other pinnule

With the wind blowing from the south-southeast [Flante euronoto.].
[1] From codex V.

26 May [DIE 26 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	56° 39½′	with the new

Time	Observation	Value	Remark
		56° 39⅙′	
	by the greatest quadrant	56° 39⅔′	
	by the lesser rulers: reading 5740,	56° 38′	
	by the revolving quadrant	56° 39½′	
	Declination, by the armillae	22° 33⅚′	with both pinnules

It was moderately clear.

27 May [DIE 27 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	56° 45⅔′	with the new
		56° 45⅚′	with the old pinnule
	by the revolving quadrant	56° 45½′	
	by the greatest quadrant	56° 45⅔′	
	Declination, by the subterranean armillae	22° 40′	

28 May [DIE 28 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	56° 52′	with both
	by the revolving quadrant	56° 51¾′	
	by the greatest quadrant	56° 51′	
	by the lesser rulers: reading 5702,	56° 51⅔′	
	Declination, by the subterranean armillae	22° 40½′	
		22° 40⅓′	with the other pinnule

29 May [DIE 29 MAIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	56° 57⅚′	with both
	by the greatest quadrant	56° 57¼′	
	by the revolving quadrant	56° 58′	
	by the lesser rulers	56° 58′	
	Declination, by the subterranean armillae	22° 53′	
		22° 52½′	with the other pinnule

1 June [DIE 1 JUNIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	57° 12½′	with the old pinnule
		57° 12⅓′	with the new

Time	Observation	Value	Remark
	by the greatest quadrant	57° 12½′	
	by the revolving quadrant	57° 12½′	
	Declination, by the subterranean armillae	23° 7⅙′	
		23° 7′	with the other pinnule

5 June [DIE 5 JUNIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	57° 26′ 50″	with the new
		57° 27′ 0″	with the old pinnule
	by the greatest quadrant	57° 26′ 40″	
	by the lesser rulers: reading 5599½,	57° 28′	
	by the revolving quadrant	57° 27⅙′	
	Declination, by the subterranean armillae	23° 20¾′	
		23° 20½′	with the other pinnule
	repeated	23° 20½′	
		23° 20¾′	with the other pinnule [alt. pinnac.]
	repeated	23° 21′	
		23° 20½′	with the other pinnule

There follows, for the observation of the refractions of the Sun [Sequitur pro obſeruatione refractionum ſolarium.]:

The same day, in the afternoon [Eodem die P. M.]

Time, by the greater clock [Per maius Horologium]	Altitude of the Sun, by the revolving quadrant	Declination of the Sun, by the subterranean armillae: first pinnule [I pinnac.]	second pinnule [II pinnac.]
$1^h\ 41^m$	53° 0′	23° 21⅔′	
$1^h\ 48^m$	52° 0′	21⅔′	
$2^h\ 15^m$	49° 10′	22′	23° 21⅚′
$2^h\ 24⅙^m$	48° 0′	22′	
$2^h\ 34^m$	47° 0′	22¼′	
$2^h\ 42⅙^m$	46° 0′	22⅓′	
$2^h\ 59^m$	44° 0′	22½′	22′
$3^h\ 14½^m$	42° 0′	22½′	
$3^h\ 29½^m$	40° 0′	22⅔′	22⅙′
$3^h\ 37^m$	39° 0′	22⅔′	
$3^h\ 44^m$	38° 0′	22¾′	
$3^h\ 51⅔^m$	37° 0′	22⅔′	22⅙′
$3^h\ 59⅔^m$	36° 0′	22¾′	
$4^h\ 4^m$	35½°	22¾′	
$4^h\ 6½^m$	35° 0′	22¾′	22¼′
$4^h\ 27⅚^m$	32° 0′	22¾′	
$4^h\ 49⅓^m$	29° 0′	22¾′	22¼′

Time, by the greater clock [Per maius Horologium]	Altitude of the Sun, by the revolving quadrant	Declination of the Sun, by the subterranean armillae: first pinnule [I pinnac.]	second pinnule [II pinnac.]
5^h $4\frac{1}{2}^m$	27° 0′	22⅚′	
5^h $17\frac{5}{6}^m$	25° 0′	22⅚′	
5^h $32\frac{1}{6}^m$	23° 0′	23¼′	22½′
5^h $46\frac{2}{3}^m$	21° 0′	23⅓′	
5^h 54^m	20° 0′	23½′	
6^h 9^m	18° 0′	23¾′	23⅙′
6^h $16\frac{1}{6}^m$	17° 0′	23¾′	
6^h 26^m	16° 0′	24′	
6^h $31\frac{1}{3}^m$	15° 0′	24′	23⅔′
6^h $35\frac{2}{3}^m$	14° 30′	24⅙′	
6^h 39^m	14° 0′	24⅓′	
6^h $46\frac{2}{3}^m$	13° 0′	24½′	24′
6^h $54\frac{1}{2}^m$	12° 0′	24¾′	
7^h $2\frac{1}{2}^m$	11° 0′	25′	24½′
7^h $10\frac{2}{3}^m$	10° 0′	25⅔′	25′
7^h $18\frac{2}{3}^m$	9° 0′	26¼′	25½′
7^h $26\frac{5}{6}^m$	8° 0′	26⅚′	26¼′
7^h $35\frac{1}{3}^m$	7° 0′	27¾′	27¼′
7^h $44\frac{1}{6}^m$	6° 0′	28⅔′	28′
7^h 53^m	5° 0′	29¾′	
8^h $2\frac{1}{4}^m$	4° 0′[1]	..	
8^h $11\frac{5}{6}^m$	3° 0′	34′	
8^h $21\frac{2}{3}^m$	2° 0′	37′	
8^h 32^m	1° 0′	..	

From this I gather that the refraction at the horizon itself could have come to 23 50, or at the least 23 47, since the declination was

[1] There is written in addition: "There was some impediment" [»Impedimenti quippiam fuit«].

…23 22, the refraction of the declination is 28′, which is increased in the altitude and on account of the parallax.

6 June, morning [DIE 6 JUNIJ A. M.]

Time	Altitude of the Sun	Declination of the Sun: first pinnule [I pinnac.]	other pinnule [Alt. pinnac.]
3^h 27^m	1° 0′	23° 42¼′	
3^h $37\frac{1}{3}^m$	2° 0′	37′	23° 37½′
3^h $47\frac{1}{2}^m$	3° 0′	33′	
3^h 57^m	4° 0′	30′	
4^h $6\frac{1}{3}^m$	5° 0′[1]		
4^h 15^m	6° 0′	27⅔′	
4^h $23\frac{5}{6}^m$	7° 0′	26⅚′	27′
4^h 32^m	8° 0′	25½′	26′
4^h $40\frac{2}{3}^m$	9° 0′	25⅙′	25½′

Time	Altitude of the Sun	Declination of the Sun: first pinnule [I pinnac.]	other pinnule [Alt. pinnac.]
$4^h\ 48½^m$	10° 0′	25′	25⅓′
$4^h\ 56½^m$	11° 0′	24½′	
$5^h\ 4⅔^m$	12° 0′	24′	24½′
$5^h\ 12⅔^m$	13° 0′	23½′	24′
$5^h\ 20⅓^m$	14° 0′	23⅙′	
$5^h\ 24^m$	14° 30′	23′	
$5^h\ 27⅚^m$	15° 0′	23′	23⅔′
$5^h\ 49^m$	18° 0′	22½′	23′
$6^h\ 5⅙^m$	20° 0′	22⅓′	
$6^h\ 41¼^m$	25° 0′	22′	22⅔′
$6^h\ 55⅔^m$	27° 0′	22′	22½′
$7^h\ 10^m$	29° 0′	22′	
$7^h\ 31½^m$	32° 0′	21⅚′	22½′
$7^h\ 53^m$	35° 0′	22′	22½′
$8^h\ 7½^m$	37° 0′	22′	
$8^h\ 15⅚^m$	38° 0′	22′	22½′
$8^h\ 29⅚^m$	40° 0′	21⅚′	
$9^h\ 1^m$	44° 0′	22′	22⅔′
$9^h\ 17^m$	46° 0′	22′	

The same day, 6 June: meridian altitude of the Sun [Die eodem 6 Junij Alt. ⊙ Merid.]

Time	Observation	Value	Remark
	by the Tychonic quadrant	57° 29′ 0″	
		57° 29′ 5″	with the old pinnule
	by the revolving quadrant	57° 29′ 30″	
	by the greatest quadrant	57° 28′ 40″	
	by the lesser rulers: reading 5598,	57° 29′ 0″	
$11^h\ 10^m$	The declination of the Sun was observed as	23° 22⅚′	
	with the other pinnule	23° 23½′	
$11^h\ 25^m 2$	Repeated	23° 23′	
	with the other pinnule	23° 23⅔′	
	Declination observed at noon	23° 23′	
		23° 23½′	with the other pinnule [alt. pin.]

The afternoon of the same day [Poſt Meridiem eiusdem diej.]

Time	Altitude of the Sun	Declination of the Sun: first pinnule [I pinnac.]	other pinnule [Alt. pinnac.]
$5^h\ 11⅙^m$	26° 0′	23° 25½′	23° 25′
$5^h\ 18½^m$	25° 0′	25½′	25′
$5^h\ 32¾^m$	23° 0′	25½′	25⅙′
$5^h\ 47^m$	22° 0′	25⅚′	25½′
$6^h\ 2^m$	19° 0′	26′	25½′

Time	Altitude of the Sun	Declination of the Sun: first pinnule [I pinnac.]	other pinnule [Alt. pinnac.]
6^h $16\frac{1}{2}^m$	17° 0′	26½′	26¼′
6^h $41\frac{3}{4}^m$	15° 0′	26¾′	26½′
6^h 47^m	13° 0′	27′	26⅔′
6^h $54\frac{5}{6}^m$	12° 0′	27′	26⅚′
7^h $2\frac{3}{4}^m$	11° 0′	27⅔′	27½′
7^h $10\frac{5}{6}^m$	10° 0′	28½′	28′
7^h $18\frac{5}{6}^m$	9° 0′	28⅚′	28¼′
7^h $27\frac{1}{6}^m$	8° 0′	29′	28⅚′
7^h $35\frac{1}{2}^m$	7° 0′	29⅚′	29¾′
7^h $44\frac{1}{6}^m$	6° 0′	31′	30⅔′
7^h $53\frac{1}{6}^m$	5° 0′	32′	31½′
8^h $2\frac{3}{3}^m$	4° 0′		
8^h $12\frac{5}{6}^m$	3° 0′	35¼′	
8^h 22^m	2° 0′	39′	
8^h $32\frac{1}{3}^m$	1° 0′		

7 June, morning [DIE 7 JUNIJ A. M.]

Time	Altitude of the Sun	Declination of the Sun: first pinnule [I pinnac.]	other pinnule [alt. pinn.]
4^h 52^m	11° 0′		
5^h $57\frac{1}{3}^m$	19° 0′	23° 27′	
6^h 12^m	21° 0′	26¾′ with both pinnules [vtroq. pin.]	
6^h $26\frac{1}{3}^m$	23° 0′	26⅔′	
6^h $40\frac{5}{6}^m$	25° 0′	26⅓′	23° 26⅔′
6^h $47\frac{5}{6}^m$	26° 0′	26⅙′	
7^h $2\frac{1}{2}^m$	28° 0′	26⅓′	26¾′
7^h $9\frac{1}{2}^m$	29° 0′	27¼′	27¾′

9 June, morning [DIE 9 JUNIJ A. M.]

Time	Altitude of the Sun	Declination of the Sun: first pinnule [I pinn.]	other pinnule [alt. pinn.]
7^h $52\frac{1}{2}^m$	35° 0′	23° 29′	23° 29¼′
7^h $55\frac{5}{6}^m$	35° 30′	29′	
8^h 3^m	36° 0′	29′	
8^h 7^m	36° 30′	29½′	

It was not clear enough.
The same day at noon [Eodem die in meridie]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the revolving quadrant	57° 34¼′	among clouds
	Declination, by the subterranean armillae	23° 29′	

[1] There is written in addition: "Fum..... took away the sight of the shadow" [»Fum..... vmbræ viſum abſtulit«].

[2] In codex C: $10^h\ 25^m$ [H. 10 M. 25.]

12 June, morning [DIE 12 JUNIJ A. M.]

Time	Altitude of the Sun	Declination of the Sun	other pinnule [alt. pinnac.]
$8^h\ 4^m$	37° 0′	23° 30⅓′	
$8^h\ 8^m$	37° 30′	30⅙′	23° 31′
$8^h\ 22^m$	39° 30′	30½′	31¼′
$8^h\ 29^m$	40° 30′	30½′	31′

Among clouds [Inter nubes]

Time	Altitude of the Sun	Declination of the Sun	other pinnule
$11^h\ 45^m$		23° 30′ 30″	23° 30′ 0″

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	57° 35′ 40″, or 45″ at most	with the new pinnule only
	by the revolving quadrant	57° 35′ 30″	
	Declination, by the subterranean armillae	23° 30′ 30″	
		23° 30′ 0″	with the other pinnule
	Declination repeated	23° 30′ 20″	
		23° 30′ 0″	with the other pinnule

It was not perfectly clear.
The afternoon [Poſt Meridiem]

Time	Altitude of the Sun	Declination of the Sun: first pinnule [I pinnac.]	second pinnule [II pinnac.]
$6^h\ 19½^m$	16° 30′	23° 30′	23° 29⅓′
$6^h\ 22⅚^m$	16° 0′	30′	
$6^h\ 30½^m$	15° 0′	30′	29½′
$6^h\ 37⅚^m$	14° 0′	30⅙′	
$6^h\ 45⅚^m$	13° 0′	30¼′	
$6^h\ 50½^m$	12½°	30½′	30′
$6^h\ 53⅔^m$	12° 0′	30¾′	
$6^h\ 57½^m$	11½°	31′	
$7^h\ 1⅔^m$	11° 0′	31⅓′	30¾′
$7^h\ 5½^m$	10½°	31⅔′	31′
$7^h\ 9½^m$	10° 0′	32′	
$7^h\ 17⅔^m$	9° 0′	32⅔′	32′

Time	Altitude of the Sun	Declination of the Sun: first pinnule [I pinnac.]	second pinnule [II pinnac.]
$7^h\ 25\frac{5}{6}^m$	8° 0′	33¼′	
$7^h\ 34\frac{1}{2}^m$	7° 0′	33⅚′	
$7^h\ 42\frac{1}{6}^m$	6° 0′	34⅚′	34⅓′
$7^h\ 48^m$	5½°	35′	
$7^h\ 51\frac{5}{6}^m$	5° 0′	35½′	35′
$7^h\ 56\frac{1}{2}^m$	4° 30′	36′	
$8^h\ 10\frac{2}{3}^m$	3° 0′	38′	

It was not clear enough.

15 June, morning [DIE 15 JUNIJ A. M.]

Time	Altitude of the Sun	Declination of the Sun	other pinnule [alt. pinnac.]
$4^h\ 4^m$	5° 0′		
$4^h\ 22^m$	7° 0′	23° 35′	23° 35¼′
$4^h\ 38^m$	9° 0′	32′	
$4^h\ 55^m$	11° 0′	31½′	
$5^h\ 10^m$	13° 0′	30½′	31′
$5^h\ 26^m$	15° 0′	23° 30′	
$5^h\ 41^m$	17° 0′		
$6^h\ 25^m$	23° 0′	29¾′	23° 30′
$6^h\ 46^m$	26° 0′	29½′	
$7^h\ 1^m$	28° 0′	29′	29½′
$7^h\ 15^m$	30° 0′	28¾′	
$7^h\ 51^m$	35° 0′	28½′	29′
$7^h\ 58^m$	36° 0′	28⅔′	
$8^h\ 5\frac{1}{2}^m$	37° 0′	28½′	29′

At noon [In Meridie]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	57° 33′	
	by the revolving quadrant	57° 33½′	
	Declination, by the greater armillae [Armill. mai.]	23° 28½′	

It was not clear enough.
Afternoon [P. M.]

Time	Altitude of the Sun	Declination of the Sun	other pinnule [alt. pinnac.]
$1^h\ 20^m$	54° 10′	23° 27′	23° 26½′
$4^h\ 7\frac{2}{3}^m$	35° 0′	26¼′	
$5^h\ 33\frac{5}{6}^m$	23° 0′	26½′	
$6^h\ 17\frac{5}{6}^m$	17° 0′	27′	26¼′
$6^h\ 33^m$	15° 0′	26⅚′	26⅙′

Time	Altitude of the Sun	Declination of the Sun	other pinnule [alt. pinnac.]
$6^h\ 48\frac{1}{3}^m$	13° 0′	27¼′	26½′
$7^h\ 4^m$	11° 0′	28′	27½′
$7^h\ 20^m$	9° 0′	29½′	29′
$7^h\ 37\frac{1}{3}^m$	7° 0′	30½′	29⅔′
$7^h\ 54\frac{1}{2}^m$	5° 0′	33⅓′	
$8^h\ 13\frac{1}{2}^m$	3° 0′	37′	
$8^h\ 30\frac{1}{2}^m$	2° 0′	39⅚′	

20 June [DIE 20 JUNIJ.]

Time	Observation	Value	Remark
	Meridian altitude of the Sun, by the Tychonic quadrant	57° 21′ 10″	with the old pinnule
		57° 20′ 50″	with the new
	by the revolving quadrant	57° 21′	
	by the greatest quadrant	57° 20′ 35″	
	Declination, by the subterranean armillae ma. [Armill. fubterr. ma.]	23° 15′	
	with the other pinnule	23° 15⅛′	

It was very clear.

The same day, in the afternoon, with the sky moderately clear.

Time	Azimuth of the Sun from the meridian toward the west	Altitude of the Sun	Declination of the Sun
$7^h\ 12\frac{2}{3}^m$	118° 0′	9° 25¼′	23° 15½′
$7^h\ 17^m\ 50^s$	119° 0′	8° 48′	
$7^h\ 22^m\ 50^s$	120° 0′	8° 12′	23° 16½′
$7^h\ 27^m\ 40^s$	121° 0′	7° 35½′	not certain enough
$7^h\ 32^m\ 30^s$	122° 0′	7° 1¼′	23° 17⅔′
$7^h\ 37^m\ 20^s$	123° 0′	6° 26′	
$7^h\ 42^m\ 40^s$	124° 0′	5° 52′	23° 19′
$7^h\ 47^m\ 45^s$	125° 0′	5° 17⅔′	

[The afternoon table of 20 June continues here from the preceding page; the page repeats no head.]

Time	Azimuth of the Sun from the meridian toward the west	Altitude of the Sun	Declination of the Sun
$7^h\ 52^m\ 50^s$	126° 0′	4° 44′	23° 20′
$7^h\ 57^m\ 45^s$	127° 0′	4° 11½′	
$8^h\ 2^m\ 40^s$	128° 0′	3° 41′	
$8^h\ 12^m\ 30^s$	130° 0′	2° 40′	23° 25′
$8^h\ 17^m\ 0^s$	131° 0′	2° 10′	23° 27′

21 June, morning [DIE 21 JUNIJ A. M.]

Time	Azimuth from the meridian toward the east [Azim. a mer. verf. ort.]	Altitude of the Sun	Declination of the Sun
8^h $31½^m$	71° 0′	40° 6½′	23° 13′
8^h 36^m	70° 0′	40° 39½′	
8^h 40^m	69° 0′	41° 11⅙′	23° 13′
8^h $44⅙^m$	68° 0′	41° 42¼′	
8^h $48⅙^m$	67° 0′	42° 12¼′	23° 13′

The same day, meridian altitude of the Sun [Eodem die Alt. ⊙ merid.]

Observation	Value	Remark
by the Tychonic quadrant	57° 16′ 55″	
	57° 17′ 10″	with the old pinnule [vet. pinnac.]
by the greatest quadrant	57° 17′ 10″	
by the revolving quadrant	57° 17′ 30″	
Meridian declination, by the greatest armillae [Arm. max.]	23° 11′	
with the other pinnule	23° 11¼′	

3 July [DIE 3 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	56° 2′	with the old pinnule
	56° 1⅚′	with the new
by the revolving [quadrant] [per Volub.]	56° 2′	
Declination, by the subterranean armillae	21° 56¾′	

4 July [DIE 4 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	55° 53½′	with the old pinnule
	55° 53⅓′	with the new
by the greatest quadrant	55° 53′	
by the revolving quadrant	55° 53½′	
by the lesser rulers: reading 5875,	55° 50¾′	
Declination, by the subterranean armillae	21° 48′	
with the other pinnule	21° 47⅚′	

5 July [DIE 5 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	55° 44½′	with both [vtroq.]
by the revolving quadrant	55° 44⅔′	
by the greatest quadrant	55° 45½′	
Declination, by the subterranean armillae	21° 39′	

It was not clear enough.

6 July [DIE 6 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	55° 34½′	with both [vtroq.]
by the revolving quadrant	55° 34½′	
by the greatest quadrant	55° 35⅙′	
Declination, by the subterranean armillae	21° 29½′	
	21° 29⅓′	

7 July [DIE 7 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	55° 25′ 0″	with the old pinnule
	55° 24′ 55″	with the new
by the revolving quadrant	55° 25′ 15″	
Declination, by the subterranean armillae	21° 19′ 45″	
with the other pinnule [alt. pinnac.]	21° 19′ 50″	

It was very clear.

14 July [DIE 14 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	54° 5′ 50″	with the old [veteri]
	54° 5′ 40″	with the new pinnule [nouo pin.]
by the revolving quadrant	54° 5′ 45″	
by the greatest quadrant	54° 5′ 50″	
by the lesser rulers: reading 6172,	54° 4′	
Declination, by the greater subterranean armillae [Arm. maio. ſubt.]	20° 0′	
with the other pinnule [Alt. pin.]	20° 0′ 15″	

15 July [DIE 15 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	53° 53′ 0″	with the old pinnule
	53° 52′ 55″	with the new
by the revolving quadrant	53° 52′ 40″	
by the greatest quadrant	53° 53′ 30″	
Declination, by the subterranean armillae	19° 47′	
with the other pinnule	19° 47¼′	

20 July [DIE 20 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	52° 44½′	
by the revolving quadrant	52° 44½′	
by the greatest quadrant	52° 44′	
Declination, by the subterranean armillae	18° 39½′	
with the other pinnule	18° 39¼′	

23 July [DIE 23 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	51° 59′ 55″	with the old pinnule
	51° 59′ 50″	with the new
by the revolving quadrant	51° 59⅚′	
Declination, by the armillae [Armill.]	17° 55′	with both pinnules [vtroq. pin.]

It was moderately clear, but not perfectly so.

24 July [DIE 24 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	51° 44′ 25″	with the old pinnule
	51° 44′ 15″	with the new
by the revolving quadrant	51° 44½′	
by the greatest quadrant	51° 43⅔′	

[The entry of 24 July continues here from the foot of the preceding page.]

Observation	Value	Remark
Declination, by the greatest subterranean armillae [Armillas max. ſubt.]	17° 40′	
with the other pinnule [alt. pin.]	17° 39¾′	
N.B. Declination repeated	17° 39¾′	with both [vtroq.]

26 July [DIE 26 JULIJ.]

Observation	Value	Re-mark
Meridian altitude of the Sun, by the Tychonic quadrant	51° 12½′	
by the revolving quadrant	51° 12½′	
by the greatest quadrant	51° 12⅚′	
by the new sextant	51° 13′	
Declination, by the greatest subterranean armillae [Arm. ſubt. max.]	17° 7½′	

It was not clear enough.

27 July [DIE 27 JULIJ.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	50° 56⅔′	with the old pinnule
	50° 56½′	with the new
by the new sextant	50° 56′	
by the revolving quadrant	50° 56½′ or ⅔ [vel ⅔]	
by the greatest quadrant	50° 56⅚′	

It was moderately clear.

Observation	Value	Remark
Declination, by the subterranean armillae	16° 51¼′	with both pinnules, after the instrument had been adjusted to the perpendicular

4 August [DIE 4 AUGUSTI.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	48° 36⅓′	with the old pinnule
	48° 36¼′	with the new
by the greatest quadrant	48° 36⅙′	
by the revolving quadrant	48° 36¾′	
Declination, by the armillae [Armillas]	14° 31½′	
with the other pinnule	14° 31¼′	

8 August [DIE 8 AUGUSTI.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	47° 20½′	with the new pinnule [nouo pin.]
	47° 20⅔′	with the old [veteri]

Observation	Value	Remark
by the greatest quadrant	47° 20½′	
by the new sextant	47° 20¼′	
by the revolving quadrant	47° 20′ 0″	

It was moderately clear.

Observation	Value	Remark
Declination, by the subterranean armillae	13° 15′ 30″	with both pinnules [vtroque pinnac.]

14 August [DIE 14 AUGUSTI.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	45° 20⅙′	with both [vtroque]
by the revolving quadrant	45° 20⅙′	
by the greatest quadrant	45° 20′	
by the new sextant	45° 20⅔′	
Declination, by the subterranean armillae	11° 15½′	with both [vtroque]

30 August [DIE 30 AUGUSTI.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	39° 32′ 0″	
by the revolving quadrant	39° 31′ 45″	
Declination, by the subterranean armillae	5° 26¼′	
with the other pinnule [alt. pinn.]	5° 26½′	

31 August [DIE 31 AUGUSTI.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	39° 9′	with the new pinnule [nouo pin.]
	39° 9⅓′	with the old [veteri]
by the revolving quadrant	39° 9′	
Declination, by the armillae [Arm.]	5° 3½′	
with the other pinnule	5° 3⅔′	

4 September [DIE 4 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	37° 37¾′	with the old pinnule
	37° 37⅓′	with the new

Observation	Value	Remark
by the revolving quadrant	37° 36¾′	doubtful
by the new sextant	37° 37½′	
by the lesser rulers: reading 8826½,	37° 37⅓′	
Declination, by the armillae [Arm.]	3° 32½′	with both [vtroque]

7 September [DIE 7 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	36° 27½′	with the new pinnule [novo pin.]

(With the old it was not possible, because of clouds.)

Observation	Value	Remark
by the revolving quadrant	36° 28½′	
by the greatest quadrant	36° 28′	
by the new sextant [Sext. nouum]	36° 28⅔′	
by the lesser rulers: reading 9004, corresponding to	36° 30′	
Declination, by the subterranean armillae	2° 22½′	

It was not clear.

11 September [DIE 11 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	34° 54′	with the new pinnule [nouo pin.]
	34° 54¼′	with the old [veteri]
by the revolving quadrant	34° 53½′	
by the greatest quadrant	34° 54½′	
by the new sextant	34° 54′	
Declination, by the subterranean armillae	0° 49½′	with both pinnules [vtroq. pin.]

12 September [DIE 12 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	34° 30¾′	with the new pinnule [nouo pin.]
	34° 31′	with the old [veteri]
by the revolving quadrant	34° 31′	
by the greatest quadrant	34° 29¾′	
by the new sextant	34° 30′	

[The entry of 12 September continues here from the foot of the preceding page.]

Observation	Value	Remark
by the lesser rulers: reading 9310,	34° 30′ 20″	
Declination, by the subterranean armillae [Arm. ſubt.]	0° 26′	with both pinnules [vtroq. pin.]

13 September [DIE 13 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	34° 7′	with the new pinnule [nouo pin.]
	34° 7⅙′	with the old [veteri]
by the revolving quadrant	34° 7¼′	
by the greatest quadrant	34° 6½′	
by the new sextant	34° 7′	
by the lesser rulers: reading 9371,	34° 7′	
Declination, by the subterranean armillae	0° 2¼′	with both pinnules [vtroq. pin.]

21 September [DIE 21 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	30° 59½′	with the old [veteri]
	30° 59⅓′	with the new [nouo]
by the revolving quadrant	30° 59¾′	
by the greatest quadrant	30° 59½′	
by the new sextant	31° 0½′	
Declination, by the subterranean armillae [Armill. ſubterr.]	3° 4¾′	
with the other pinnule [Alt. pinnac.]	3° 5′	

22 September [DIE 22 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	30° 36′	with one pinnule [vno pinnac.]
		with the other it was not possible [altero non licuit]
by the revolving quadrant	30° 36′	
by the greatest quadrant	30° 36½′	
by the new sextant	30° 36¾′	
Declination, by the armillae [Armill.]	3° 28½′	with one pinnule [vno pinnac.]
	3° 28¼′	with the other pinnule [alt. pin.]

24 September [DIE 24 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	29° 49⅓′	with the new [nouo]

Observation	Value	Remark
	29° 49½′	with the old pinnule [vet.pin.]
by the revolving quadrant	29° 49½′	
by the greatest quadrant	29° 49¾′	
by the new sextant	29° 49½′	
Declination, by the greatest subterranean armillae [Arm. ſubterr. max.]	4° 15¼′	
with the other pinnule [alt. pinn.]	4° 15⅙′	

26 September [DIE 26 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the revolving quadrant	29° 2′ 45″	
by the Tychonic quadrant	29° 3′ 0″	with the new [nouo]
	29° 3′ 10″	with the old pinnule [vet. pin.]
by the new sextant	29° 2′ 30″	

After the armillae had been adjusted [Poſt rectificatas Armillas]:

Observation	Value	Remark
At 12^h 18^m, the declination of the Sun, repeated [repetita Decl. ☉]	5° 2′ 30″	with both pinnules [vtroque pinnacidio]

27 September [DIE 27 SEPTEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	28° 39′ 40″	with both pinnules [vtroque pinnac.]
by the revolving quadrant	28° 39′ 45″	
by the greatest quadrant	28° 39′ 45″	
Declination, by the greatest armillae [Armill. max.]	5° 25¼′	

It was not clear enough.

10 October [DIE 10 OCTOBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	23° 47′ 30″	
by the revolving quadrant	23° 47′ 30″	
by the new sextant △ [Sext. △ nou.]	23° 47′ 30″	
by the greatest quadrant	23° 47′ 20″	
Declination, by the subterranean armillae	10° 16⅓′	with both pinnules [vtroque pin.]

At noon itself it was very clear.

14 October [DIE 14 OCTOBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	22° 22¾′	
by the revolving quadrant	22° 22⅙′	
by the greatest quadrant	22° 23⅙′	
by the new sextant [Sext. nou.]	22° 23½′	
Declination, by the greater armillae [Armill. maiores]	11° 42¾′	

18 October [DIE 18 OCTOBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the revolving quadrant	20° 59⅔′	
Declination, by the armillae [Armillas]	13° 5′	
with the other pinnule [alt. pinnac.]	13° 5⅙′	

21 October [DIE 21 OCTOBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	20° 0′ 10″	with the new [nouo]
	20° 0′ 30″	with the old pinnule [vet. pin.]
by the revolving quadrant	20° 0′ 10″	
by the greatest quadrant	20° 0′ 0″	
by the new sextant	20° 0′ 10″	
Declination, by the greater subterranean armillae [Arm. ſubt. mai.]	14° 5′ 0″	
with the other pinnule	14° 4′ 40″	

The sky was very clear.

26 October, morning [DIE 26 OCTOBRIS A. M.]

At 8^h $44½^m$, when the altitude of the Sun was 7° 40′, its southern [Merid.] declination was observed as 15° 34½′. Therefore the apparent place of the Sun [locus ⊙ viſus], by reason of parallax as well as of refraction, was 12° 17½′ ♏. Our ephemerides give the Sun at that time in 12° 30′ ♏, but refraction and parallax altered the motion.

Observation	Value	Remark
At 9^h 0^m, the declination of the Sun again [rurſus]	15° 34′	altitude of the Sun 9° 10′ [Altitudo ⊙ G.9 M.10.]
Meridian altitude, by the Tychonic quadrant	18° 25⅚′	
by the revolving quadrant	18° 25½′	
by the greatest quadrant	18° 25¼′	

Observation	Value	Remark
At 12^h 3^m, declination, with one pinnule [vno pin.]	15° 40′	
with the other pinnule [alt. pin.]	15° 39½′	
At 12^h 5^m, declination, repeated [repetita]	15° 39⅔′	
with the other pinnule [alt. pinnac.]	15° 39½′	

The place of the Sun comes out at 12° 36′ ♏, and that without taking account of refraction or parallax.

29 October, morning [DIE 29 OCTOBRIS A. M.]

Time	The Sun from the meridian toward the east [☉ a Meridie ad ort.]	Remark
8^h 39^m 10^s	50° 22′	
8^h 40^m 50^s for the clock [pro horologio]	49° 56′	

Time	Declination of the Sun, south [Decl. ☉ auſtr.]	Altitude of the Sun [Alt. ☉]	Remark
8^h 50^m	16° 28′	7° 25⅓′	
8^h 55^m	16° 28½′	7° 54⅔′	
8^h $59⅓^m$	16° 28½′	8° 18½′	
9^h $8½^m$	16° 29′	9° 10′	
9^h 11^m	16° 29½′	9° 23′	
9^h 14^m	16° 29¾′	9° 41′	
9^h $17½^m$	16° 30′	10° 1⅓′	
9^h $20⅚^m$	16° 30′	10° 16⅔′	
9^h 44^m	16° 31¾′		corresponding to an apparent place of the Sun [reſp. Locus ☉ viſus] of 15° 29′ ♏

1 November [DIE 1 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	16° 40⅔′	with the new pinnule [nouo pin.]
	16° 41′	with the old [veteri]
by the revolving quadrant	16° 40¼′	
by the new sextant	16° 41′	
Declination, by the greatest subterranean armillae [Armill. ſubt. max.]	17° 25½′ M.	
with the other pinnule [alt. pinnac.]	17° 25¼′	

It was exceptionally clear [apprime ferenum].

2 November [DIE 2 NOUEMBRIS.]

At 11^h 55^m a.m. [Hora 11 55′ A. M.], by the greater armillae [Armillas maiores], the Sun had a declination, with one pinnule [vno pinnacidio], of 17° 41½′ M.

Observation	Value	Remark
with the other pinnule [alt. pin.]	17° 41¼′	
Meridian altitude of the Sun, by the Tychonic quadrant	16° 24⅙′	with the old pinnule [vet.pin.]
	16° 24′ 0″	with the new [nouo]
by the revolving quadrant	16° 24¼′	
Declination of the Sun	17° 41¼′	agrees fairly well [satis bene consentit]
At 0^h 6^m p.m. [Hora 0 6′ P. M.], the declination of the Sun, repeated, with both pinnules [vtroque pinnacidio]	17° 41½′ M.	

4 November [DIE 4 NOUEMBRIS.]

At noon the clock was running 17½ minutes [17½M] faster. This error is to be charged to it from noon of the 2nd, for it had not been corrected in the meantime; so over the two days the times ought to be corrected proportionally to this figure.

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	15° 52′	with the new pinnule [nouo pin.]
	15° 52⅓′	with the old [veteri]
by the revolving quadrant	15° 51¼′	
by the greatest quadrant	15° 52½′	
by the new sextant	15° 52½′	
Declination, by the greater subterranean armillae [Armillas maiores subt.]	18° 13¾′	with both pinnules [vtroque pinn.]
At 0^h 7^m p.m., the declination of the Sun, repeated [reiterata], by the armillae	18° 14′1	with both pinnules [vtroq. pin.]

This agrees quite well with the meridian altitude taken by the revolving quadrant, the difference being only [saltem] ¼ of one minute.

N.B. At the new meridian the armillae showed 15′ before the true meridian. Therefore all the times observed up to now are one minute later than they should be (yet the difference is not one minute everywhere, since it did not always behave in the same way; indeed, it is scarcely everywhere half [a minute]).[2]

6 November [DIE 6 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	15° 21½′	with the new pinnule [nouo pin.]
	15° 21⅔′	with the old pinnule [vet.pin.]

Observation	Value	Remark
by the revolving quadrant	15° 20⅔′	
Declination of the Sun, by the armillae [Armill.]	18° 45′	with one pinnule [vno pin.]
	18° 44½′	with the other pinnule [alt. pin.]

It was moderately clear. At noon the clock was running 8 minutes faster. It had, however, been corrected at the immediately preceding noon.

[1] You will find other observations of the declination of the Sun below, among the observations of the Moon; also for the days 6, 7, 23 and 24 November.

[2] Tycho added these words later in codex V. They are missing in codex C.

7 November [DIE 7 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	15° 6¾′	with the new pinnule [nouo pin.]
	15° 7′ 0″	with the old [veteri]

11 November [DIE 11 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	14° 11¼′	with the new pinnule [nouo pin.]
	14° 11⅓′	with the old [veteri]
by the revolving quadrant	14° 11′	
by the new sextant	14° 10½′	uncertain [incerta]
At 12^h 20^m [H. 12 20′], declination of the Sun, with one pinnule [vno pin.]	19° 55½′	
with the other pinnule [altero pinnac.]	19° 55½′	
At 12^h 25^m [H. 12 25′], declination, repeated [Repetita Decl.]	19° 55⅓′	
with the other pinnule [altero pinnac.]	19° 55¼′	

N.B. All the observations that follow were taken at armillae more correct with respect to the meridian line than before [ad Armillas verſus Meridiej lineam correctiores quam prius].

13 November [DIE 13 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	13° 45′	with the new pinnule [nouo pin.]
	13° 45¼′	with the old [veteri]
by the revolving quadrant	13° 44½′	
Declination, by the greater armillae [Armill. maior.]	20° 20½′	
with the other pinnule [alt. pinnac.]	20° 20¾′	

14 November [DIE 14 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	13° 32½′	with one pinnule only [vno tantum pinnac.]
by the revolving quadrant	13° 32¾′	
by the new sextant	13° 32⅔′	
Declination, by the armillae [Armillas]	20° 34′	
with the other pinnule [alt. pinnac.]	20° 33½′	

It was not clear enough [Non fuit ſatis ſerenum].

18 November [DIE 18 NOUEMBRIS.]

Observation	Value	Re-mark
Meridian altitude of the Sun, by the Tychonic quadrant	12° 47⅙′	
by the revolving quadrant	12° 47⅓′	
by the new sextant	12° 47′	
Declination, by the greatest armillae [Armill. max.]	21° 18½′ south [A.]	
with the other pinnule [alt. pinnac.]	21° 18⅓′	

It was moderately clear.

23 November [DIE 23 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	12° 0′	with the old pinnule [veteri pin.]
	11° 59⅚′	with the new [nouo]
by the revolving quadrant	11° 59½′	
Declination of the Sun, by the armillae [Armill.]	22° 6¼′	
with the other pinnule [alt. pinnac.]	22° 6′	

24 November [DIE 24 NOUEMBRIS.]

Observation	Value	Re-mark
Meridian altitude of the Sun, by the revolving azimuthal quadrant [Q. Volub. Azimutalem]	11° 51¼′	
Declination of the Sun, by the greater armillae [Armill. maio.]	22° 14½′	
with the other pinnule [alt. pinnacid.]	22° 14¼′	
Declination repeated, with one pinnule [I pinn.]	22° 14¼′	
with the other pinnule [alt. pinnac.]	22° 14′	

This agrees quite well with the altitude by the revolving azimuthal quadrant.

28 November [DIE 28 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	11° 23½′	
with the new pinnule [nouo pinnacidio]	11° 23′	
by the revolving quadrant	11° 22⅓′	
by the new sextant	11° 23⅓′	
Declination, by the greater armillae [Armill. maio.]	22° 42½′	with both [vtroq.]

29 November [DIE 29 NOUEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	11° 17′	with both pinnules [vtroq. pin.]
by the revolving quadrant	11° 16′	
Declination, by the subterranean armillae [Armill. ſubt.]	22° 48½′	
with the other pinnule [alt. pinnac.]	22° 49′	

At noon the clock was running 17½ minutes slower than it should [iuſto tardius], counting from the most recent noon, at which it was being corrected.

1 December [DIE 1 DECEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the Tychonic quadrant	11° 6⅓′	with the old pinnule [vet.pin.]
	11° 6′	with the new [nouo]
by the revolving azimuthal quadrant [Q. Volub. Azim.]	11° 6¼′	
by the new sextant	11° 6′	
Declination, by the greatest equatorial armillae [Armill.æquat.max.]	22° 59′	
with the other pinnule [alt. pinnac.]	22° 59½′	

It was very clear [bene ſerenum].

2 December [DIE 2 DECEMBRIS.]

Observation	Time
The Sun began to rise [☉ incepit oriri]	8^h 21^m, approximately [fere]
It was rising half-way [Medius oriebatur]	8^h $23½^m$
Fully risen [Totus ortus]	8^h $26⅚^m$

Joined by a brace to all three times: difference in the rising, 6 minutes [Differentia in ortu 6 Minutorum].

Note. At noon the clock showed $11^h\ 54^m\ 52^s$, when it should have been $12^h\ 0^m\ 0^s$. This slowness, however, had come upon it since the immediately preceding noon.

The greatest clock, however, was then set exactly at $12^h\ 0^m$ [H. 12 0′].

Observation	Value	Remark
Meridian altitude, by the revolving quadrant	11° 1⅙′	
by the Tychonic quadrant	11° 1½′	
by the sextant [per Sextantem]	11° 2′	
Declination, by the greatest armillae [Arm. max.]	23° 4½′	twice the same [bis idem] (braced to both values)
with the other pinnule [alt. pinnacid.]	23° 4¼′	

14 December [DIE 14 DECEMBRIS.]

Observation	Value	Remark
Meridian altitude of the Sun, by the revolving azimuthal quadrant [Q. Volub. Azim.]	10° 40¾′	
Declination, by the greatest subterranean armillae [Armill. fubt. max.]	23° 25′	
with the other pinnule [alt. pinnac.]	23° 24¾′	
Altitude, by the Tychonic quadrant [Q. Tichonicum]	10° 41⅓′	

But note that it was not clear enough. The clock was verified at noon.

15 December [DIE 15 DECEMBRIS.]

Lesser clock [Min. Horol.]	Azimuth [Azim.]	Altitude of the centre [Alt. centri]
$11^h\ 39^m\ 35^s$	of the centre of the Sun [centri ⊙] 1° 44′	10° 40½′
$11^h\ 43^m\ 35^s$	of the western limb of the Sun [oc. limb. ⊙] 2° 49′	10° 40′
$11^h\ 45^m\ 45^s$	of the western limb of the Sun [oc. limb. ⊙] 3° 19′	10° 39′

Diagram. A small spherical triangle set at the left of the paragraph below. A short, nearly straight upper side runs from b (upper left) to a (upper right); a long curved side runs from b down to c; a third side runs from a down to c.

- b (upper left): vertex
- a (upper right): vertex
- c (foot): vertex

Since AC, the complement of the altitude, is given, and AB, the complement of the altitude of the pole [Polaris altitudinis], and the angle BAC, the complement of the azimuth, therefore by the 6th rule [VI dogma] the angle ABC is given, the distance from the meridian on the equator.

16 December [DIE 16 DECEMBRIS.]

By the lesser [Per mi.]	By the greater [Per ma.]	Azimuth of the Sun [Azim. ⊙]	Altitude [Alt.]
$11^h\ 50^m\ 40^s$	$11^h\ 57^m\ 0^s$	0° 51′ east [or.]	10° 45′ en plati
$11^h\ 54^m\ 40^s$	$12^h\ 1^m\ 16^s$	the Sun crossed the meridian [tranſiuit⊙per mer.]	
$11^h\ 58^m\ 20^s$	$12^h\ 5^m\ 20^s$	0° 48′ west [oc.]	10° 44½′
$12^h\ 0^m\ 31^s$	$12^h\ 7^m\ 40^s$	1° 20′ west [oc.]	10° 43′

It was not clear enough, and so we observed the centre of the body of the Sun through the pinnule, in the azimuths as well as in the altitudes.

27 December [DIE 27 DECEMBRIS.]

The Sun crossed the meridian [⊙ tranſiuit Merid.] (braced to both times):

Time	Remark
$11^h\ 55^m\ 25^s$	by the lesser [per minus]
$11^h\ 50^m\ 52^s$	by the greater [per maius]

Observation	Value	Remark
Declination of the Sun at about noon [⊙ Declin. iuxta Meridiem]	22° 30¼′	with the new [nouo]
	22° 30½′	with the other [alt.]

At the following noon the clock was running slower than it should by $4^m\ 35^s$, and that since $12^h\ 40^m$ [hora 12 M. 40] of the preceding day.

Observation	Value	Re-mark
Altitude of the Sun at the meridian, by the revolving [quadrant] [per Volubilem]	11° 34′	
by the mural [quadrant] [per Muralem]	11° 35′	
Declination of the Sun, with one pinnule [vno pinnac.]	22° 31′	
repeated, with the other [reiterata altero]	22° 31½′	

30 December [DIE 30 DECEMBRIS.]

Lesser [Minus]	Greater [Maius]	Azimuth of the Sun, west [Azim. ⊙ occ.]	Altitude [Alt.]
$12^h\ 18^m\ 59^s$	$12^h\ 14^m\ 18^s$	4° 1′	11° 51½′
$12^h\ 20^m\ 37^s$	$12^h\ 16^m\ 0^s$	4° 25′	11° 51′
$12^h\ 22^m\ 6^s$	$12^h\ 17^m\ 40^s$	4° 44′	11° 50′
$12^h\ 23^m\ 55^s$	$12^h\ 19^m\ 26^s$	5° 11′	11° 48½′
$12^h\ 25^m\ 39^s$	$12^h\ 21^m\ 13^s$	5° 34′	11° 47¾′

Lesser [Minus]	Greater [Maius]	Azimuth of the Sun, west [Azim. ⊙ occ.]	Altitude [Alt.]
$12^h\ 27^m\ 52^s$	$12^h\ 23^m\ 36^s$	6° 0′	11° 46½′

In the following it was very clear.

Lesser [Minus]	Greater [Maius]	Azimuth of the Sun, west [Azim. ⊙ occ.]	Altitude [Alt.]
$12^h\ 30^m\ 20^s$	$12^h\ 26^m\ 17^s$	6° 41′	11° 44′
$12^h\ 31^m\ 30^s$	$12^h\ 27^m\ 35^s$	6° 58′	11° 42½′
$12^h\ 32^m\ 52^s$	$12^h\ 29^m\ 3^s$	7° 17′	11° 41′
$12^h\ 33^m\ 55^s$	$12^h\ 30^m\ 6^s$	7° 31′	11° 39¾′

By the armillae [Per Armillas]:

Lesser [Minus]	Greater [Maius]	Distance from the meridian, west [Diſt. a mer. occ.]	Declination, south [Decl. Auſt.]
$12^h\ 36^m\ 45^s$	$12^h\ 33^m\ 15^s$	8° 22¾′	22° 7½′
$12^h\ 38^m\ 15^s$	$12^h\ 34^m\ 48^s$	8° 48′	22° 7½′
$12^h\ 39^m\ 11^s$	$12^h\ 35^m\ 50^s$	9° 2½′	22° 7½′

31 December [DIE 31 DECEMBRIS.]

At about noon [Iuxta Meridiem.]

Observation	Value	Remark
At $11^h\ 42⅓^m$ [H. 11 42⅓′], declination of the Sun, south [Decl. ⊙ auſt.]	21° 59½′	with one [vno]
	21° 59′	with the other [alt.]
At $11^h\ 48½^m$, declination, repeated [repetita Decl.]	21° 59⅓′	with one [vno]
	21° 59′	with the other [alt.]
At $11^h\ 54^m$, declination, repeated [repetita Decl.]	21° 59¼′	with one [vno]
	21° 58⅚′	with the other [alt.]
Meridian altitude of the Sun, by the Tychonic quadrant	12° 7′ 0″	with the new pinnule [nouo pin.]
	12° 7′ 10″	with the old [veteri]
by the new sextant	12° 8¾′	uncertain [incerta]
by the lesser rulers: reading 12578, corresponding to [reſp.]	12° 4′	
by the revolving quadrant	12° 5′	

At noon the clock was running faster than it should by $9^m\ 17^s$, and that since the morning of the preceding day.

Observation	Value	Remark
Declination of the Sun, repeated, by the armillae, shortly after noon [paulo poſt Merid.]	21° 59⅙′	with one [vno]
	21° 58¾′	with the other [alt.]

8

Places of the Sun [LOCA SOLIS.]

Day [Die]	Observed altitude of the Sun [Alt. ☉ obſeruata]	Par-allax [Par-all.]	True altitude [Vera Alt.]	Declina-tion of the Sun [Declin. ☉]	Longi-tude of the Sun [Long. ☉]	Our ephemerides [Ephem. noſtræ]	Prutenic, Mästlin [Pruten. Mæſtl.]	Alphon-sine, Cyprian [Alphonſ. Cypr.]
9 March [9 Mart.]	33° 30′ 15″	2′ 29″	33° 32′ 44″	0° 32′ 46″	28° 37′ 53″ ♓	28° 38′ 17″	28° 7′	28° 54′ 1″
10 —	33° 54′ 0″	2′ 28″	33° 56′ 28″	0° 9′ 2″	29° 37′ 23″ ♓	29° 37′ 40″	29° 7′	29° 53′ 13″
11 —	34° 18′ 20″	2′ 28″	34° 20′ 48″	0° 15′ 18″	0° 38′ 20″ ♈	0° 37′ 2″	0° 5′	0° 51′
17 —	36° 39′ 20″	2′ 23″	36° 41′ 43″	2° 36′ 13″	6° 32′ 12″ ♈	6° 32′ 24″	6° 3′	6° 36′ 34″
19 —	37° 26′ 0″	2′ 21″	37° 28′ 21″	3° 22′ 51″	8° 30′ 2″ ♈	8° 30′ 34″	8° 1′ 0″	8° 44′ 19″
1 April [1 Apr.]	42° 22′ 0″	2′ 12″	42° 24′ 12″	8° 18′ 42″	21° 14′ 21″ ♈	21° 15′ 3″	20° 47′	21° 26⅔′
12 —	46° 14′ 50″	2′ 3″	46° 16′ 53″	12° 11′ 23″	1° 57′ 0″ ♉	1° 57′ 20″	1° 31′	
13 —	46° 34′ 50″	2′ 3″	46° 36′ 53″	12° 31′ 23″	2° 54′ 57″ ♉	2° 55′ 30″	2° 29′	3° 5½′
16 —	47° 33′ 45″	2′ 1″	47° 35′ 46″	13° 30′ 16″	5° 49′ 48″ ♉	5° 50′ 2″	5° 25′	5° 59′ 13″
18 --	48° 12′ 20″	1′ 59″	48° 14′ 19″	14° 8′ 49″	7° 46′ 22″ ♉	7° 46′ 9″	7° 22′	7° 55′
19 —	48° 31′ 0″	1′ 58″	48° 32′ 58″	14° 27′ 28″	8° 44′ 3″	8° 44′ 11″	8° 20′	8° 52′ 46″
27 —	50° 52′ 30″	1′ 53″	50° 54′ 23″	16° 48′ 53″	16° 28′ 0″	16° 27′ 22″	17° 4′ 11″	16° 34′ 7″
7 May [7 Maij]	53° 24′ 0″	1′ 48″	53° 25′ 48″	19° 20′ 18″	26° 5′ 17″	26° 4′ 3″	25° 44′ 0″	26° 9′ 4″
8 —	53° 37′ 30″	1′ 46″	53° 39′ 16″	19° 33′ 46″	27° 3′ 4″	27° 1′ 35″	26° 41′	27° 6½′
11 —	54° 15′ 20″	1′ 44″	54° 17′ 4″	20° 11′ 34″	29° 53′ 28″	29° 54′ 4″	29° 34′	29° 58′ 31″
18 —	55° 33′ 0″	1′ 41″	55° 34′ 41″	21° 29′ 11″	6° 37′ 42″ ♊	6° 35′ 56″	6° 18′ 6″	6° 39′ 17″
25 —	56° 32′ 0″	1′ 38″	56° 33′ 38″	22° 28′ 8″	13° 17′ 43″	13° 16′ 57″	13° 1′	13° 19′ 3″
26 —	56° 39′ 30″	1′ 38″	56° 41′ 8″	22° 35′ 38″	14° 20′ 9″	14° 14′ 11″		
29 —					17° 9′ 0″	17° 5′ 48″	16° 51′	17° 7′ 15″
23 July [23 Julij]	51° 59′ 50″	1′ 50″	52° 1′ 40″	17° 56′ 10″	9° 31′ 11″ ♌	9° 30′ 21″	9° 24′ 0″	9° 28′ 10″
24 --	51° 44′ 30″	1′ 51″	51° 46′ 21″	17° 40′ 51″	10° 26′ 8″ ♌	10° 27′ 47″	10° 22′	10° 25′ 38″

[8]Five readings on these two pages are construals; the English commits one, and the other is given here. p. 27, N.B. after 11 November: *correctiores* is taken with *Armillas* ("at armillae more correct"); it can also agree with *obſeruationes*: "All the observations that follow were taken at the armillae, more correct with respect to the meridian line than before." p. 27, 24 November: *I pinn.* is printed with the italic capital I, not the figure 1, and is taken as the numeral, "with one pinnule". p. 27, 29 November: *a meridie proximo* is taken as the preceding noon, "the most recent noon"; it can also mean the following noon. p. 28, 15 December: *Min. Horol.* is taken as "lesser clock" (*minus horologium*), by the heads *Per mi. / Per ma.*, *per minus / per maius* and *Minus / Maius* on this page; it can also be read as *minuta horologii*, "clock minutes". *oc. limb.* ☉ is taken as a genitive parallel to *centri* ☉, "of the western limb of the Sun"; *oc.* can also be read as "west", of the azimuth, as on 16 December.

Day [Die]	Observed altitude of the Sun [Alt. ⊙ obſeruata]	Par-allax [Par-all.]	True altitude [Vera Alt.]	Declina-tion of the Sun [Declin. ⊙]	Longi-tude of the Sun [Long. ⊙]	Our ephemerides [Ephem. noſtræ]	Prutenic, Mästlin [Pruten. Mæſtl.]	Alphon-sine, Cyprian [Alphonſ. Cypr.]
27 —	50° 56′ 30″	1′ 52″	50° 58′ 22″	16° 52′ 52″	13° 18′ 7″ Set here [Pone hic] 13° 18½′	13° 20′ 13″	13° 15′ 0″	13° 18′ 4″
4 Au-gust [4 Aug.]	48° 36′ 45″	1′ 58″	48° 38′ 43″	14° 33′ 13″	20° 58′ 3″	21° 0′ 52″	20° 56′ 0″	20° 58′ 39″
	48° 36′ 20″		48° 38′ 18″	14° 32′ 48″	20° 59′ 22″ Set here [Pone hic] 20° 59′			
4 Septem-ber [4 Sept.]	37° 37′ 45″	2′ 21″	37° 40′ 6″	3° 34′ 36″	21° 0′ 18″ ♍	21° 2′ 15″	20° 59′ 0″	21° 2′ 39″
	37° 37′ 20″		37° 39′ 41″	3° 34′ 11″	21° 1′ 22″			
12 —	34° 31′ 0″	2′ 27″	34° 33′ 27″	0° 27′ 57″	28° 49′ 57″	28° 52′ 12″		
13 —	34° 7′ 15″	2′ 28″	34° 9′ 43″	0° 4′ 13″ north [B]	29° 49′ 50″	29° 51′ 6″		
24 —	29° 49′ 30″	2′ 34″	29° 52′ 4″	4° 13′ 26″ south [M]	10° 38′ 17″ ♎	10° 41′ 21″	10° 35′ 0″	10° 44′ 13″
10 Octo-ber [10 Oct.]	23° 47′ 30″	2′ 43″	23° 50′ 13″	10° 15′ 17″	26° 29′ 52″	26° 35′ 5″	26° 27′ 0″	26° 40′ 42″

In these, however, the reckoning of solar refraction must be applied, since the Sun below 30° admits a perceptible refraction.

For the place of the Sun, verified in a certain special way by the time of the Sun's transit through the meridian, against stars observed morning and evening, as follows:[9]

2 December [DIE 2 DECEMBRIS.]

By the lesser clock [per minus horologium]:

[9] *verificato* is taken with *loco* ("the place … verified"); it can also be taken with *tempore* as an ablative absolute: "For the place of the Sun, the time of its transit through the meridian having been verified in a certain special way against stars observed morning and evening, as follows". The reckonings that follow correct the transit time by the clock before deriving the place.

Observation	Value
At 8^h 12^m 23^s A.M. [H.8 12′23″ A. M.], Jupiter from the meridian, west [♃ a merid. occ.]	99° 19½′
Right ascension of Jupiter [Aſcenſ. Recta ♃]	104° 0′
Right ascension of the midheaven [Aſc. Recta M.C.]	203° 19½′
[At] 4^h 16^m 32^s P.M. [4 16 32 P.M.], Venus from the meridian, west [♀ a Mer. occ.]	14° 50¼′

Reckoning	Value
Right ascension of Venus [Aſcenſ. R. ♀]	310° 17′
Right ascension of the midheaven at the second time [Aſc. R. M. C. ad II tempus]	325° 7¼′
Right ascension of the midheaven at the first time [Aſc. R. M. C. ad I tempus]	203° 19′ 30″
Difference of the two [Differentia vtriusque]	121° 47′ 45″
This gives, in time [Facit in tempore]	8^h 7^m 11^s
Time elapsed on the clock [Tempus Horol. interlapſum]	8^h 4^m 9^s

In 8^h 4^m [8H4′], therefore, the clock was running slow by 0^h 3^m 2^s [H.0 3′2″]. So, taking this proportionally from the earlier time to noon, 1^m 27^s belongs to the intervening time.

Reckoning	Value
Time of the Sun's transit through the meridian, observed by the same lesser clock [per idem horol. minus obſeruatum]	11^h 54^m 52^s
Add [Adde]	1^m 27^s
True time of the Sun's transit through the meridian [Tempus verum tranſitus ⊙ per Merid.]	11^h 56^m 19^s
Let the first time be taken from this [Tempus I hinc auferatur]	8^h 12^m 23^s
True difference of the time [Temporis vera differentia]	3^h 43^m 56^s
Corresponding on the equator [Reſpondet in æquatore]	55° 59′
First right ascension of the midheaven, from Jupiter [I Aſcens. R. M. C. ex ♃]	203° 19½′
Right ascension of the Sun [Aſcens. R. ⊙]	259° 18½′
Corresponding place of the Sun [Reſpondet locus ⊙]	20° 10½′ ♐
Our ephemerides give [Ephem. noſtræ dant]	20° 11½′ ♐

II.

Again, for the place of the Sun, on the same day [Rurſus pro loco ⊙ eodem die.]

Reckoning	Value
At 8^h 6^m 42^s A.M. [H. 8 6′ 42″ A. M.], Jupiter from the meridian, west [♃ a Merid. occ.]	97° 53½′
Right ascension of Jupiter [Aſcens. R. ♃]	104° 0′
Right ascension of the midheaven [Aſcens. R. M. C.]	201° 53½′
[At] 4^h 10^m 23^s P.M. [4 10 23 P. M.], Venus from the meridian, west [♀ a Merid. occ.]	13° 17′
Right ascension of Venus [Aſc. R. ♀]	310° 17′
Right ascension of the midheaven, second [Aſc. R. M. C II]	323° 34′
Midheaven at the first time [Medium cœli ad I tempus]	201° 53½′
Difference of the ascensions of the midheaven [Differ. Aſcenſionum M. C.]	121° 40½′

Reckoning	Value
Corresponding elapsed time [Reſp. tempus interlapſum]	$8^h\ 6^m\ 42^s$
Time of the clock [Tempus Horologij]	$8^h\ 3^m\ 41^s$
Difference of the time [Differ. temporis]	$0^h\ 3^m\ 1^s$

So over an interval of roughly 8 hours [interuallo 8 quaſi horarum] the clock was running slower than it should by $3^m\ 1^s$. Proportionally, therefore, to the 3 hours 48⅙ minutes [horis 3 48⅙′] from the first observation to noon there belong $1^m\ 24^s$, to be added to the time of the Sun's transit through the meridian, which was $11^h\ 54^m\ 52^s$.

Reckoning	Value
True time of the Sun's transit [Verum tempus tranſitus ☉]	$11^h\ 56^m\ 16^s$
Subtract the first time [Aufer primum tempus]	$8^h\ 6^m\ 42^s$
True difference of the time [Differ. vera temporis]	$3^h\ 49^m\ 34^s$
Corresponding on the equator [Reſpondet in æquatore]	57° 23′ 30″
Right ascension of the midheaven, first [Aſc. R. M. C. I]	201° 53′ 30″
The right ascension of the Sun comes out as [Prouenit Aſc. R. ☉]	259° 17′ 0″
To which corresponds the place of the Sun [Cui reſpondet locus ☉]	20° 9′ ♐

III.

Reckoning	Value
At $7^h\ 59^m\ 35^s$ A.M. [H. 7 59′ 35″ A. M.], Jupiter, west [♃ occ.]	96° 5′
Right ascension of Jupiter [Aſc. R. ♃]	104° 0′
First right ascension of the midheaven [Prima Aſc. R. M. C.]	200° 5′
[At] $3^h\ 40^m\ 42^s$ P.M. [3 40 42 P. M.], Venus, west [♀ occ.]	5° 48⅔′
Right ascension of Venus [Aſc. R. ♀]	310° 17′ 0″
Second right ascension of the midheaven [Secunda Aſc. R. M. C.]	316° 5′ 40″
Midheaven at the first time [M. C. ad primum tempus]	200° 5′ 0″
Difference of the ascensions of the midheaven [Differ. Aſcenſionum M. C.]	116° 0′ 40″
Corresponding in time [Reſpondet in tempore]	$7^h\ 44^m\ 10^s$
Time elapsed on the clock [Tempus Horol. interlapſum]	$7^h\ 41^m\ 7^s$
So in $7^h\ 44^m$ [Horis ergo 7 44′] the clock was slower by [Horol. tardius]	$0^h\ 3^m\ 3^s$
So to the time from the first observation to noon there belong [Ergo tempori a I obſeruatione in Meridiem competunt]	$1^m\ 33^s$
Time of the Sun's transit, observed [Tempus tranſitus ☉ obſ.]	$11^h\ 54^m\ 52^s$
True time of the transit [Verum tempus tranſitus]	$11^h\ 56^m\ 25^s$
Subtract the first time [Subtrahe I tempus]	$7^h\ 59^m\ 35^s$
Difference of the time [Diff. temporis]	$3^h\ 56^m\ 50^s$
Corresponding on the equator [Reſpondet in æquatore]	59° 12′ 30″
First ascension of the midheaven, in the morning [A. M. prima Aſc. M. C.]	200° 5′ 0″
Right ascension of the Sun [Aſcenſ. R. ☉]	259° 17′ 30″
Corresponding place of the Sun [Reſpondet locus Solis]	20° 9⅔′ ♐

IIII.

Reckoning	Value
At 8^h 1^m 52^s A.M. [H.8 1′ 52″ A. M.], Jupiter from the meridian, west [♃ a Mer. occ.]	96° 39′
Right ascension of Jupiter [Aſcenſ. R. ♃]	104° 0′
Ascension of the midheaven, first [Aſcenſ. M. C. I]	200° 39′
[At] 3^h 45^m 32^s P.M. [3 45 32 P. M.], Venus from the meridian, west [♀ a Mer. occ.]	7° 2¼′
Right ascension of Venus [Aſc. R. ♀]	310° 17′
Second ascension of the midheaven [II Aſcenſ. M. C.]	317° 19¼′
First ascension of the midheaven [I Aſc. M. C.]	200° 39′
Difference of the ascensions of the midheaven [Diff. Aſc. M. C.]	116° 40¼′
This gives, in time [Facit in tempore]	7^h 46^m 41^s
Time by the clock [Tempus per horol.]	7^h 43^m 40^s
The clock slower by [Horologium tardius]	0^h 3^m 1^s
In 7^h 47^m [In horis 7 47′]; so, proportionally, to the time from the first observation to noon there belong [ergo proportionaliter tempori a prima obſeruatione in Merid. competunt]	1^m 32^s
Time of the Sun's transit through the meridian, observed [Tempus tranſitus ☉ per meridianum obſeruatum]	11^h 54^m 52^s
True time of the transit [Verum tempus tranſitus]	11^h 56^m 24^s

Reckoning	Value
Subtract the first time [Aufer primum tempus]	8^h 1^m 52^s
Difference of the time [Differentia temporis]	3^h 54^m 32^s
Corresponding on the equator [Reſpondet in æquatore]	58° 38′ 0″
Ascension of the midheaven, first [Aſcenſio I M. C]	200° 39′ 0″
Right ascension of the Sun [Aſcenſio R. ☉]	259° 17′ 0″
Corresponding place of the Sun, in [Reſpondet locus ☉ in]	20° 9⅙′ ♐

V.

Reckoning	Value
At 8^h 4^m 27^s A.M. [H. 8 4′27″ A. M.], Jupiter from the meridian, west [♃ a Merid.occ.]	97° 19½′
Right ascension of Jupiter [Aſcenſ. R. ♃]	104° 0′
Right ascension of the midheaven [Aſcenſ. R. M. C.]	201° 19½′
[At] 3^h 49^m 5^s P.M. [3 49 5 P. M.], Venus, west, from the meridian [♀ occ. a Mer.]	7° 57⅓′
Right ascension of Venus [Aſcenſ. R. ♀]	310° 17′
Right ascension of the midheaven, P.M. [P. M. Aſc. R. M. C.]	318° 14⅓′
Right ascension of the midheaven, A.M. [A. M. Aſc. R. M. C.]	201° 19½′
Difference of the ascensions of the midheaven [Diff. Aſc. M. C.]	116° 54′ 50″
Corresponding in time [Reſpondet in tempore]	7^h 47^m 40^s
Time elapsed, from the clock [Tempus interlapſum ex horologio]	7^h 44^m 38^s
Difference of the time [Differentia temporis]	0^h 3^m 2^s in 4^h 48^m [in H.4 48′].
So, proportionally, to the time from the first observation to noon there belong [Ergo proportionaliter tempori a prima obſeruatione in Merid. competunt]	1^m 31^s
Time of the Sun's transit, observed [Tempus tranſitus ☉ obſ.]	11^h 54^m 52^s
True time of the transit [Verum tempus tranſitus]	11^h 56^m 23^s

Reckoning	Value
Subtract the first time [Subtrahe I tempus]	$8^h\ 4^m\ 27^s$
Difference of the time [Differentia temporis]	$3^h\ 51^m\ 56^s$
Corresponding on the equator [Reſpondet in æquatore]	57° 59′ 0″
Midheaven, first [M. C. I]	201° 19′ 30″
Right ascension of the Sun [Aſcenſ. R. ☉]	259° 18′ 30″
Corresponding place of the Sun, in [Reſpondet locus ☉ in]	20° 11′ ♐

VI.

Reckoning	Value
At $8^h\ 10^m\ 55^s$ [H. 8 10′55″], Jupiter, west, from the meridian [♃ occ. a Mer.]	98° 56½′
Right ascension of Jupiter [Aſc. R. ♃]	104° 0′
First ascension of the midheaven [Aſcenſ. I M. C.]	202° 56½′
[At] $3^h\ 58^m\ 55^s$ P.M. [3 58 55 P. M.], Venus, west, from the meridian [♀ occid. a Mer.]	10° 24½′
Right ascension of Venus [Aſcenſ. R. ♀]	310° 17′
Ascension of the midheaven, P.M. [Aſcenſ. P. M. M. C.]	320° 41½′
Difference of the ascensions of the midheaven [Differentia Aſc. M. C.]	117° 45′ 0″
Corresponding in time [Reſpondet in tempore]	$7^h\ 51^m\ 0^s$
From the clock [Ex horologio]	$7^h\ 48^m\ 0^s$
Difference of the time in $7^h\ 51^m$ [Diff. temporis in H. 7 51″]	$3^m\ 0^s$
So, proportionally, to the time from the first observation to noon there belong [Ergo proportionaliter tempori a prima obſeruatione in Meridiem competunt]	$1^m\ 28^s$
Time of the Sun's transit, observed [Tempus tranſitus ☉ obſeru.]	$11^h\ 54^m\ 52^s$
True time of the transit [Verum tempus tranſitus]	$11^h\ 56^m\ 20^s$
Subtract the first time [Subtrahe I tempus]	$8^h\ 10^m\ 55^s$
Difference [Differentia]	$3^h\ 45^m\ 25^s$
They give on the equator [Faciunt in æquatore]	56° 21′ 15″
Midheaven, first [M. C. I]	202° 56′ 30″
Right ascension of the Sun [Aſcenſio R. ☉]	259° 17′ 45″
Corresponding place of the Sun [Reſpondet locus ☉]	20° 10′ ♐

10

16 December [DIE 16 DECEMBRIS.]

By a similar procedure, following the observations noted above, the place of the Sun was investigated several times.

At $11^h\ 54^m\ 40^s$ [H. 11 54′ 40″] the Sun passed through the meridian. But since at that time the Sun was also being observed in azimuths around the meridian, let us therefore examine this time of the Sun as well.

At $11^h\ 50^m\ 40^s$ [H.11 50′40″]: azimuth of the Sun, east [Azim. ☉ or.], 0° 51′; altitude [Alt.] 10° 45′.

Diagram. A semicircle standing on a horizontal diameter, set beside the first four lines of the reckoning below (Side BA to Hence BC). Two inner

[10] in *Diff. temporis in H. 7 51″* the page sets a double prime after 51; the interval is the $7^h\ 51^m$ of the line *Reſpondet in tempore 7 51 0* above, and it is given as hours and minutes.

arcs run from the upper left and the top of the outer arc down towards a point at the lower right; a slightly curved line rises from the diameter, at about its midpoint, through that point to the outer arc, where it ends. A small unlabelled dot stands inside the figure near the left end of the diameter.

- B (upper left, on the outer arc): B
- A (top of the outer arc): A
- C (lower right, inside the outer arc, where the lines meet): C

Reckoning	Value
Side BA [Latus BA]	34° 5′ 30″
CA	79° 15′ 0″
Angle CAB [Ang. CAB]	179° 9′ 0″
Hence BC [Hinc BC]	113° 20′ 6″
Angle ABC, the Sun from the meridian on the equator [Ang. ABC, ⊙ a mer. in æquat.]	0° 55′ 23″
Corresponding in time [Reſpondet in tempore]	0^h 3^m 41^s
Time observed [Tempus obſeruat.]	11^h 50^m 40^s
Time of the Sun's transit [Tempus tranſitus ⊙]	11^h 54^m 21^s

This observation was not exact enough.

At 11^h 58^m 20^s [H. 11 58 20]: azimuth of the Sun, west [Azim. ⊙ occ.], 0° 48′; altitude [Alt.] 10° 44½′.

Reckoning	Value
Side BA [Latus BA]	34° 5′ 30″
CA	79° 15′ 30″
Angle CAB [Ang. CAB]	179° 12′ 0″
BC	113° 20′ 48″
Angle ABC [Ang. ABC]	0° 51′ 15″
Corresponding in time [Reſpondet in tempore]	0^h 3^m 24^s
Time observed [Tempus obſeruat.]	11^h 58^m 20^s
Time of the Sun's transit [Tempus tranſitus ⊙]	11^h 54^m 56^s

At 12^h 0^m 31^s[1] [H. 12 0 31[1]]: azimuth, west [Azim. occ.], 1° 20′; altitude [Alt.] 10° 43′.

Reckoning	Value
Side BA [Latus BA]	34° 5′ 30″
CA	79° 17′ 0″
BAC	178° 40′ 0″
BC	113° 21′ 56″
Distance of the Sun from the meridian [Diſt. ⊙ a mer.], ABC	1° 26′ 15″
Corresponding in time [Reſpondet in tempore]	0^h 5^m 44^s
Time observed [Tempus obſeruat.]	12^h 0^m 31^s
Time of the transit [Tempus tranſitus]	11^h 54^m 47^s

[1] Codex C has 38^s [Codex C. habet 38″.]

Let the time of the transit through the meridian therefore be kept as it was observed, $11^h\ 54^m\ 40^s$ [H. 11 54′ 40″].

For the right ascension of the Sun [Pro Aſcenſiione Recta ☉.]

I.

Reckoning	Value
At $6^h\ 29^m\ 50^s$ A.M. [H. 6 29′ 50″ A. M.], Spica ♍ from the meridian, east [a merid. or.]	2° 50′
Right ascension of Spica [Aſc. R. Spicæ]	195° 54′
Right ascension of the midheaven [Aſc. R. M. C.]	193° 4′
[At] $3^h\ 58^m\ 0^s$ P.M. [3 58 0 P. M.], Venus from the meridian, west [♀ a Merid. occ.]	11° 22½′
Right ascension of Venus [Aſc. R. ♀]	324° 44½′
Second midheaven [II M. C.]	336° 7′ 0″
Difference of the ascensions [Differentia Aſcenſ.]	143° 3′
Time resulting from the difference of the right ascensions of the midheaven [Tempus proueniens ex differ. Aſc. R. M. C.]	$9^h\ 32^m\ 12^s$
Time elapsed, from the clock [Tempus ex horologio interlapſum]	$9^h\ 28^m\ 10^s$
Difference of the time [Differentia temporis]	$0^h\ 4^m\ 2^s$
Time of noon [Tempus meridiej]	$11^h\ 54^m\ 40^s$
First time [I tempus]	$6^h\ 29^m\ 50^s$

$9^h\ 32^m$ give $4^m\ 22^s$ [H. 9 32′ dant 4′ 22″]; how much do $5^h\ 24^m\ 50^s$ give [quantum 5 24 50]? Proportionally, $2^m\ 18^s$ corresponds [reſp. 2′ 18″ proportionaliter].

Reckoning	Value
True time of the transit [Verum tranſitus tempus]	$11^h\ 56^m\ 58^s$
First time [Tempus I]	$6^h\ 29^m\ 50^s$
True difference of the time [Differentia vera temporis]	$5^h\ 27^m\ 8^s$
Corresponding on the equator [Reſpondet in æquatore]	81° 47′ 0″
First right ascension of the midheaven [I Aſc. R. M. C.]	193° 4′
Right ascension of the Sun [Aſc. R. ☉]	274° 51′ 0″
Place of the Sun [Locus ☉]	4° 27′ 1″ ♑
Our ephemerides give [Ephemerides noſtræ dant]	4° 29′ 57″ ♑

II.

Reckoning	Value
At $6^h\ 34^m\ 59^s$ [H. 6 34′ 59″], Spica ♍, east [Spica ♍ or.]	1° 25′
Right ascension of Spica [Aſc. R. Spicæ]	195° 54′
Right ascension of the midheaven [Aſc. R. M. C.]	194° 29′
[At] $4^h\ 0^m\ 8^s$ [4 0 8], Venus, west [♀ occ.]	11° 58¾′
Right ascension of Venus [Aſc. R. ♀]	324° 44′
Second midheaven [II M. C.]	336° 42¾′
Difference of the ascensions of the midheaven [Differ. Aſc. M. C.]	142° 13′ 45″
Corresponding in time [Reſpondet in tempore]	$9^h\ 28^m\ 55^s$

Reckoning	Value
Time elapsed on the clock [Tempus Horol. interlapſum]	$9^h\ 25^m\ 9^s$
Difference of the time [Differentia temporis]	$3^m\ 46^s$
$9^h\ 29^m$ give $3^m\ 46^s$ [H. 9 29′ dant 3′ 46″]; how much do $5^h\ 20^m$ give [quantum H. 5 20′]? Corresponding [reſp.]	$2^m\ 7^s$
Transit of the Sun through the meridian [Tranſitus ☉ per Merid.]	$11^h\ 54^m\ 40^s$
Add [Adde]	$2^m\ 7^s$
True time [Verum tempus]	$11^h\ 56^m\ 47^s$
First time [I tempus]	$6^h\ 34^m\ 59^s$
Difference [Differentia]	$5^h\ 21^m\ 48^s$
Corresponding on the equator [Reſpondet in æquatore]	80° 26′ 15″
First midheaven [I M. C.]	194° 29′ 0″
Right ascension of the Sun [Aſc. R. ☉]	274° 55′ 15″
Place of the Sun [Locus ☉]	4° 31′ ♑

III.

Reckoning	Value
At $7^h\ 34^m\ 6^s$ [H. 7 34′ 6″], Arcturus through the meridian [Arcturus per meridianum.]	
Right ascension of Arcturus [Aſc. R. Arcturi]	209° 15⅓′, midheaven [M. C.]
[At] $4^h\ 0^m\ 8^s$ [4 0 8], Venus, west [♀ occ.]	11° 58¾′
Right ascension of Venus [Aſc. R. ♀]	324° 44′
Second midheaven [II M. C.]	336° 42¾′
Difference of the ascensions of the midheaven [Differ. Aſc. M. C.]	127° 27′ 25″
Corresponding time [Reſpondet tempus]	$8^h\ 29^m\ 48^s$
Time elapsed on the clock [Tempus horol. interlapſum]	$8^h\ 26^m\ 2^s$
$8^h\ 30^m$ give $3^m\ 46^s$ [H. 8 30′ dant 3′ 46″]; how much do $4^h\ 20½^m$ give [quantum H. 4 20½]? Proportionally there correspond [Reſpondent proportionaliter]	$1^m\ 55^s$
Time of the Sun's transit [Tempus tranſitus ☉]	$11^h\ 54^m\ 40^s$
True time [Verum tempus]	$11^h\ 56^m\ 35^s$
Time of the transit of Arcturus [Tempus tranſ. Arcturi]	$7^h\ 34^m\ 6^s$
True difference [Differentia vera]	$4^h\ 22^m\ 29^s$
Corresponding on the equator [Reſpondet in æquatore]	65° 37′ 15″
Right ascension of Arcturus [Aſc. R. Arcturi]	209° 15⅓′
Right ascension of the Sun [Aſc. R. ☉]	274° 52′ 35″
Place of the Sun [Locus ☉]	4° 28½′ ♑

IIII.

Reckoning	Value
At $7^h\ 34^m\ 6^s$ A.M. [H. 7 34′ 6″ A. M.], Arcturus through the meridian [Arcturus per Merid.]	
Midheaven [M. C.]	209° 15⅓′
[At] $4^h\ 1^m\ 27^s$ P.M. [4 1 27 P. M.], Venus, west [♀ occ.]	12° 18⅙′
Right ascension of Venus [Aſc. R. ♀]	324° 44′
Second midheaven [II M. C.]	337° 2⅙′

Reckoning	Value
Difference of the ascensions [Differentia Aſc.]	127° 47′
Corresponding in time [Reſpondet in tempore]	8^h 31^m 8^s
Time elapsed on the clock [Tempus Horol. interlapſum]	8^h 27^m 21^s
Difference of the time [Differ. temporis]	3^m 47^s
8^h 31^m give 3^m 47^s [H. 8 31′ dant 3′ 47″]; how much do 4^h 20^m 34^s give [quantum H. 4 20 34]?	
Corresponding, proportionally [Reſp. proportionaliter]	1^m 55^s
Time of the transit, observed [Tempus tranſ. obſeruat.]	11^h 54^m 40^s
True time [Verum tempus]	11^h 56^m 35^s
Subtract the first time [Subtrahe I tempus]	7^h 34^m 6^s
Difference of the time [Differentia temporis]	4^h 22^m 29^s
Corresponding on the equator [Reſp. in æquatore]	65° 37′ 15″
Right ascension of Arcturus [Aſc. R. Arcturi]	209° 15′ 20″
Right ascension of the Sun [Aſc. R. ☉]	274° 52′ 35″
Place of the Sun [Locus ☉]	4° 28′ 28″ ♑

V.

Reckoning	Value
At 7^h 50^m 8^s A.M. [H 7 50′ 8″ A. M.], Arcturus, west [Arcturus occ.]	4° 6¼′
Right ascension [Aſc. R.]	209° 15′
Midheaven [M. C.]	213° 21¼′
[At] 3^h 58^m 0^s P.M. [3 58 0 P. M.], Venus, west [♀ occ.]	11° 22½′
Right ascension of Venus [Aſc. R. ♀]	324° 44′
Second midheaven [M. C. II]	336° 6½′
Difference of the ascensions of the midheaven [Diff. Aſc. M. C.]	122° 45¼′
Corresponding intermediate time [Reſp. tempus interm.]	8^h 11^m 1^s
Time by the clock [Horologij tempus]	8^h 7^m 52^s
The clock slower [Horologium tardius]	3^m 9^s
In 8^h 11^m, proportionally corresponding [in H. 8 11′, reſp. proport.]	1^m 35^s
Time of the Sun's transit [Tempus tranſitus ☉]	11^h 54^m 40^s
True time of the transit [Verum tempus tranſ.]	11^h 56^m 15^s
First time [Tempus I]	7^h 50^m 8^s
Difference [Differentia]	4^h 6^m 7^s
Corresponding on the equator [Reſp. in æquatore]	61° 31′ 45″
First midheaven [I M. C.]	213° 21′ 15″
Right ascension of the Sun [Aſc. R. ☉]	274° 53′ 0″
Corresponding place of the Sun [Reſp. Locus ☉]	4° 29′ ♑

OBSERVATIONS OF THE MOON [OBSERUATIONES LUNÆ.]

On 21 January [DIE 21 JANUARIJ.]

The Moon in the 90th degree [Luna in 90 G.] at 8^h 58^m [H. 8 M. 58.].
With the greater subterranean armillae [Per Armillas ſubt. maiores]:

Time	Reading	Value
8^h 41⅙^m [H.8M.41⅙]	Declination of the upper horn of the Moon [Decl. ſuper.cornu ☾]	18° 53½′
8^h 43¾^m [8 43¾]	Declination of the lower horn of the Moon [Decl. infer. cornu ☾]	18° 20¼′
	Diameter of the Moon [Diameter ☾]	0° 33¼′[1]

Time	Jupiter, west [♃ occid.]	Western limb of the Moon [Occ. limb. ☾]	Equatorial distance [Diſt. æquat.]
8^h 51½^m	27° 37½′	0° 51½′ east [or.]	28° 29′ 0″
8^h 54¾^m	28° 24¼′	0° 5′ east [or.]	28° 29¼′
8^h 56⅓^m	28° 56′	0° 23½′ west [occ.]	28° 32½′
9^h 0^m	Declination of the lower horn of the Moon [Decl. infer. cor ☾]		18° 20¼′
	Declination of the upper horn of the Moon [Decl. ſuper. cor. ☾]		18° 54½′
	Diameter of the Moon [Diameter ☾]		0° 34¼′

Then the Moon from the eye of ♉ [Deinde ☾ ab oculo ♉.]:

Time	Aldebaran, west [Aldeb. occ.]	Western limb of the Moon, west [Occ. limb. ☾ occ.]	Equatorial distance [Diſt. æquat.]
9^h 4^m	27° 13′	2° 20¼′	24° 52¾′
9^h 5½^m	27° 37¼′	2° 44¼′	24° 53′ 0″
9^h 7^m	28° 0⅙′	3° 5¼′	24° 54′ 55″
9^h 9^m	Declination of the lower horn of the Moon [Decl. inf. cornu ☾]		18° 20⅓′
9^h 10⅔^m	Declination of the upper horn of the Moon [Decl. ſup. cornu ☾]		18° 53½′
	Diameter of the Moon [Diameter ☾]		0° 33⅙′

When the Moon was on the meridian, its lower limb had an altitude [Altit.] of 52° 25′.

Now, to find the place of the Moon from its equatorial distances from Jupiter, the following observations of Jupiter were then made with the subterranean armillae [per Armillas ſubterraneas]:

Time	Jupiter, west [♃ occid.]	The heart of ♌, east [Cor ♌ orient.]	Equatorial distance [Diſt. æquat.]
9^h 41^m	39° 50′	47° 17¾′	87° 7¾′
9^h 43½^m	40° 23′	46° 44½′	87° 7½′
9^h 45½^m	40° 57′	46° 10¼′	87° 7¼′
9^h 48^m	Declination of Jupiter by the armillae [Decl. ♃ per Armill.]		19° 54¾′ north [Bor.]

But when Jupiter was on the meridian, its altitude by the mural [quadrant] [per Muralem] was 54° 0′.

Reckoning	Value
Altitude of the equator [Alt. æquat.]	*34° 5′ 30″*
Declination of Jupiter [Declin. ♃]	*19° 54′ 30″*

From this let the place of Jupiter be sought, taking for the hour 9⅔ [ad horam 9⅔] its difference of ascension from the heart of ☌ as 87° 7½′ and its northern declination as 19° 54½′, so that the place of Jupiter may be established, it being not far from its station. But let the right ascension of the heart of ☌ be verified from the right ascension of the eye of ♉ for this year, 63° 5′, so that it agrees in respect of the distance [vt conueniat ratione diſtantiæ].

Then, from Jupiter's right ascension and declination, let the Moon's right ascension, and its longitude and latitude, be sought, presupposing 8^h $56¾^m$ [H. 8 M. 56¾] — or verifying the time through Jupiter's right ascension and the distance from the meridian — with the equatorial distance 28° 32′, and adding the amount that 17′ for the semidiameter of the Moon makes in right ascension in that position [& addendo quantum 17′ pro ſemidiametro ☾ faciunt in eo ſitu in Aſcen. recta].

Let the declination of the Moon be taken, as regards its centre, as 18° 37′ [18ᵍ 37′]. Let the same be done at 9^h 5^m [H.9 M.5], verifying

[1] Added in Codex V [Adſcriptum eſt in codice V]: "The Moon on the meridian 52° 25′ by the Tychonic quadrant [per Q. Tichon.]; I think as regards the lower limb [puto quo ad inferiorem limbum], for that had not been written down, nor the time either."

the time by Aldebaran [per Aldebor.] and taking the difference of right ascension, 24° 53′.

On 22 January [DIE 22 JANUARIJ.]

At 10^h 22^m [H.10 M.22] the Moon in the 90th degree [☾ in 90 G.].

Let the Moon be observed several times, ½ an hour before the 90th degree and ½ after at most [ad ſummum], partly from the heart of ☌ and partly from the eye of ♉, whichever is more convenient; and meanwhile let its declination be taken three or four times by both horns, and let the distance from the meridian be noted of the star as well as of the Moon.

At 7^h $11⅓^m$ [H. 7 M. 11⅓], Aldebaran through the meridian [Aldeboram per meridianum.].

Lower horn of the Moon [Infer. cornu ☾] 51° 12½′ and upper horn of the Moon [Super. cornu ☾] 51° 51½′ — both by the Tychonic quadrant [Per Q. Tichon.].

Diameter of the Moon [Diam. ☾] 39′ 0″, *too large [nimis magna]*.

Time	Reading	Value
9^h $55⅙^m$ [H.9 55⅙]	Declination of the lower limb of the Moon [Decl. infer. limbi ☾]	17° 9′
9^h 57^m	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	17° 45′

Time	Reading	Value
	Diameter of the Moon [Diameter ☾]	0° 36′

Time	Eye of ☿, west [Oculus ☿ occ.]	Western limb of the Moon, west [Occ. limb. ☾ occid.]	Equatorial distance [Diſt. æquat.]
10h 0m 40ſ	42° 30′	2° 4′	40° 26′
10h 2m 10ſ	42° 53′	2° 25′	40° 28′
10h 3m 40ſ	43° 14½′	2° 44½′	40° 30′
10h 6m	43° 52′	3° 20′	40° 32′
10h 7⅙m	44° 12′	3° 39′	40° 33′
10h 10⅔m	Declination of the lower limb [Decl. inf. limbi]		17° 8½′
10h 13⅔m	Declination of the upper limb [Decl. ſuper. limbi]		17° 44′
	Diameter of the Moon [Diameter ☾]		0° 35½′

Time	Eye of ☿, west [Oculus ☿ occ.]	Western limb, from the meridian [Occ. limb. a merid.]	Equatorial distance [Diſt. æquat.]
10h 17m	46° 32′	5° 56½′	40° 35½′
10h 18½m	46° 58′	6° 20½′	40° 37½′
10h 20m	47° 17′[1]	6° 39½′	40° 37½′
10h 21⅓m	47° 37¼′	6° 59′	40° 38¼′

No error so far in the clock, corrected at about hour 8 [Horologij circa horam 8 correcti hucusque nullus error.].

Time	Jupiter, west [♃ occid.]	Western limb of the Moon, to the west [Occ. limb. ☾ ad occ.]	Equatorial distance [Diſt. æquat.]
10h 25⅚m	52° 27′	8° 6½′	44° 20½′
10h 27m	52° 46′	8° 24¼′	44° 21¾′
10h 29m	53° 15′	8° 52′	44° 23′
10h 31⅔m	Declination of the lower horn of the Moon [Decl. inf. cornu ☾]		17° 5′
	Declination of the upper limb [Decl. ſuper. limbi]		17° 42¼′
	Diameter of the Moon [Diameter ☾]		0° 37¼′

On 23 January [DIE 23 JANUARIJ.]

The Moon passes through the 90th degree [☾ tranſit per 90 G.] at 11h 52m [H.11 M.52.].

Time	Moon, west [☾ occ.]	The heart of ♌, east [Cor ♌ orient.]	Equatorial distance [Diſt. æquat.]
11^{h} 23⅔^{m} [H.11 M.23⅔]	8° 6½′	18° 57′	27° 3½′
11^{h} 26⅚^{m}	8° 49′	18° 12⅚′	27° 1⅚′
11^{h} 29⅓^{m}	9° 24⅚′	17° 35¼′	27° 0⅙′[2]
11^{h} 32⅓^{m}	10° 12¾′	16° 44⅔′	26° 57⅔′
11^{h} 38^{m}	Declination of the lower limb [Declin. infer. limbi], with one [vno]		14° 30½′
11^{h} 39½^{m}	With the other pinnule [altero pinnacidio]		14° 31½′

Time	Eye of ♉ [Oculus ♉]	Moon, west [☾ occ.]	Equatorial distance [Diſt. æquat.]
11^{h} 52⅙^{m}	71° 45′	15° 5¼′	56° 39¾′
11^{h} 55⅔^{m}	72° 32⅙′	15° 51⅔′	56° 40½′
11^{h} 59⅙^{m}	73° 25½′	16° 45′	56° 40½′
12^{h} 2⅓^{m}	74° 12½′	17° 31′	56° 41½′
12^{h} 6^{m}	Declination of the upper limb of the Moon [Decl. ſup. limbi ☾]		15° 5⅔′
12^{h} 6⅚^{m}	With the other pinnule [altero pinnac.]		15° 6½′

Time	Moon, west [☾ occ.]	The heart of ♌, east [Cor ♌ orient.]	Equatorial distance [Diſt. æquat.]
12^{h} 13^{m}	20° 5¼′	6° 34⅙′	26° 39½′[3]
12^{h} 16⅔^{m}	20° 54⅓′	5° 46′	26° 40⅓′
12^{h} 24⅔^{m}	Declination of the lower limb of the Moon [Decl. inf. limbi ☾], with one [vno]		14° 25¼′
12^{h} 25⅚^{m}	With the other pinnule [altero pinnac.]		14° 26′
12^{h} 30^{m}	Declination of the upper limb [Decl. ſuper. limbi]		15° 1′
12^{h} 31⅙^{m}	With the other pinnule [altero pinnac.]		15° 0½′

Therefore the diameter of the Moon is 35′ [Min. 35.].

Put, at about 11^{h} 52^{m} [circa horam 11 52], when the Moon was in the 90th degree, its equatorial distance from the eye of ♉ as 56° 39′ and the declination of its centre as 14° 49′ north; and from this let the longitude and latitude of the Moon be sought.

But a test can be made against the heart of ♌ at 11^{h} 32^{m}, with the equatorial distance 26° 58′ and the declination of the centre 14° 50′. Likewise from the same star at 12^{h} 13^{m}, with the equatorial distance 26° 40′ and the declination of the centre 14° 48′.

On 3 February [DIE 3 FEBRUARIJ.]

On the Moon, for obtaining its parallax [De ☾ pro ipſius parallaxi habenda.].

On 3 February, when the Moon was approaching the meridian and was not far from the tropic of ♑ — namely in 26 ♐, or thereabouts [in 26 videlicet ♐ vel circiter] — I investigated its declination both

[1] Added [Adſcriptum eſt]: Corresponds to $10^h\ 20\frac{1}{6}^m$ [Reſpondet $10^H\ 20\frac{1}{6}'$.].

[2] So in Codex C [Sic in codice C.].

[3] So in Codex C; V gives $39\frac{5}{12}'$ [$39\frac{5}{12}$ præbet V.].

by the greater armillae [per Armillas maiores] and by the altitude, with the help of the mural and the sextants [beneficio muralis & Sextantum], in this manner [idque in hunc modum].

Time	Reading	Value
$7^h\ 34^m$ [H.7 M.34]	The declination of the upper horn was [Fuit declin. ſuper. cornu]	19° 49′
$7^h\ 36^m$	Declination of the lower horn [Declin. infer. cornu]	20° 18′
	Altitude of the upper, 14° [Alt. ſup. Gr. 14]; apparent diameter [diameter apparens]	29′
	Therefore the declination of the centre was [Ergo declin. centri erat]	20° 3′
$7^h\ 43^m$	Upper horn [ſuperius cornu]	19° 49′
$7^h\ 45^m$	Declination of the lower [Declin. infer.]	20° 17′
	Apparent diameter [Diameter apparens]	0° 28′
	Declination of the centre [Declin. centri]	20° 3′

When the Moon, however, was as it were in the meridian [quaſi in Merid.], the upper horn was 19° 48′ and the lower 20° 15′, a difference of 27′ [M.27]. Therefore the declination of the centre was 20° 1½′. This was near $7^h\ 56^m$ [iuxta horam 7 56].

And in the same way, at about $8^h\ 2^m$ [circa horam 8 M.2], I found:

Reading	Value
Upper horn [ſuperius cornu]	19° 48½′
	20° 15′
Diameter	26½′
Declination of the centre [Declinatio centri]	20° 1½′, as before [vt prius]

So also the Moon was taken by both sextants when it was in the meridian [Sic etiam per vtrumque Sextantem accepta eſt ☾ cum in Merid. eßet]:

Reading	Value
Altitude at the upper horn [Alt. in ſuperiori cornu]	14° 19′
At the lower [in inferiori]	13° 53′
The difference is the visible diameter [diff. eſt diameter viſa]	26′
Altitude of the centre [Altitudo centri]	14° 6′
Declination by the sextants [Declin. per Sextantes]	19° 59½′
Altitude by the mural [quadrant] [Per Muralem Alt.]:	
Upper horn [ſuper. cornu]	14° 22′
Of the lower [inferioris]	13° 52′

Reading	Value
Diameter	30′
The altitude of the centre by the mural was thus [Fuit itaque Alt. centri iuxta Muralem]	14° 7′
and therefore the declination of the Moon [& ob id Declin. Lunæ]	19° 58′ 30″

Taking all these together [Collatis ſingulis], the declination in the meridian obtained from the altitude will be 19° 59′.

But by the great armillae [per Armillas magnas] the same declination was observed near the meridian as 20° 1½′. Therefore, if in place of the truest declination at the time when the Moon was passing through the meridian we take exactly 20° 0′, we shall stray imperceptibly from the mark itself [ab ipſo ſcopo] in investigating the parallax of the Moon, once its true place in longitude and latitude has been applied [adhibito ipſius vero loco ſecundum longitudinem & latitudinem]. This variation among the different instruments during observing, however, was produced by the thinness of the Moon, especially near the horns, which could scarcely be made out; and for that reason its diameter appeared smaller than it really was. For it was day and the Sun had risen, nor was it clear in the highest degree [nec exquiſitiſſime ſerenum] around the place of the Moon, because of its nearness to the horizon. It is nevertheless a moderately good observation.

On 23 September, a.m. [DIE 23 SEPTEMBRIS A. M.]

The Moon reached the 90th degree from the Ascendant [☾ peruenit ad 90 Gr. ab Aſcendente] at $3^h\ 7^m$ a.m. [H.3 M.7 A. M.].

At $2^h\ 58^m$ a.m., or after midnight [H.2 58′ A. M. vel poſt M. N.]; by the greater subterranean armillae [per Armillas maiores ſubt.]:

Time	Reading	Value
	Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]	17° 18′ north [B.]
	With the other pinnule [altero pinnac.]	17° 17⅚′
$3^h\ 7^m$	Declination of the upper horn [Declin. ſuper. cornu]	17° 18½′
	Of the lower horn [inferioris cornu]	16° 45′
	Diameter of the Moon [Diameter ☾]	0° 33½′
	Semidiameter	0° 16⅔′
	Corresponding in the equator [Reſp. in æquatore]	0° 17½′

Time	Bright star of ♈, west [Luc. ♈ occ.]	Eastern limb of the Moon, to the east [Or. limb. ☾ ad ort.]	Equatorial distance [Diſt. æquat.]
$3^h\ 11⅓^m$	30° 28½′	10° 11′	40° 39½′
$3^h\ 16½^m$	31° 45′	8° 55′	40° 40′
$3^h\ 18^m$	32° 14¾′	8° 27′	40° 41¾′
$3^h\ 20⅚^m$	32° 47½′	7° 55′	40° 42½′
$3^h\ 22⅓^m$	33° 10½′	7° 32½′	40° 43′

Time	Bright star of ♈, west [Luc. ♈ occ.]	Eastern limb of the Moon, to the east [Or. limb. ☾ ad ort.]	Equatorial distance [Diſt. æquat.]
3^h $25½^m$	33° 52½′	6° 52¼′	40° 44¾′
3^h $27½^m$	Declination of the lower horn [Decl. inf. cornu]		16° 45¾′
	Upper horn [ſuper. cornu]		17° 19′
	Diameter of the Moon [Diameter ☾]		0° 33¼′
3^h $34⅚^m$	Distance between the lower head of ♊ and the eastern limb of the Moon, by the old sextant △ [Diſt. inter inferius caput ♊ & orient. limb. ☾ per Sext. △ vet.]		41° 9¾′
3^h $36⅚^m$	The same distance, II [Diſt. eadem II]		41° 9½′
3^h 39^m	The same, III [Eadem III]		41° 9½′
3^h 50^m	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]		17° 20½′
	Of the lower horn [Inferioris cornu]		16° 47½′
	Apparent diameter of the Moon [Diam. ☾ app.]		0° 33′ 0″
3^h 53^m	The eastern limb of the Moon was in the meridian, and the upper horn had an altitude of [fuit orient. limbus ☾ in Merid. & habuit ſuperius cornu altit.]		51° 25½′
	Lower horn, by the revolving quadrant [inferius cornu per Q. Volub.]		50° 51½′
	Diameter of the Moon [Diameter ☾]		0° 34′

II

Investigation of the place of the Moon [Inquiſitio loci ☾.]

Time	Reading	Value
$3⅙^h$ [H.3⅙]	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	17° 18½′
	Subtr. the semidiameter [Subtr. ſemid.]	17′
	Declination of the centre of the Moon [Declinatio centri ☾]	17° 1½′

Reading	Value
Difference of ascension of the eastern limb of the Moon from the bright star of ♈ [Diff. Aſc. orient. limbi ☾ a lucida ♈]	40° 39½′
Right ascension of the bright star of ♈ [Aſc. R. Lucidæ ♈]	26° 2½′
Right ascension of the eastern limb of the Moon [Aſc. R. or. limbi ☾]	66° 42′
Subtract the semidiameter [Subtrahe ſemid.]	17½′
Right ascension of the centre of the Moon [Aſc. R. centri ☾]	66° 24½′
Corresponding longitude of the Moon [Reſp. Longitudo ☾]	7° 25′ ♊
Latitude [Latitudo]	4° 39⅓′ south [M.]

Comparison of the place found with the Alphonsine and Copernican calculation [Collatio inventi loci cum calculo Alphonſino et Coperniano.]

II *per Q. Volub.* is printed on the line of the lower horn's altitude only; it may govern both altitudes.

Moon, $3\frac{1}{6}^{h}$ [☾ H.3⅙]	From the observation [Ex obſeruatione]	Alphonsine calculation [Calc. Alphonſ.]	Copernican calculation [Calc Copern.]
Longitude [Long.]	7° 25′ ♊	7° 10′ ♊	6° 49′ ♊
Latitude [Lat.]	4° 39½′ south [M.][1]	3° 48′ south	3° 50′ south

On 24 September, a.m. [DIE 24 SEPTEMBRIS A. M.]

The Moon in the 90th degree at 4^{h} 23^{m} a.m. [☾ in 90 G. H.4 M.23 A. M.].

Time	Reading	Value
4^{h} 8^{m} [H.4 8′]	Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]	18° 8′
	Of the lower horn [inferioris cornu]	17° 37′
	Diameter of the Moon [Diameter ☾]	0° 31′

Time	Bright star of ♈, west [Luc. ♈ occ.]	Eastern limb of the Moon, to the east [Orient. limb. ☾ ad ort.]	Equatorial distance [Diſt. æquat.]
4^{h} 15^{m}	47° 1′	7° 12′	54° 13′
4^{h} 18^{m}	47° 48′	6° 26¼′	54° 14¼′
4^{h} 20^{m}	48° 14¾′	6° 0′	54° 14¾′
	Eye of ♉, west [Oculus ♉ occid.]		
4^{h} 23^{m}	11° 57½′	5° 13¾′	17° 11¼′
4^{h} 25^{m}	12° 27⅙′	4° 45½′	17° 12⅔′
4^{h} 27^{m}	13° 1½′	4° 11¼′	17° 12¾′
4^{h} 29^{m}	13° 23½′	3° 50½′	17° 14′
4^{h} 32^{m}	Declination repeated [repetita declinatio]: upper horn of the Moon [ſuperioris cornu ☾]		18° 8′
	Lower horn [inferioris cornu]		17° 37¼′
	Diameter of the Moon [Diameter ☾]		0° 30¾′
4^{h} 46^{m}	Meridian altitude of the upper horn [Alt. merid. ſup. cornu]		52° 15′
	Lower horn [infer. cornu]		51° 45′
	Diameter of the Moon [Diameter ☾]		0° 30′

Then, by day, we observed the Sun and the Moon [Deinde de die ☉ & ☾ obſeruauimus.].

Time	Reading	Value
9^{h} 35^{m}	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	18° 3½′ north [B.]
9^{h} 36^{m}	The same [Eadem]	18° 5′
9^{h} 38^{m}	The same [Eadem]	18° 3½′

By the greater subterranean armillae [per Armillas maiores ſubterraneas.]. You can use 18° 4′ north, imperceptibly [inſenſibiliter].

The altitude of the uppermost circumference of the Moon, at about the time of these observations, was 25° [25 partium].

Time	Eastern limb of the Moon, to the west [Orient. limb. ☾ ad occ.]	Centre of the Sun, east [Centrum ☉ orient.]	Equatorial distance [Diſt. æquat.]	Re-mark
$9^h\ 47^m$	73° 54½′	33° 14′	107° 8½′	good [Bonæ]
$9^h\ 50^m$	74° 30′	32° 37′	107° 7′	good [Bonæ]
$9^h\ 52^m$	74° 56½′	32° 9½′	107° 6′	good [Bonæ]

The altitude of the upper limb of the Moon at about the time of these observations was 23° [23 partium], and that of the Sun [$\odot^{is}$] was almost the same.

Time	Reading	Value
$9^h\ 55^m$	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	18° 6′
$9^h\ 56½^m$	The same [Eadem]	18° 6′
$9^h\ 57¾^m$	The same [Eadem]	18° 5⅚′

The altitude of the upper limb of the Moon around these observations was about 22½° [quaſi 22½ g.].

Time	Moon, west [☾ occid.]	Centre of the Sun, east [Centrum ☉ orient.]	Equatorial distance [Diſt. æquat.]	Remark
$10^h\ 0^m$	76° 57′	30° 6′	107° 3′	
$10^h\ 2^m$	*77° 25′*	*29° 36′*	*107° 1′*	*better [melior]*
$10^h\ 4^m$	77° 52½′	29° 8′	107° 0½′	
$10^h\ 6^m$	78° 23′	28° 37½′	107° 0½′	fairly good [ſatis bonæ]
$10^h\ 7½^m$	78° 47½′	28° 11½′	106° 59′	fairly good [ſatis bonæ]

12

The altitude of the lower horn of the Moon about the middle of these observations was 20½°, while that of the Sun was 25½° [☉ vero 25½.].

Time	Reading	Value
$10^h\ 14^m$ [H.10 14′]	Declination repeated, upper horn [Repet. declin. ſup. cor.]	18° 5′
$10^h\ 15½^m$	The same [Eadem]	18° 4½′
$10^h\ 17^m$	The same, good [Eadem, bona]	18° 5′

[12] *melior*, printed across the rows of $10^h\ 2^m$ and $10^h\ 4^m$ (*me- / lior*), is given on the row of $10^h\ 2^m$ only; it may govern both rows.

Altitude of the upper horn of the Moon about the middle of these observations, 19½° [iuxta medium harum obſeruationum 19½°.].

N.B. [N. B.] The times of the preceding observations have been corrected. Everywhere in the equatorial distance the eastern limb of the Moon, nearest the Sun, was taken; in the declination, however, the uppermost circumference.

Note [Nota.]. These observations on the Moon are fairly good; nor was the Moon far from its greatest remotion [a remotione maxima], caused by both epicycles; and it was exceptionally clear [apprime ſerenum]. I myself was present, observing[2] together with Gellius [Gellio][13], and both luminaries were so high above the horizon that no perceptible refraction could have crept in. The times noted, however, were verified by the Sun; if more exact

[1] So in the codex. Tycho used this place of the Moon to derive its parallax (Progymn. p. 461; this edition, vol. II p. 412) [Sic in codice. Hoc loco lunæ uſus eſt Tycho ad eruendam parallaxin eius (Progymn. p. 461, hujus ed. T. II p. 412).].

[2] These words are not written in Tycho's hand [Hæc manu Tychonis conſcripta non ſunt.].

you want, the Sun's own distance from the meridian towards the east will give them to you [compotem te reddet].

The place of the Sun at noon of this day can be taken, without any perceptible error, as 10° 40′ ♎.

On 26 September, a.m. [DIE 26 SEPTEMBRIS A. M.]

The Moon was about the 90th degree at $6^h\ 53^m$ [Fuit ☾ circa 90 Gr. H. 6 M. 53.].

Note [Nota.]. On this day the Moon was not far from the extreme remotion of the epicycles [ab extrema remotione Epicyclorum].

Time	Reading	Value
$8^h\ 32^m$ [H.8 M.32]	Declination of the lower horn of the Moon [Decl. infer. cornu ☾]	16° 7′ north [Bor.]
	Altitude of the upper horn [Alt. ſuper. cornu]	44½°

Not exact enough, but a little less [Non ſatis exacta ſed paulo minor.].

At $8^h\ 58^m$ [H.8 58′], declination of the lower horn [Decl. infer. cornu] 16° 4½′, better than the previous one [melior priori].

Altitude of the Sun 18°, of the Moon 41⅔° [Alt. ☉ 18 Gr., ☾ 41⅔.].

Time	Reading	Value	Remark
$9^h\ 0^m$	*Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]*	*16° 30⅓′*	
$9^h\ 2^m$	*The same, repeated [Eadem repetita]*	*16° 31⅓′*	better [melior]
$9^h\ 3^m$	*The same [Eadem]*	*16° 31⅓′*	good [bona]

[13] identified as Gellius Sascerides

Time	Reading	Value	Remark
$9^h\ 4^m$	*Declination of the lower limb [Decl. infer. limbi]*	*16° 3½′*	
$9^h\ 5^m$	*The same, repeated [Eadem repetita]*	*16° 3′*	good [bona]

Time	*Eastern limb of the Moon, to the west [Orient limb. ☾ ad occ.]*	*Centre of the Sun, east [Centrum ☉ orient.]*	Remark
$9^h\ 6¾^m$	*38° 37½′*	*43° 25½′*	*82° 3′*
$9^h\ 9^m$	*39° 13¼′*	*42° 50½′*	*82° 3¾′*
$9^h\ 10⅔^m$	*39° 41⅙′*	*42° 20⅔′*	*82° 2′ **
$9^h\ 12⅔^m$	*40° 5½′*	*41° 55⅙′*	*82° 0⅔′**
$9^h\ 14⅙^m$	*40° 27¾′*	*41° 32⅓′*	*82° 0′ **

**These three were good, as I myself observed [quemadmodum ipſe obſeruaui].*

Time	Reading	Value
$9^h\ 17½^m$	*Declination of the upper horn [Decl. ſuper. cornu]*	*16° 29′*
$9^h\ 19½^m$		*16° 29¼′*
$9^h\ 20½^m$	*Declination of the lower horn [Decl. infer. cornu]*	*16° 2′*
$9^h\ 22^m$		*16° 1¾′*

Time	*Moon [☾]*	*Sun [☉]*		Altitude [Alt.]	Remark
$9^h\ 23⅓^m$	*42° 40′*	*39° 15′*	*81° 55′*	*Sun [☉] 21¼°*	
$9^h\ 26^m$	*43° 19⅚′*	*38° 34½′*	*81° 53½′*	*Moon [☾] 39°*	
$9^h\ 36^m$	*45° 50′*	*36° 3½′*	*81° 53½′*	*Moon [☾] 37°*	
$9^h\ 38^m$	*46° 17⅓′*	*35° 34⅚′*	*81° 52′*		
$9^h\ 42^m$	*47° 15½′*	*34° 35⅓′*	*81° 50⅚′*		*good [bonæ]*
$9^h\ 45⅓^m$	*48° 1½′*	*33° 47½′*	*81° 49′*		*good [bonæ]*

Time	Reading	Value
$9^h\ 50⅓^m$	Declination repeated, upper horn [Repet. Decl. ſup. cornu]	16° 26½′
	Altitude of the Moon [Alt. ☾]	35⅔°
$9^h\ 52^m$	Lower horn [inferioris cornu]	15° 59¼′

Time	Moon, west [☾ occ.]	Sun, east [☉ orient.]	Equatorial distance [Diſt. æquat.]	Altitude [Alt.]	Remark
$10^h\ 0^m$	51° 45¼′	29° 58¼′	81° 43½′		
$10^h\ 5^m$	52° 50′	28° 51′	81° 41′		
$10^h\ 7^m$	53° 17′	28° 22½′	81° 39½′		
$10^h\ 8⅔^m$	53° 40′	27° 58′	81° 38′	Sun [☉] 25½°; Moon [☾] 32¼°	

Time	Moon, west [☾ occ.]	Sun, east [☉ orient.]	Equatorial distance [Diſt. æquat.]	Altitude [Alt.]	Remark
10^h 15⅔^m	55° 24½′	26° 13′	81° 37½′		not good [non bona]
10^h 20½^m	56° 33′	25° 1′	81° 34′	Sun [☉] 26°; Moon [☾] 31½° (for both times)	
10^h 21½^m	56° 48′	24° 45½′	81° 33½′		

N.B. [N. B.] The times given have been corrected [Tempora aßignata ſunt correcta.].

Note also that the eastern limb of the Moon was observed everywhere from the centre of the Sun [Nota etiam orientalem limbum ☾ obſeruatum vbique eße a centro ☉.].

Time	Reading	Value
10^h 24½^m [H. 10 24½′]	Declination repeated, upper horn of the Moon [repetita Decl. ſuper. cornu ☾]	16° 22½′
10^h 27⅚^m	Declination of the lower horn [Decl. inferioris cornu]	15° 54¾′
10^h 29^m	The same, repeated [Eadem repetita]	15° 54⅔′

Note [Nota.]. In all these lunar observations the lunar parallax must also be taken into account [habenda etiam eſt ratio parallaxeos lunaris], because the Moon was removed very far from the 90th degree towards the west [plurimum remouebatur verſus occaſum].

On 10 October [DIE 10 OCTOBRIS.]

At 5^h 24^m p.m. [H. 5 24′ P. M.], the Moon in the 90th degree from the Ascendant [☾ in 90 Gr. ab Aſcendente.].

N.B. Observation of the Moon made in the evening [ad Veſperas], when it was not far from its greatest remotion through both epicycles [a maxima remotione per vtrumque Epicyclum], although not exactly in the 90th degree [quamvis non exquiſite in 90 Gradu.].

The clock was corrected at noon [Horologium fuit in Meridie correctum.].

Time	Reading	Value
6^h 41^m [H.6 M.41]	Declination of the lower horn of the Moon [Decl. infer. cornu ☾]	13° 29¼′
	Of the upper horn [ſuperioris cornu]	13° 2½′
	The altitude of the Moon was, in degrees [Alt. ☾ fuit Grad.]	20° 0′

Time	Bright star of the Vulture, west [Lucida Vult. occ.]	Western limb of the Moon, to the east [Occid. limb. ☾ ad ort.]	Difference of ascension [Diff. aſc.]
6^h 48^m	14° 12½′	6° 45¾′	20° 58¼′

Time	Bright star of the Vulture, west [Lucida Vult. occ.]	Western limb of the Moon, to the east [Occid. limb. ☾ ad ort.]	Difference of ascension [Diff. aſc.]
	The altitude of the upper horn of the Moon was meanwhile 20° 50′ [Alt. ſup. cornu ☾ fuit interea 20° 50′.]		
$6^h\ 51^m$	14° 52½′	6° 5′	20° 57½′
$7^h\ 2½^m$	17° 45½′	3° 18¾′	21° 4¼′
$7^h\ 7¾^m$	19° 1′	2° 4¾′	21° 5¾′

Time	Reading	Value	Remark
$7^h\ 12^m$	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	13° 2′ south [M.]	
	By the armillae [per Armillas,]; of the lower [inferioris]	13° 28′	
$7^h\ 22^m$	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	12° 57½′	better and clearer [melior & ſerenior]

At the same time, by the revolving quadrant [Eodem tempore per Q. Volubilem]

Reading	Value
Altitude of the upper horn of the Moon [Alt. ſuper. cornu ☾]	21° 5′
Altitude of the lower horn [Alt. inferioris cornu]	20° 38¼′
Diameter of the Moon [Diameter ☾]	0° 26¾′

The meridian altitude of the centre of the Moon was therefore [Erat itaque Alt. Merid. centri ☾] 20° 52′; so the declination [ergo declinatio] 13° 12½′. The same declination of the centre of the Moon [Eadem centri ☾ decl.] by the armillae [per Arm.]: 13° 13′.

Note [Nota.]. It was not exactly clear [Non fuit exacte ſerenum] while these observations were being made on the Moon; instead, clouds kept coming back from time to time and obscuring the Moon. Nor, when it appeared a little clearer, was it then so very transparent [vsque adeo perſpicua] without rather thin vapours [rariusculis vaporibus] coming between. It was, however, clear to some extent, so that you can trust these observations moderately [mediocriter fidere poßis], especially where they agree with one another most plainly [vbi apertißime inuicem quadrant], by comparison of the time and the observation.

On 13 October [DIE 13 OCTOBRIS.]

In the evening [Ad Veſperas.].

At $6^h\ 42^m$ [H.6 M.42] the Moon was in the 90th degree, at which time it was not clear [quo tempore non erat ſerenum.].

The clock was corrected by the distance of Aldebaran from the meridian [Horologium ad diſt. Aldeboræ a Meridie correctum eſt.].

Time	Reading	Value
8^h $30½^m$ [H.8 30½′]	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	2° 21′ south [Mer.]

By the subterranean armillae [Per Armillas ſubterr.].

Time	Bright star of the Vulture, to the west [Luc. Vult. ad occaſ.]	Western limb of the Moon, to the east [Occid. limb. ☾ ad ort.]	Equatorial distance [Diſt. æquat.]
8^h $35½^m$	44° 41½′	12° 4½′	56° 46′
8^h 39^m	45° 43¼′	11° 2½′	56° 45¾′
8^h 42^m	46° 15⅙′	10° 32½′	56° 47⅔′
8^h $44⅙^m$	46° 46¼′	10° 0¾′	56° 47′
8^h $47½^m$	47° 33½′	9° 14½′	56° 48′

Time	Reading	Value
8^h 50^m	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	2° 20′ south [M.]
8^h $51⅙^m$	Lower limb [infer. limbi]	2° 49′
	By the greater subterranean armillae [per Armillas maior. ſubterr.]	
8^h $52½^m$	Lower limb, repeated [Repetita infer. limbi]	2° 51′
8^h $53½^m$	The same [Eadem]	2° 51′

N.B. In all the distances the western limb of the Moon was taken [In omnibus diſtantijs accipiebatur occidentalis limbus ☾.].

At 9^h 26^m [H.9 26′] the Moon, on the meridian, had a declination [in Meridiano habuit declinationem]:

Reading	Value
Of the upper limb [ſuperioris limbi]	2° 11¼′
Of the lower limb [inferioris limbi]	2° 44′
Diameter of the Moon [Diameter ☾]	0° 32¾′

At the same time its meridian altitude, as regards the upper limb [quoad ſuperiorem limbum], by the portable quadrant [per Q. Portat.], was 31° 54½′.

At 12^h $7½^m$ [H.12 M.7½], distance of Aldebaran from the meridian [Diſt. Aldeb. a Mer.] 33° 40′.

So from the time we began observing until now, the clock had been running 3¼ minutes [M.3¼] faster than it should [celerius iuſto mouebatur].

On 14 October [DIE 14 OCTOBRIS.]

In the evening [Ad Veſperas.].

Time	Reading	Value
7^h $28\frac{1}{6}^m$ [H.7 $28\frac{1}{6}'$]	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	1° 15′ north, with both pinnules [Bor. vtroque pinnacidio.]
7^h $30\frac{2}{3}^m$	Of the lower limb of the Moon [Infer. limbi ☾]	0° 43½′
	Diameter of the Moon [Diameter ☾]	0° 31½′

At 7^h 31^m the Moon was in the 90th degree according to the computation [iuxta ſupputationem.].

By the greater subterranean armillae [Per Armillas maiores ſubterr.].

Time	The first of the wing of Pegasus, east [Prima alæ Pegaſi or.]	Western limb of the Moon, to the east [Occid. limb. ☾ ad or.]	Equatorial distance [Diſt. æquat.]
7^h $35\frac{2}{3}^m$	18° 43¼′	37° 57½′	19° 14¼′
7^h $37\frac{1}{3}^m$	18° 18′	37° 34½′	19° 16½′
7^h $38\frac{5}{6}^m$	17° 53½′	37° 10½′	19° 17′
7^h 40^m	17° 31′	36° 48½′	19° 17½′
7^h $43\frac{1}{6}^m$	16° 48½′	36° 6¼′	19° 17¾′

The star was among thinner clouds [Stella erat inter rariores nubes.].

Time	Reading	Value
7^h $46\frac{2}{3}^m$	Declination of the upper limb, north [Decl. ſuper. limbi B.]	1° 17½′
7^h $48\frac{3}{4}^m$	Lower limb [inf. limbi]	0° 46′
	Altitude of the Moon 29° by the lesser quadrant; diameter of the Moon [Alt. ☾ 29° per Q. min., Diam. ☾]	31½′

Time	Bright star of the Vulture, west [Luc. Vult. occid.]	Western limb of the Moon, east [Occid. limb. ☾ orient.]	Equatorial distance [Diſt. æquat.]
7^h $54\frac{1}{2}^m$	34° 24′	33° 22′	67° 46′
7^h $58\frac{1}{2}^m$	35° 23′	32° 24¾′	67° 47¾′
8^h $0\frac{1}{2}^m$	35° 55′	31° 54′	67° 49′

Time	Reading	Value
8^h $4\frac{1}{6}^m$	Declination of the upper limb of the Moon, north [Decl. ſuper. limbi ☾ Bor.]	1° 23′
8^h 6^m	Lower limb [infer. limbi]	0° 50′
8^h 7^m	Upper, repeated [Repetita ſuper.]	1° 21′
	Diameter	0° 31′

But the Moon was among thinner clouds [Sed ☾ erat inter rariores nubes.].

Time	Reading	Value
9^h 2⅔^m	Aldebaran was distant from the meridian [diſtabat Aldeb. a Merid.]	79° 0½′
9^h 6½^m		78° 2½′

5^h 16^m 2^s [H.5 16′ 2″]	5^h 12^m 10^s [H.5 12′ 10″]
14^h 15^m 8^s	14^h 15^m 8^s
8^h 59^m 6^s	9^h 2^m 58^s

So it then appeared that the clock had been advanced 3½ minutes [M.3½] faster than it should, account being taken of the time elapsed since noon [habita ratione temporis a Meridie præterlapſi]. Let this error of the clock therefore be applied in correcting the times of the observations of the Moon [Itaque hic error horologij ad emendandum tempora obſeruationum ☾ adhibeatur.].

On 16 October [DIE 16 OCTOBRIS.]

At $9½^h$ the Moon was computed to be in the 90th degree [H.9½ ☾ in 90 Gradu ſupputabatur.].

For the correction of the clock [Pro correctione Horologij.].

At 8^h 49^m 36^s [H.8 49′36″] Aldebaran was distant from the meridian [diſtabat Aldeb.a Meridiano.] 79° 8′ [79° M.8]; in hours [Horis], 5^h 16^m 32^s. But on that day it passed the meridian [Tranſiit autem illo die Merid.] at 14^h 7^m 32^s. So the true time comes out as [Prouenit itaque tempus verum] 8^h 51^m 0^s.

Therefore the clock was short by 1^m 24^s [Ergo M.1 Sec.24 deficiebat Horologium]; and its index was advanced by just as much at once [tantundem autem in continenti promotus eſt eius index], so that the following times of the observations would be true.

Time	The first of the wing of Pegasus, west [Prima alæ Pegaſi occ.]	Western limb of the Moon, east [Occid. limb. ☾ or.]	Equatorial distance [Diſt. æquat.]
9^h 13⅚^m	8° 30′	34° 10′	42° 40′
9^h 17⅓^m	9° 27′	33° 16′	42° 43′
9^h 19¾^m	10° 1¼′	32° 42½′	42° 43¾′
	It was not very clear. For both the star and the Moon were wrapped in scattered clouds [Non erat bene ſerenum. Nam tam Stella quam Luna raris involuebatur nubibus.].		
9^h 23⅓^m	10° 56′	31° 50′	42° 46′
9^h 26½^m	11° 41¾′	31° 5′	42° 46¾′

Time	Reading	Value
9^h 29½^m	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	8° 47⅓′ north [B.]
9^h 31^m	Lower limb [infer. limbi]	8° 16½′
	Diameter of the Moon [Diameter ☾]	0° 30⅚′

Time	Marcab, west [Marcab occid.]	Western limb of the Moon, east [Occid. limb. ☾ orient.]	Equatorial distance [Diſt. æquat.]
9^h 33½^m	13° 29′	29° 19′	42° 48′
9^h 36½^m	14° 12′	28° 39′	42° 51′
9^h 38⅓^m	14° 43¼′	28° 8½′	42° 51¾′
9^h 39⅚^m	15° 4′	27° 49¾′	42° 53¾′
9^h 45^m	16° 19′	26° 36′	42° 55′*

*Moderately good [Mediocriter bona.].

Time	Reading	Value
9^h 48¾^m	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	8° 50¼′
9^h 50⅔^m	Lower limb of the Moon [Infer. limbi ☾]	8° 18¼′
	Diameter of the Moon [Diameter ☾]	0° 32′

In none of these observations made this evening was the sky perfectly clear [In nulla harum obſeruationum quæ hoc veſpere factæ ſunt, cœlum erat exquiſite ſerenum.].

On 18 October [DIE 18 OCTOBRIS.]

At 11^h 51^m [H.11 51] the Moon was in the 90th degree according to the computation [Luna in 90 Grad. iuxta ſupputationem.].

Time	Reading	Value	Remark
11^h 24^m	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	14° 47′ north [B.]	
11^h 26^m	Lower limb [infer. limbi]	14° 13½′	moderate [mediocris]
	Diameter of the Moon [Diameter ☾]	0° 33½′	

Time	Eastern limb of the Moon, east [Orient. limb. ☾ orient.]	Eye of ♉, east [Oculus ♉ orient.]	Equatorial distance [Diſt. æquat.]
11^h 33^m [H.11 33]	23° 11′	36° 57½′	13° 46½′
11^h 34^m	22° 28′	36° 13′	13° 45′
11^h 41^m	21° 10′	34° 54′	13° 44′
11^h 43½^m	20° 34½′	34° 17′	13° 42½′
11^h 45^m	20° 11½′	33° 53½′	13° 42′

Time	Reading	Value
$11^h\ 49^m$	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	14° 48½′
$11^h\ 51^m$	Lower limb [infer. limbi]	14° 16′
	Diameter of the Moon [Diameter ☾]	0° 32½′

Time	Eastern limb of the Moon, to the east [Orient. limbus ☾ ad ort.]	Bright star of ♈, west [Lucida ♈ occid.]	Equatorial distance [Diſt. æquat.]
$11^h\ 55^m$	17° 51′	5° 33′	23° 24′
$11^h\ 57½^m$	17° 6½′	6° 15½′	23° 22′
	not certain enough because of clouds [non ſatis certa propter nubes]		
$12^h\ 0^m$	16° 40½′	6° 44½′	23° 25′

On 22 October, a.m. [DIE 22 OCTOBRIS A. M.]

At $3^h\ 32^m$ [H.3 32] the Moon in the 90th degree from the Ascendant, according to the computation [☾ in 90 G. ab Aſcendente iuxta ſupputationem.].

Time	Reading	Value
$5^h\ 8^m$	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	18° 8′ north [B.]
	Lower limb of the Moon [infer. limbi ☾]	17° 37′

Time	Eye of ♉, west [Oculus ♉ occid.]	Eastern limb of the Moon, west [Orient. limb. ☾ occ.]	Equatorial distance [Diſt. æquat.]
$5^h\ 20^m$	55° 16¾′	27° 39½′	27° 37¼′
$5^h\ 22^m$	55° 49′	28° 11½′	27° 37½′
	It was moderately clear [Erat mediocriter ſerenum.].		
$5^h\ 25^m$	56° 27½′	28° 48⅚′	27° 38⅔′

Afterwards it was clearer [Poſtea erat ſerenius.].

Time	Eastern limb of the Moon, west [Orient. limb. ☾ occ.]	The heart of ♌, east [Cor ♌ orient.]	Equatorial distance [Diſt. æquat.]
$5^h\ 42^m$	32° 46′	22° 54′	55° 40′
$5^h\ 46^m$	33° 34¼′	22° 3½′	55° 37¾′

Time	Reading	Value
$5^h\ 48^m$	Declination of the upper limb of the Moon, repeated [Repetita Decl. ſup. limbi ☾]	18° 11′ north [B.]
	Of the lower limb [inferioris limbi]	17° 38′

On 23 October, a.m. [DIE 23 OCTOBRIS A. M.]

At 4^h 48^m [H. 4 48′] the Moon in the 90th from the Ascendant, according to the calculation [☾ in 90 ab Aſcendente iuxta calculum.]. When the Moon was $1¼^h$ [H.1¼] away from the 90th degree towards the west, it began to be observed, as follows [Cum abeßet ☾ a 90 Gr. H.1¼ ad occaſum obſeruari incepit vt ſequitur.].

Time	Reading	Value
6^h 4^m [H.6 4]	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	17° 12⅔′ north [Bor.]
	Lower limb [infer. limbi]	16° 42½′

Time	Eastern limb of the Moon, west [Orient. limbus ☾ occid.]	The heart of ♌, east [Cor ♌ orient.]	Difference of ascension [Diff. Aſc.]
6^h $15⅓^m$ [H.6 15⅓]	26° 16⅚′	15° 41¼′	41° 58$^1/_{12}$′
6^h $17⅓^m$	26° 45⅔′	15° 11′	41° 56⅔′
6^h 19^m	27° 14⅙′	14° 41′	41° 55⅙′
6^h $20½^m$	27° 35′	14° 20′	41° 55′
6^h 25^m	28° 37⅔′	13° 14½′	41° 52⅙′
6^h $30½^m$	29° 58½′	11° 52¼′	41° 50¾′
6^h $34½^m$	30° 48′	11° 0¼′	41° 48¼′

Time	Reading	Value
6^h 40^m	Declination of the upper horn of the Moon, repeated [Repet. decl. ſup. cor. ☾]	17° 10′ north [B.]
	Lower horn [infer. cornu]	16° 38′

Note [Nota.]. That on this day the Moon was not far from the greatest remotion of both epicycles [Quod ☾ hoc die non procul abfuerit a maxima remotione vtriusque epicycli.].

Afterwards the Moon was observed by day [Poſtea de die obſeruabatur Luna.].

Time	Reading	Value
9^h 9^m [H.9 9′]	Declination of the upper limb of the Moon [Declin. ſuper. limb. ☾]	16° 57¼′ north [B.]
9^h 10^m	Lower limb [infer. limbi]	16° 26⅓′
	Altitude of the upper limb of the Moon [Alt. ſuper. limbi ☾]	25½°
	Diameter of the Moon [Diameter ☾]	0° 30′ 55″

Time	Reading	Value	Altitude
$9^h\ 14^m$	Equatorial distance of the centre of the Sun and the eastern limb of the Moon [Diſt. æquat. centri ☉ & orient. limbi ☾]	111° 18′	Altitude of the Sun [Alt. ☉] 11⅓°
$9^h\ 16^m$	The same [Eadem]	111° 16½	11¾°
$9^h\ 19^m$	The same distance [Eadem diſt.]	111° 15′	Altitude of the Moon [Alt. ☾] 24½°
$9^h\ 21^m$		111° 13½′	Altitude of the Sun [Alt. ☉] 12°
$9^h\ 24^m$	Declination of the upper limb of the Moon, repeated [Repet. decl. ſup. limbi ☾]	16° 55′	
$9^h\ 26^m$	Lower limb [infer. limbi]	16° 25′	Altitude of the Moon [Alt. ☾] 23°
$9^h\ 42¾^m$	Equatorial distance of the centre of the Sun and the eastern limb of the Moon, repeated [Repetita diſt. æquat. centri ☉ & or. limbi ☾]	I 111° 3′	
$9^h\ 45^m$		II 111° 2′	

The altitude of the Sun was then 14°, that of the Moon 20½° [Fuit tunc Alt. ☉ 14°, Alt. vero ☾ 20½°.].

Time	Reading	Value
$9^h\ 51⅓^m$	Declination of the upper limb of the Moon, repeated [Repetita declin. ſuper. limbi ☾]	16° 51⅔′
	Altitude of the Moon [Alt. ☾]	19° [19 Gr.]

The clock, corrected by the heart of ♌, went round well [Per cor ♌ Horologium correctum bene circumvoluebatur.].

On 24 October, a.m. [DIE 24 OCTOBRIS A. M.]

At $6^h\ 11^m$ a.m. [H. 6 11′ A. M.] the Moon in the 90th degree from the Ascendant, according to the computation [☾ in 90 Gr. ab Aſcendente ſecundum ſupputationem.]. At about the 5th hour the clock was verified [Circa horam 5 Horologium verificatum eſt.].

Time	Reading	Value
$5^h\ 20^m$ [H.5 20′]	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	15° 27½′ north [B.]
	Lower horn [infer. cornu]	14° 55′
	Altitude of the upper horn of the Moon [Altit. ſuper. cor. ☾] 49⅓°. Diameter [Diam.]	0° 32½′
$5^h\ 23^m$	Altitude of the upper horn of the Moon on the meridian, by the quadrant [Alt. ſuper. cornu ☾ in Merid. per Quadr.]	49° 33′
	Of the lower horn [inferioris cornu]	49° 2⅓′

Time	The heart of ♌, east [Cor ♌ or.]	Eastern limb of the Moon, west [Orient. limb. ☾ occ.]	Difference of right ascension [Diff. Afc. R.]
$5^h\ 27^m$	26° 46′	1° 56½′	28° 42½′
$5^h\ 29^m$	26° 19½′	2° 22′	28° 41½′
$5^h\ 32½^m$	25° 30½′	3° 9¼′	28° 39¾′
$5^h\ 34^m$	25° 2′	3° 36½′	28° 38½′
$5^h\ 35½^m$	24° 42½′	3° 56′	28° 38½′
$5^h\ 37^m$	24° 19¼′	4° 19′	28° 38¼′
$5^h\ 39^m$	23° 50′	4° 47¼′	28° 37¼′
$5^h\ 40¾^m$	23° 21′	5° 16′	28° 37′

Time	Reading	Value
$5^h\ 44⅓^m$	Declination repeated, upper horn of the Moon [Repet. Decl. ſup. cornu ☾]	15° 24′ north [B.]
$5^h\ 45½^m$	Of the lower horn of the Moon [inferioris cornu ☾]	14° 51′
	Diameter	0° 33′

I was myself present at the following observations, and the Moon was near its greatest remotion [Sequentibus obſeruationibus ipſe interfui, eratque ☾ iuxta maximam remotionem.].

Time	Reading	Value	Remark
$5^h\ 51⅓^m$ [Hs 51⅓]	*The eastern limb of the Moon was distant from the heart of ♌, by the sextant [Diſtabat ☾ orient. limbus a corde ♌ per Sext.]*	*27° 40′*	
$5^h\ 52⅔^m$	*The same distance [Eadem diſtantia]*	*27° 39½′*	
$5^h\ 54^m$	*The same distance [Eadem diſtantia]*	**27° 39′*1*	
$5^h\ 57^m$	*The eastern limb of the Moon was distant, by the sextant, from the bright star in the feet of the lower Twin [Diſtabat or. limbus ☾ per Sext. a lucida in pedibus inferioris Gemini]*	*23° 41¼′*	
$5^h\ 58⅚^m$	*The same distance [Eadem diſtantia]*	*23° 42½′*	*good [bonæ]* (for the four rows $5^h\ 58⅚^m$–$6^h\ 3⅔^m$)
$6^h\ 0⅙^m$	*The same distance [Eadem diſtantia]*	*23° 44′*	
$6^h\ 2^m$	*The same (but this one agrees less well) [Ead. (ſed hæc minus quadrat)]*	*23° 46′*	
$6^h\ 3⅔^m$	*The same distance [Eadem diſtantia]*	*23° 46¼′*	
$6^h\ 6½^m$	*Declination of the upper horn [Declin. ſuper. cornu]*	*15° 21′*	
$6^h\ 8¼^m$	*Declination of the lower horn [Declin. infer. cornu]*	*14° 49¾′*	
$6^h\ 7^m$	*The altitude of the upper horn of the Moon was [fuit Alt. ſuperior. cornu ☾]*	*48° 30⅓′*	
$6^h\ 11^m$	*when the Moon was in the 90th degree [cum ☾ eßet in 90 Gradu.]*		

Time	*Eastern limb of the Moon, west [Or. limb. ☾ occident.]*	*The heart of ♌, east [Cor ♌ orient.]*	*Equatorial distance [Diſt. æquat.]*
	12° 37′	*15° 44½′*	*28° 21½′*
$6^h\ 12½^m$	*12° 58′*	*15° 22¼′*	*28° 20¼′*
$6^h\ 13⅔^m$	*13° 14½′*	*15° 6¼′*	
$6^h\ 15^m$	*13° 34′*	*14° 46′*	*28° 20′*

Time	*Eastern limb of the Moon, west [Or. limb. ☾ occident.]*	*The heart of ♌, east [Cor ♌ orient.]*	*Equatorial distance [Dist. æquat.]*

Time	Reading	Value	Remark
$6^h\ 17^m$	*Declination of the upper horn [Decl. super. cornu]*	*15° 22′*	
$6^h\ 19½^m$		*14° 56¼′*	*Not certain enough [Non satis certa]*
		25¾	
$6^h\ 18^m$	*The eastern limb of the Moon was distant from the heart of ♌, by the trigonal sextant [Distabat ☾ orientalis limbus a corde ♌ per Sext. Trigon.]*	*27° 31′*	
$6^h\ 20^m$	*The same distance [Eadem distantia]*	*27° 30′*	
$6^h\ 21⅓^m$	*The same distance [Eadem distantia]*	*27° 29⅚′*	

[1] There is written in addition, in another hand: "See the place of the Moon computed below for this time" [»Vide locum ☾ infra ad hoc tempus computatum«].

Time	Reading	Value
$6^h\ 23¼^m$	*Repeated [Repetita]*	*27° 28⅔′*
$6^h\ 23^m$	*Altitude of the upper horn of the Moon, by the quadrant [Alt. super. cor. ☾ per Quadrantem]*	*47° 47½′*
$6^h\ 25^m$	*Declination of the upper horn of the Moon [Declin. super. cornu ☾]*	*15° 20′*
$6^h\ 26½^m$	*Declination, lower [Declin. inf.]*	*14° 48′*
		32
$6^h\ 26^m$	*Altitude of the upper horn of the Moon [Altit.super.cornu ☾]*	*47° 37′*
$6^h\ 28^m$	*Declination of the upper horn of the Moon, repeated [Repet. decl. sup. cor. ☾]*	*15° 19¼′*
$6^h\ 30^m$	*Declination of the lower [Declin. inferioris]*	*14° 48′*
$6^h\ 31½^m$	*Declination of the upper [Declin. superioris]*	*15° 18⅚′*
	Of the lower [inferioris]	*14° 47⅚′*

And in all these preceding observations of the Moon, made around the 90th degree from $5^h\ 51^m$ [H. 5 M. 51] until $6^h\ 31^m$, you can rely quite safely in restoring the motion of the Moon. For the Moon was near the greatest remotion of both epicycles. You can, moreover, compare both the distances by the sextant and the equatorial ones. It was very clear.

At the end of these observations I observed the distance of the eastern limb of the Moon from the meridian, to verify the clock, which had been corrected to the heart of ♌ at the 5th hour in the morning [Hora 5 Matutina]. Now the eastern limb of the Moon was 21° 13′ [G.21 M. 13] from the meridian towards the west, and that at $6^h\ 46^m$. It was not possible to observe any stars then, both because of the dawn of the day and because of intervening clouds, except that at $6^h\ 48^m$ Jupiter was 33° 24′ west [fuit ♃ occid.33 24.].

Time	*Jupiter, west [♃ occident.]*	*Eastern limb of the Moon, west [☾ occid. or. limbus]*	
6h 49½m [H.6 49½]	*33° 42′*	*21° 55½′*	*11° 46½′*
6h 50½m	*33° 59½′*	*22° 16′*	*11° 43½′*
6h 51⅔m	*34° 19′*	*22° 35′*	*11° 44′*

These observations were made among rather sparse clouds [Hæ obſeruationes factæ ſunt inter rariusculas nubes.].

Time	Reading	Value
6h 53m [H.6 M.53]	*Declination of the upper horn [Declin. ſuper. cornu]*	*15° 16½′*
6h 55m	*Declination of the lower horn [Decl. infer. cornu]*	*14° 46′*
	Diameter	*0° 30½′*
6h 56m	*Declination of the upper horn [Decl. ſuper. cor.]*	*15° 16½′*
6h 57½m	*Declination of the lower [Declin. inferioris]*	*14° 46¼′*
		0° 30¼′
6h 59m	*Declination of the upper horn [Declin. ſuper. cornu]*	*15° 16¼′*
7h 0m		*14° 45½′*

Time	Reading	Value
7h 0m	*The upper horn of the Moon had an altitude, by the revolving quadrant, of [habuit ſuperius cornu ☾ altitudinem per Quadr. Volub.]*	*45° 15½′*
7h 2m	*The declination of Jupiter was [fuit Declin. ♃]*	*22° 36′ north [B.]*

About the same time the altitude of both limbs of the Moon was observed [Circa idem tempus fuit altitudo limbi vtriusque ☾ obſeruata]:

Time	Reading	Value
	Of the upper [Superioris]	*45° 3′*
	Of the lower [Inferioris]	*44° 28½′*
		34½
7h 3½m	*Declination of Jupiter repeated, with the other pinnule [Repetita declin. ♃ altero pinnacidio]*	*22° 36′*

Then, when the clear sky had been restored, Jupiter and the Moon were observed again [Deinde reſtituta ſerenitate denuo obſeruabantur ♃ et ☾].

Time	Reading	Value
7h 10m	*Between Jupiter and the eastern limb of the Moon, farthest from Jupiter itself [Inter ♃ & limb. ☾ oriental. ab ipſo Ioue remotiſsimum]*	*13° 36′*
7h 11m	*The same distance [Eadem diſtantia]*	*13° 36¾′*
7h 13m	*The same distance [Eadem diſtantia]*	*13° 39′*
7h 14¾m	*The same, and better than the preceding [Eadem & melior antecedente]*	*13° 39¼′*
7h 16m	*The same, repeated [Eadem repetita]*	*13° 40½′*

Time	Reading	Value
	At the same instant the altitude of the upper horn of the Moon was [Eodem inſtanti fuit alt. ſuper. cornu ☾]	*43° 41′*

Note. In these preceding observations the distance of Jupiter to the Moon was observed by the sextant along the line drawn from Jupiter through the centre of the Moon, and that at the point of the limb farthest from Jupiter.

Afterwards the equatorial distances of Jupiter and the Moon were repeated in this way [Poſtea diſtantiæ æquatoriæ Iouis & ☾ ſunt repetitæ in hunc modum.]:

Time	*Jupiter, west [♃ occident.]*	*Eastern limb of the Moon, west [Or. limbus ☾ occid.]*	*Equatorial distance of both [Diſt. vtriusque æquat.]*	Remark
7h 20m	*41° 17′*	*29° 18½′*	*11° 58½′*	
7h 21½m	*41° 42½′*	*29° 44½′*	*11° 58′*	
7h 23m	*42° 3′*	*30° 0′*	*12° 3′*	*doubtful [dubia]*
7h 24m	*42° 23¾′*	*30° 23′*		*doubtful [dubia]*
*7h 26¾m**	*42° 59¾′*[1]*	*30° 59½′*	*12° 0¼′*	*good [bona]*

Time	Reading	Value
7h 31½m	*Altitude of the upper horn [Alt. ſuper. cornu]*	*42° 22½′*
	Altitude of the lower horn [Alt. infer. cornu]	*41° 51′*
	Diameter	*31½′*
7h 32¼m	*Declination of the upper horn [Declin. ſuper. cornu]*	*15° 12′*
7h 33m	*Declination of the lower [Declin. inferioris]*	*14° 43½′*
		28½
7h 36m	*Declination of the upper horn, repeated [Repet. decl. ſuper. cornu]*	*15° 12½′*
7h 37¼m	*Of the lower limb [limbi inferioris]*	*14° 42′*
	Diameter	*30½′*

[1] There is written in addition, in another hand: "Corresponding to 7° 26′ 40″; the clock was going well" [»Reſp. 7° 26′40″, Horol. bene mouebatur«].

And this observation was better than the preceding one, for it was clearer. From both, the declination of the centre comes out 14° 57½′ [Prouenit vtrobique declin. centri 14 57½.].

Time	Reading	Value
7h 44½m	*Declination of the upper horn, repeated [Repet.decl.ſup.cor.]*	*15° 13′*
7h 45½m	*Of the lower horn [inferioris cornu]*	*14° 41′*
	Diameter	*32′*
	The declination of the centre comes out [Prouenit declinatio centri]	*14° 57′*
7h 47½m	*Declination of the upper horn of the Moon, repeated [Repet. decl. ſup. cor ☾]*	*15° 12′*
7h 48½m	*Declination of the lower horn of the Moon [Decl. infer. cornu ☾]*	*14° 41′*

Time	Reading	Value
	Diameter	*31′*
	The declination of the centre comes out [Prouenit declinatio centri]	*14° 56½′*

On 25 October [DIE 25 OCTOBRIS.]

At 7^{h} 32^{m} a.m. the Moon in the 90th degree [H.7 32′ ☾ in 90 Gradu A.M.].

Time	Reading	Value
6h 12m [H.6 M.12]	*The eastern limb of the Moon crossed the meridian and had an altitude, at the upper horn, of [Tranſiuit orientalis limbus ☾ Merid. & habuit Alt. in ſuperiori cornu]*	*46° 42¾′*
	At the lower limb [in inferiori limbo]	*46° 11½′*
6h 15m	*The declination of the upper horn was observed [Obſeruabatur decl. ſuper. cor.]*	*12° 36½′*
	Of the lower horn of the Moon [inferioris cornu ☾]	*12° 4′*
	Declination of the centre [Declin. centri]	*12° 20′*

Time	*The heart of ♌, east [Cor ♌ orient.]*	*Eastern limb of the Moon, west [Lunæ orient. limbus occid.]*	*Equatorial distance [Diſt. æquat.]*
6h 18½m	*13° 1½′*	*1° 41′*	*14° 42½′*
6h 19m 35s	*12° 43¾′*	*1° 59′*	*14° 42¾′*
6h 22m 5s	*12° 2¾′*	*2° 38′*	*14° 40¾′*
	Jupiter, west [♃ occid.]		
7h 9m 45s	*39° 46′*	*14° 16′*	*25° 30′*
7h 11m 28s	*40° 11½′*	*14° 40½′*	*25° 31′*

It was moderately clear during these observations, but rather sparse small clouds nevertheless came in between [Fuit mediocriter ſerenum in his obſeruationibus, ſed rariusculæ tamen intercedebant nubeculæ.].

Time	Reading	Value
7h 13½m	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*12° 27′ north [B.]*
7h 15m	*Declination of the lower limb [Declin. infer. limbi]*	*11° 58′*
		29
	Declination of the centre of the Moon [Declin. centri ☾]	*12° 12½′*
7h 16m	*Declination of the upper horn [Declin.ſuper.cornu]*	*12° 27′*
7h 17m	*Declination of the lower horn [Declin. infer. cornu]*	*11° 58½′*
	Diameter	*28½′*
	Therefore the declination of the centre of the Moon [Ergo declin. centri ☾]	*12° 13′ north [B.]*

Then, with the Moon lying near the 90th degree itself, it was observed from Jupiter in this way [Deinde ☾ verſante prope ipſum 90 Gradum obſeruabatur a ♃ in hunc modum.]:

Time	*Jupiter, west [♃ occident.]*	*Eastern limb of the Moon, west [☾ or. limbus occ.]*	*Equatorial distance [Dist. æquat.]*
7^h 26^m 52^s	*44° 2′*	*18° 24½′*	*25° 37½′*
7^h 29^m	*44° 34′*	*18° 54′*	*25° 40′*

Without any perceptible error you can use the equatorial distance at 7^h 32^m [H. 7 M. 32], when the Moon was in the 90th degree, from Jupiter, 25° 39′ [a ♃ 25 39], and from this, by the place of Jupiter verified from earlier observations, find the place of the Moon. The eastern limb of the Moon was observed throughout.

Time	Reading	Value
7^h 35^m [H.7 35]	*Declination of the upper horn of the Moon [Decl. super. cornu ☾]*	*12° 24½′*
7^h 37^m	*Of the lower horn [inferioris cornu]*	*11° 55½′*
	Diameter	*29′*
	Declination of the centre [Declinatio centri]	*12° 10′*
7^h 38^m	*Declination of the upper horn [Declin.super.cornu]*	*12° 24½′*
7^h 40^m	*Lower horn [infer. cornu]*	*11° 55¼′*
	The Moon was well seen [Bene videbatur ☾]	*29*

Take for the time when the Moon was in the 90th degree, and that at 7^h 32^m [H. 7 M. 32], the equatorial distance of its centre from Jupiter as 25° 25′ [Gr.25 25′] and the declination of the centre of the Moon as 12° 11′ [Gr. 12 M.11], and work from there.

Then we observed the Moon with the revolving quadrant at certain azimuths and altitudes, noting the time exactly [Deinde Lunam obſeruauimus per Quadr. Volub. in certis Azimutis & Altitudinibus annotato exacte tempore.].

Time	*Azimuth of the eastern limb of the Moon, west [Azim. or. limbi ☾ occ.]*	*Altitude of the upper horn [Alt. super. cornu]*
7^h 44^m 43^s	*31° 0′*	*43° 0′*
7^h 47^m 48^s	*32° 0′*	*42° 46⅙′*
7^h 51^m 10^s	*33° 0′*	*42° 30½′*
7^h 54^m 29^s	*34° 0′*	*42° 15′*
7^h 57^m 46^s	*35° 0′*	*41° 59⅙′*

All these azimuths are counted from the meridian towards the west. Throughout, the eastern limb of the Moon was observed in the azimuths, but the upper horn in the altitudes; therefore, for the centre of the Moon, 15′ [15 ſcrupula] must be taken away everywhere, from the altitudes as well as from the azimuths.

At 10^h $19½^m$ [H.10 19½] the Sun was 26° 25′ from the meridian; the clock differs by $5½^m$ [Minutis 5½]; compare with the observation of the fixed stars.

Time	Reading	Value
10^h 20^m 48^s [H.10 20 48]	*The same distance [Eadem diſtantia]*	*26° 8′*
10^h 21^m 30^s	*The same distance [Eadem diſtantia]*	*25° 57′*

It was therefore then 10^{h} 16^{m} [H.10 M.16], and for that reason the clock was going faster than it should [ideoque Horologium ibat iuſto celerius]

by 5½^{m} [5½′] from the time of its rectification, which was at 4½^{h} in the morning [a tempore ſuæ rectificationis,quod erat H. 4½ mane.].

On 26 October, a.m. [DIE 26 OCTOBRIS A. M.]

At 8^{h} 58^{m} a.m. the Moon was in the 90th degree from the Ascendant, according to the computation [H. 8 58′ A. M. ☾ in 90 Gr. ab Aſcendente iuxta ſupputationem.].

In the morning it was not clear. The clock was verified by the Sun at about the time of 8½^{h} [Horologium ad Solem verificabatur iuxta horam 8½.].

Time	Reading	Value
8^{h} 29^{m} [H.8 M.29]	*Declination of the upper horn [Declin.ſuper.cornu]*	*8° 40′ north [B.]*
8^{h} 30^{m}	*Of the lower horn [inferioris cornu]*	*8° 11½′*
	The altitude of the upper horn was then [Fuit tunc Altit. ſuperior. cornu]	*39° 46′*
8^{h} 31^{m}	*Upper horn, repeated [Reiterata ſuper. cornu]*	*8° 40′*
8^{h} 33^{m}	*Lower [infer.]*	*8° 11½′*
	As before [vt prius.]	*28½*

Therefore the declination of the centre 8° 26′; the altitude, upper, 39½° [Ergo Declin. centri 8 26′, Alt. 39½ ſup.].

These observations made of the Moon are not to be trusted too scrupulously, because the clearness of the sky was not perfect, but sparser clouds obstructed both the Moon and the Sun for us [His obſeruationibus ad ☾ habitis non eſt nimis ſcrupuloſe fidendum, quia non erat exacta ſerenitas, ſed nubes rariores tam ☾ quam Solem nobis impediebant.].

At 8^{h} 56½^{m} [H.8 M.56½] the eastern limb of the Moon was 73° 43′ from the centre of the Sun. And the declination of the Sun was then 15° 34′. The observation was middling, because it was not clear enough [Fuit mediocris obſeruatio, quia non erat ſatis ſerenum.].

Time	Reading	Value
9^{h} 55⅓^{m} [H.9 55⅓′]	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	8° 29′
9^{h} 56^{m}	Of the lower horn [inferioris cornu]	7° 56′
	Diameter	0° 33′
9^{h} 57^{m} 40^{s} [9 57′40″]	Azimuth of the eastern limb of the Moon from the meridian towards the west, by the revolving quadrant [Azim. Orientalis limbi ☾ a Meridie ad occaſum per Q.Volub.]	42° 15′
	Altitude of the upper horn of the Moon [Alt. ſuper. cornu ☾]	31° 48½′
10^{h} 0^{m} 35^{s}	Azimuth of the same limb [Azim. eiusdem limbi]	43° 1′
	Altitude of the upper horn [Alt. ſuper. cornu]	31° 32′
11^{h} 30½^{m}	Declination repeated: upper horn [Repetita Decl. ſuper. cor.]	8° 11′
11^{h} 31¼^{m}	Lower horn [infer. cornu]	7° 37¼′
	Altitude of the upper horn 20° [20 P.]; diameter [Diam.]	0° 33¾′

Time	Reading	Value
$11^h\ 34^m\ 10^s$	The Sun was distant from the meridian towards the east, for the clock [Diſtabat ⊙ a Mer. ad ort. pro Horologio]	6° 7′
$11^h\ 36^m$	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	8° 11′
$11^h\ 37^m$	Declination of the lower [Decl. inferioris]	7° 36¼′
	Diameter	0° 34¾′

Time	Eastern limb of the Moon, west [Orient. limb. ☾ occ.]	Centre of the Sun, east [Centrum ⊙ orient.]	Equatorial distance [Diſt. æquat.]
$11^h\ 38^m\ 10^s$	67° 15½′	5° 9½′	72° 25′
$11^h\ 40^m\ 0^s$	67° 43′	4° 41′	72° 24′
$11^h\ 43^m\ 10^s$	68° 29½′	3° 54′	72° 23½′
	Altitude of the upper horn [Alt. ſuper. cornu]		18⅓°

Time	Reading	Value
$11^h\ 46^m$	Declination repeated: upper horn [Repetita decl. ſuper. cornu]	8° 7½′
	Declination of the lower [Decl. inferioris]	7° 35½′
	Diameter	0° 32′

Time	*Eastern limb of the Moon, west [☾ or. limb. occ.]*	*Sun, east [⊙ orient.]*	*Equatorial distance [Diſt. æquat.]*
$11^h\ 48^m$	*69° 36½′*	*2° 44′*	*72° 20½′*
$11^h\ 49^m$	*69° 53¼′*	*2° 26′*	*72° 19¼′*
	The altitude of the Moon was 17½° [Alt. ☾ fuit 17½]		
$11^h\ 50⅓^m$	*70° 10½′*	*2° 8½′*	*72° 19′*
	Altitude of the upper horn of the Moon 17⅓° [Alt. ſup. cor. ☾ 17⅓]		
$11^h\ 52⅓^m$	*70° 40′*	*1° 39½′*	*72° 19½′*
$11^h\ 53⅔^m$	*70° 58½′*	*1° 20′*	*72° 18½′*
	The altitude of the Moon was 17° 0′ [Alt. ☾ fuit 17 0]		

Time	Reading	Value
$11^h\ 55^m$	*The upper horn of the Moon was at a declination of [ſuit ſuperius cornu ☾ in Declinatione]*	*8° 6′*
	The lower [Inferius]	*7° 33½′*
		32½
$11^h\ 58½^m$	*Declination repeated: upper [Repetita declin. ſuper.]*	*8° 6′*
		7° 33′

Note. At noon the clock was going slower by exactly 1^m [vno exquiſite ſcrupulo], counting from $8^h\ 36^m$ [ab Hora 8 Minuto 36], the time at which it was verified by the Sun.

The place of the Sun comes out at 12° 36′ ♏,[1] *and that without taking account of refraction or parallax [idque non habita ratione refractionis aut parallaxeos]. For it is the apparent place of the Sun, with reference to which we shall try to find the Moon with the lesser zodiacal armillae [per Armillas minores Zodiacales], in this way.*

Time	Reading	Value
$12^h\ 11\frac{2}{3}^m$	With the lesser armillae verified by the place of the Sun set at 12° 36′ ♏, the eastern limb of the Moon was observed at [Verificatis Armillis minoribus per locum ☉ positum in 12 36 ♏ obſeruabatur orientalis limbus ☾ in]	27° 24′ ♌
$12^h\ 14^m$	With the armillae rectified as before, the eastern limb of the Moon was seen at [Rectificatis Armillis vt prius viſus eſt orientalis limbus ☾ in]	27° 25′ ♌
$12^h\ 16^m$	With the armillae verified as before, the eastern limb of the Moon was observed at [Armillis verificatis vt prius obſeruatus eſt orient. limbus ☾ in]	27° 26′ ♌

At $12^h\ 19^m$ the upper horn of the Moon had an altitude of 14° by the least quadrant [Habuit ſuperius cornu ☾ Alt. 14 per Q. minimum.].

[1] Namely, from the observation of the Sun in the meridian [Scilicet ex obſervatione Solis in meridiano].

Places of the Moon [LOCA LUNÆ.]

On 21 January [DIE 21 JANUARIJ.[1]*]*

The Moon about the ninetieth degree at $8^h\ 58^m$ [☾ª circa nonagеſ. gradum H. 8 M.58].

Time	Reading	Value
$8^h\ 55\frac{2}{5}^m$ [H. 8 M. 55⅖]	Equatorial distance of the centre of the Moon from Jupiter [Diſtantia æqvatorea Centri ☾ᵉ a ♃]	29° 4′
	taking the semidiameter of the Moon as 16′ [aßumendo ſemid. ☾ᵉ 16.]	
$9^h\ 2\frac{5}{6}^m$	Distance of the centre of the Moon from Aldebaran [Diſtantia Centri ☾ᵉ ab Aldebora]	25° 24[?]′ [25 24[[¾/¾]].]
	Right ascension of Jupiter [Aſcenſio recta ♃]	59° 25′
	Right ascension of the Moon [Aſcenſio recta ☾ᵉ]	88° 29′
	Right ascension of Aldebaran [Aſcenſio recta Aldeboræ]	63° 5′
	Right ascension of the Moon [Aſcenſio recta ☾ᵉ]	88° 29¾′
	At 9^h complete, the right ascension of the Moon, limited [H.9 completa Aſcenſio recta ☾ᵉ limit.]	88° 29′
	Declination, north, of the centre of the Moon [Declinatio B. centri ☾ᵉ]	18° 37′
	Corresponding longitude [Reſp. Longitudo]	28° 32¾′ ♊
	Latitude [Latitudo]	4° 54′ 0″ south [M.]

The calculation from the corrected motions for the lunar syzygies according to the Copernican hypothesis assumes a longitude of the Moon of 29° 27′ 23″ ♊, so that the difference [dʳᵃ] is about 54⅔ [Calculus ex correctis motibus

ad Zyzygias ☾res juxta Copernianam Hypotheſin ſupponit longitudinem ☾æ 29°27′23″♊, ut ſit dra 54⅔ fere.].

On 23 January, at 11h 54m [DIE 23 JANUARIJ H.11 M.54.1]

Reading	Value
Right ascension of the Moon [Aſcenſio recta ☾æ]	120° 4′
Declination, *cor.* [Declinatio cor.]	14° 48′ 30″
For the correction add. [Pro correctione add.]	30″
Corresponding true declination [Reſp. Declinatio vera]	14° 49′ 0″
Altitude of the centre of the Moon [Altitudo Centri ☾æ]	47° 20′
Corresponding longitude [Reſp. Long.]	29° 7⅔′ ♋
Add for the latitude [adde pro lat.]	20″
True longitude in its own orb [Vera Longitudo in prop. orb.]	29° 8′ ♋
Latitude [Latitudo]	5° 43½′ south [M.]

Computation of the place of the Moon for the day of 23 September, a.m. [Supputatio loci ☾æ ad diem 23 Sept. A. M.1]

At 3h 10m the Moon in the ninetieth [H.3 M.10 ☾ in nonag.].

Time	Reading	Value
3h 27m [H.3 M.27]	Equatorial distance of the centre of the Moon from the bright star of ♈ [Diſtant. æqvat. Centri ☾æ a lucida ♈]	40° 29′ 0″
	Right ascension of the bright star of ♈ [Aſcenſio recta luc. ♈]	26° 1′ 15″
	Therefore the right ascension of the Moon [Ergo Aſcenſio recta ☾æ]	66° 30′ 15″
	Declination of the centre of the Moon [Declinatio Centri ☾æ]	17° 2′ 0″ north [B.]
3h 38m	Distance of the centre of the Moon, by the old sextant, from the lower head of ♊ [Diſtantia Centri ☾æ per Sextantem vet. ab inferiori cap. ♊]	41° 26′
	Declination of the centre of the Moon [Declinatio ☾æ Centri]	17° 4′ north [B.]
	Angle of the ascensional difference [Angulus differentiæ aſcenſionalis]	43° 24′ 35″
	Right ascension of the lower head of ♊ [Aſcenſio recta inf. cap. ♊]	109° 58′ 45″
	Therefore the right ascension of the Moon [Ergo Aſcen. recta ☾æ]	66° 34′ 10″
	Therefore at 3h 32m the right ascension, limited [Ergo H.3 M.32 Aſc. recta limit.]	66° 32⅙′
	Declination of the Moon [Declinatio ☾æ]	17° 3′
	Corresponding longitude [Reſp. Longitudo]	7° 32⅚′ ♊
	Latitude [Latitudo]	4° 39½′ south [M.]
	Add for the parallax [adde pro parallaxi]	2′ 0″
	For the arc of inclination add [Pro arcu inclinat. adde]	7′ 10″
	True longitude of the Moon [Vera longit. ☾æ]	7° 42′ ♊

Calculation of the apparent motion of the Moon for the day of 24 September, from observation [Calculus apparentis motus ☾æ ad Diem 24 Septembris ex Obſer.1]

Time	Reading	Value
4^h 19½^m a.m. [H. 4 M. 19½ A. M.]	Equatorial distance of the eastern limb of the Moon from the bright star of ♈ [Diſtantia æqvatorea orient. limbi ☾^{æ} a lucida ♈]	54° 14¾′ [54 14¾]
	Semidiameter of the Moon on the equator [Semidiameter ☾^{æ} in æqvat.]	17′ subt. [ſubt.]
	Equatorial distance of the centre [Diſt. æqvat. Centri]	53° 57¾′
	Right ascension of the bright star of ♈ [Aſcenſio recta lucidæ ♈]	26° 1′
	Right ascension of the centre of the Moon [Aſcenſ. recta Centri ☾^{æ}]	79° 58¾′
4^h 22⅔^m	Equatorial distance of the centre of the Moon from Aldebaran [Diſtantia Centri ☾^{æ} æqvat. ab Aldebora]	16° 54′ 15″
	Right ascension of Aldebaran [Aſcenſio recta Ald.]	63° 4′ 15″
	Right ascension of the Moon [Aſcenſio recta ☾^{æ}]	79° 58′ 30″
	Therefore at 4^h 21^m the right ascension of the Moon, limited [Ergo H.4 M.21 Aſcenſio recta ☾^{æ} limitata]	79° 58′ 40″
	Declination of the centre [Declinatio Centri]	17° 53′ north [B.]
	Corresponding longitude [Reſp. Longitudo]	20° 26′ ♊
	Latitude [Latitudo]	5° 18½′ south [M.]
9^h 50^m	Equatorial distance of the eastern limb of the Moon from the centre of the Sun [Diſtantia æqvat. orient. limbi ☾^{æ} a Centro ☉^{lis}]	107° 7′
	Semidiameter, add. [Semidiamet. add.]	17′
	True distance of the centre of the Moon [Vera diſt. Centri ☾^{æ}]	107° 24′
	Right ascension of the Sun [Aſcenſio recta ☉^{lis}]	189° 44′ 15″
	Right ascension of the centre of the Moon [Aſcenſ. recta Centri ☾^{æ}]	82° 20′ 15″
	Declination of the centre of the Moon [Declinatio Centri ☾^{æ}]	17° 50′ north [B.]
	with refraction [cum Refract.]	
	Corresponding longitude of the Moon [Reſp. Longit. ☾^{æ}]	22° 40⅔′ ♊

N.B. The Sun was at an altitude of 24°, so that here parallax and refraction cancel each other out [N.B. ☉ erat in altit. 24° unde hic parallaxis et Refractio ſe mutuo elidunt.].

[1] From codex V [E codice V.].

Calculation for the apparent place of the Moon for the day of 26 September, a.m., from the observations of the same day [Calculus pro apparente loco ☾^{æ} ad Diem 26 Septembris A. M. ex Obſervationibus ejusdem Diei.[1]]

Time	Reading	Value
9^h 6¾^m [Hor. 9 M.6¾]	Right ascension of the Sun [Aſcenſio recta ☉^{lis}]	191° 32′ 20″
	Right ascension of the centre of the Moon from the equatorial distance between it and the Sun [Aſcenſio recta centri ☾^{æ} ex Diſtantia æqvatorea inter eam & ☉^{lem}]	109° 14′
	Declination, north, of the centre of the Moon [Declinatio B. Centri ☾^{æ}]	16° 16′
	Corresponding longitude [Reſp. Longitudo]	18° 32½′ ♋

Time	Reading	Value
	Latitude [Latitudo]	6° 1½′ south [M.]
	Longitude of the Moon from the Tables *P.*, with corrected motions, simple [Longitudo ☾^{æ} ex Tab. P. correctis motibus Simpl.]	18° 42′ 28″ ♋

But the parallaxes [Greek: παραλλάξεις (parallaxeis, "parallaxes")] of longitude put the visible place of the Moon smaller than is right. For the Moon passes through the ninetieth degree at 6^{h} 53^{m} [Verum παραλλάξεις longitudinis ☾^{æ} viſum locum minorem juſto ponunt. Tranſit enim ☾ per nonageſ. g. H. 6 M. 53.].

A more exact examination [Exactior examinatio.]

Reading	Value
Altitude of the Sun at the time of observation [Altitudo ☉^{lis} tempore obſervat.]	19⅓°
Refraction of the Sun [Refractio ☉^{lis}]	5′ 0″
Parallax [Parallaxis]	2′ 50″
Difference [Differentia]	2′ 10″
Corresponding in longitude, subt. [Reſp. in longitudine ſubt.]	1′ 40″
Apparent longitude of the Sun [Viſa longitudo ☉^{lis}]	12° 31′ 35″
Corresponding right ascension of the Sun [Reſp. Aſcenſio recta ☉^{lis}]	191° 30′ 50″ apparent [viſa]
Equatorial distance of the centre of the Moon from the Sun [Diſtantia æqvat. Centri ☾ a ☉]	82° 21′ 0″
Right ascension of the centre of the Moon [Aſcenſio recta Centri ☾^{æ}]	109° 9′ 50″
Corresponding apparent longitude of the Moon [Reſp. viſa Longitudo ☾^{æ}]	18° 28½′ ♋

On 24 October [DIE 24 OCTOBRIS.]

Time	Reading	Value
5^{h} 54^{m} [H.5 54′]	Distance between the eastern limb of the Moon and the heart of ♌, by the sextant [Diſt. inter orient. limbum ☾ & cor ♌ per Sext.]	27° 39′
	Add the semidiameter of the Moon [Adde ſemidiam. ☾]	15′
	Distance of the centre of the Moon from Regulus [Diſtantia centri ☾ a Regulo]	27° 54′
	Declination of the centre of the Moon [Declin. centri ☾]	15° 6′ north [B.]

Time reduced to both ephemerides: 23^{d} 17^{h} 24^{m} [Tempus reductum ad vtramque Ephem. 23^{d} 17^{h} 24^{m}.].

	From observation [Ex obſeruatione]	Alphonsine [Alphonſ.], Cyprian [Cyp.]	Prutenic [Prut.], Mästlin's [Mæſtlini]
Longitude of the Moon [Long. ☾]	26° 53⅓′ ♋	26° 15′ ♋	26° 5′ ♋
Latitude of the Moon [Lat. ☾]	5° 51¼′ south [M.]	4° 53½′ south [M.]	4° 5¼′ south [M.]

Here the motion of the Moon from Cyprian's ephemerides falls short by 38′ [Deficit hic motus ☾ ex Ephemerid. Cypriani in 38′.]. The motion from Mästlin's ephemerides also falls short, by 48′, of the observed motion in longitude [Deficit etiam motns ex Eph. Mæſtl. in 48′ ab obſeruato longitudinis motu.] [recte: motus]. The Moon was then ¼ of an hour from the 90th degree towards the rising [Fuit tunc ☾ ¼ vnius horæ a 90 Gr. ad ortum.].

On the same day, when the Moon was exactly in the 90th degree at 6^h 11^m [Eodem die cum ☾ exacte eßet in 90 Grad. H.6 M.11,]:

Reading	Value
Difference of right ascension of the centre of the Moon from the heart of ♌, by the armillae [Diff. Aſc. R. centri ☾ a corde ♌ per Arm.]	28° 37′
Right ascension of the heart of ♌ [Aſc. R. cordis ♌]	146° 35′
Right ascension of the centre of the Moon [Aſc. R. centri ☾]	117° 58′
Declination of the same [Declinatio eiusdem]	15° 5′

Time reduced to the ephemerides: 23^d 18^h 11^m p.m. [Tempus reductum ad Eph. 23^d 18^h 11^m P. M.].

	From observation [Ex obſeruatione²]	Alphonsine, Cyprian's [Alphonſ. Cypri.]	Prutenic, Mästlin's [Prut. Mæſtl.]
Longitude of the Moon [Long. ☾]	27° 4⅚′ ♋	26° 24½′ ♋	26° 15′ ♋
Latitude of the Moon [Lat. ☾]	5° 50⅙′ south [M.]	4° 53¼′ south [M.]	4° 55′ south [M.]

On 24 October [DIE 24 OCTOBRIS.¹]

Time	Reading	Value
6^h 4½^m [H.6 M.4½]	Distance of the eastern limb of the Moon from the bright star of the feet of ♊ [Diſtantia orient. limbi ☾^{æ} a lucida pedum ♊]	23° 46¼′
	Semidiameter of the Moon [Semidiameter ☾^{æ}]	15′ 45″ subt. [ſubt.]
	Distance of the centre of the Moon [Diſtantia Centri ☾^{æ}]	23° 30′ 30″
	Declination of the centre of the Moon [Declinatio Centri ☾^{æ}]	15° 7′ north [B.]
	Declination of the foot of ♊ [Declinatio pedis ♊]	16° 40′
	Right ascension of the foot of ♊ [Aſcenſio recta pedis ♊]	93° 25¼′

Time	Reading	Value
	Right ascension of the Moon [Aſcenſio recta ☾ᴿᴬ]	117° 49′ 30″
	Corresponding longitude [Reſp. Longitudo]	26° 56⅙′
6ʰ 12ᵐ [H.6 M.12]	From the heart of ☌, the longitude of the Moon [a Corde ☌ Longit. ☾ᴿᴬ]	27° 1½′
	See below [vide infra.]. The difference [Dᶠᵃ]	5′ 20″

Label	Value
BA	74° 53′
CA	73° 20′
BC	23° 30½′
BAC	24° 24¼′

If, therefore, for the latest time, when the Moon was nearest to the 90th degree, its longitude from the heart of ☌ is put at 27° 1′ ♊, the error will be imperceptible [Si itaqve ad ultimum tempus qvando ☾ fuit proxima 90ᵐᵒ gradui ponatur ejus longitudo a corde ☌ 27 1 ♊, inſenſibiliter aberretur.].[14]

[1] From codex V [E codice V.].

[2] Compare *Progymnasmata*, p. 462 (*Opera*, vol. II, p. 412) [Cf. Prog. p. 462 (Op. T. II p. 412).].

On 25 October, a.m. [DIE 25 OCTOBRIS A. M.]

At 6ʰ 22ᵐ, the time reduced: 24ᵈ 17ʰ 52ᵐ p.m. [H. 6.22, Tempus reductum 24ᵈ 17ʰ 52ᵐ P. M.].

	From observation [Ex obſeruatione]	Alphonsine, Cyprian's [Alphonſ. Cypri.]	Prutenic, Mästlin's [Prut. Mæſtl.]
Longitude [Long.]	10° 43⅓′ ☌	9° 56½′ ☌	9° 57′ ☌
Latitude [Lat.]	5° 29⅓′ south [M.]	4° 32′ south [M.]	4° 33½′ south [M.]

The Moon was then 1⅙ʰ from the 90th degree towards the rising [Diſtabat tunc ☾ a 90 Gr. ad ortum H.1⅙.]. Afterwards, with the Moon ⅓ of an hour from the 90th degree towards the rising, at 7ʰ 11½ᵐ, the time reduced: 24ᵈ 18ʰ 41ᵐ p.m. [Poſtea ☾ a 90 Gr. ad ortum diſtante ⅓ vnius Horæ, H. 7 11½′, Tempus reductum 24ᵈ 18ʰ 41ᵐ P. M.].

[14] the sign after 27 1 is printed ♊ here, while the Moon's longitudes for 24 October in the two comparison tables above are printed with ♋ (26 53⅓ ♋ and 27 4⅝ ♋). It is given as printed, and no correction is made.

	From observation [Ex obſeruatione]	Alphonsine, Cyprian's [Alphonſ. Cypri.]	Prutenic, Mästlin's [Prut. Mæſtl.]
Longitude [Long.]	11° 1′ ♌	10° 22′ ♌	10° 24½′ ♌
Latitude [Lat.]	5° 30⅓′ south [M.]	4° 31′ south [M.]	4° 32′ south [M.]

The Moon at the 90th degree at 7^h 29^m [☾ apud 90 Gradum H. 7 29′.].

	From observation [Ex obſeruatione[1]]	Alphonsine, Cyprian's [Alphonſ. Cypri.]	Prutenic, Mästlin's [Prut. Mæſtl.]
Longitude [Long.]	11° 10′ ♌	10° 33⅓′ ♌	10° 36′ ♌
Latitude [Lat.]	5° 30⅙′ south [M.]	4° 31′ south [M.]	4° 32¼′ south [M.]

On 26 October, a.m. [DIE 26 OCTOBRIS A. M.]

At 8^h $56½^m$ [Hora 8 56½′.].

	From observation [Ex obſeruatione]	Alphonsine, Cyprian's [Alphonſ. Cypri.]	Prutenic, Mästlin's [Prut. Mæſtl.]
Longitude [Long.]	25° 18′ ♌	25° 10′ ♌	25° 25′ ♌
Latitude [Lat.]	5° 1⅓′ south [M.]	3° 51′ south [M]	3° 51′ south [M.]

The Moon was then at the 90th degree [Fuit tunc ☾ apud 90 Grad.]. Around noon, with the Moon about 3^h from the 90th degree towards the setting, at 11^h 54^m [Circa Meridiem ☾ a 90 G. diſtante ad occaſum Horis 3 fere, H. 11 M. 54.]:

	From observation [Ex obſeruatione]	Alphonsine, Cyprian's [Alphonſ. Cypr.]	Prutenic, Mästlin's [Prut. Mæſtl.]
Longitude [Long.]	27° 5′ ♌	26° 53′ ♌	27° 10′ ♌
Latitude [Lat.]	4° 59′ south [M.]	3° 44′ south [M.]	3° 45′ south [M.]

On 26 October, in the morning [DIE 26 OCTOBRIS MANE.[2]]

At 8^h 57^m the Moon near the ninetieth degree [H. 8 M. 57 ☾ juxta nonageſ. grad.].

Reading	Value
Right ascension of the centre of the Moon from the Sun [Aſcenſio recta Centri ☾^{æ} a ☉]	73° 58′
Right ascension of the Sun [Aſcenſio recta ☉^{lis}]	219° 59′
Therefore the right ascension of the Moon [Ergo Aſcenſio recta ☾^{æ}]	146° 1′

Reading	Value
Declination of the Moon [Declinatio ☾ᵉ]	8° 24′ north [B.]
Corresponding longitude [Reſp. Longitudo]	25° 26′ ♌
Subtract for the latitude of the Moon [Subtrahe pro latitud. ☾ᵉ]	6′
Therefore the true longitude of the Moon with respect to its own circle [Ergo vera longitudo ☾ᵉ reſpectu proprij circuli]	25° 20′ ♌

On 29 October, a.m. [DIE 29 OCTOBRIS A. M.]

At 5ʰ 14½ᵐ the clock was verified by the eye of ♉; it was running slower by only 1½ᵐ, and this deficiency was beyond two days from when it was corrected [?] [H. 5 M. 14½ verificabatur Horologium ad oculum ♉ quod ſaltem 1½ Minuto tardius ibat, isque defectus erat vltra bidui quo corrigebatur.].

Afterwards the Moon was observed, which was near the rising and then had a large parallax [Poſtea obſeruabatur ☾ quæ erat iuxta ortum habuitque tunc magnam parallaxin.].

Time	Reading	Value
5ʰ 38ᵐ [H.5 38′]	*The declination of the upper horn was [Fuit declin. ſuper. cornu]*	*4° 14′ south [M.]*
5ʰ 40½ᵐ	*Declination of the lower horn [Declin. infer. cornu]*	*4° 42½′*

The altitude of the upper horn of the Moon about these times was 13° 8½′, but afterwards [Alt. ſuperioris cornu ☾ fuit circa hæc tempora 13 8½, ſed poſtea]

Time	Reading	Value
5ʰ 42¾ᵐ	*Repeated declination of the upper horn [Repetita decl. ſuper. cornu]*	*4° 15¼′*

It then had an altitude at the lower limb of 13° 14¼′ [Habuit tunc altitudinem in inferiori limbo 13 14¼.].

Time	Reading	Value
5ʰ 44¼ᵐ	*Declination of the lower horn [Declin. inf. cornu]*	*4° 44′*
	Declination of the upper [Declin. ſuper.]	*4° 15¼′*
	Diameter	*28¾′*
	Therefore at 5ʰ 43ᵐ the declination of the centre of the Moon was [Ergo Hora 5 M. 43 fuit Declin. centri ☾]	*4° 30′*

Time	*Eastern limb [Or. limbus] of the Moon, east [☾ or.]*	*The heart of ♌, also east [etiam or.]*	*Distance [Diſt.], equatorial [æquat.]*
5ʰ 48¾ᵐ	*56° 34′*	*16° 17′*	*40° 17′*
5ʰ 50⅓ᵐ	*56° 14½′*	*15° 55½′*	*40° 19′*
	The altitude of the lower limb of the Moon was then 13° 59⅔′ [Fuit Alt. infer. limbi ☾ tunc 13 59⅔]		

Time	*Eastern limb [Or. limbus] of the Moon, east [☾ or.]*	*The heart of ♌, also east [etiam or.]*	*Distance [Dist.], equatorial [æquat.]*
5h 51½m	*55° 53½′*	*15° 34′*	*40° 19½′*
	The altitude of the lower limb of the Moon was then 14° 12⅔′ [Fuit tunc Alt. infer. limbi ☾ 14 12⅔]		
5h 53⅓m	*55° 28¾′*	*15° 7½′*	*40° 21¼′*
	The altitude of the Moon was then 14½° [Fuit Alt. ☾ tunc 14½.]		

Time	Reading	Value
5h 55½m	*Declination of the upper limb of the Moon [Decl. super. limbi ☾]*	*4° 17½′ south [M.]*
5h 56½m	*Declination of the lower limb [Decl. infer. limbi]*	*4° 47½′*
	Diameter	*0° 30′*

Therefore at 5h 56m the declination of the centre of the Moon was 4° 32½′ south [Ergo Hora 5 Minuto 56 fuit Declin. centri ☾ 4 32½ Australina.].

Time	Reading	Value
7h 17m	*Declination of the upper horn of the Moon [Declin. super. cornu ☾]*	*4° 35′*
7h 18m	*Declination of the lower limb [Declin. infer. limbi]*	*5° 5′*
	The altitude of the lower limb was then [Fuit tunc Alt. infer. limbi]	*22° 22′*

Time	*Eastern limb of the Moon [☾ or. limb.], east [or.]*	*♃, west [occid.]*	*Distance [Dist.], equatorial [æquat.]*	*Altitude of the lower [Alt. inf.] limb of the Moon [limbi ☾]*
7h 19½m	*34° 37¾′*	*46° 26′*	*81° 3¾′*	
7h 21½m	*34° 6¾′*	*46° 57′*	*81° 3¾′*	*22° 58½′*
7h 23m	*33° 42¼′*	*47° 22′*	*81° 4¼′*	*23°*
7h 24½m	*33° 22½′*	*47° 43′*	*81° 5½′*	
7h 26¾m	*32° 53½′*	*48° 12¾′*	*81° 6¼′*	*23° 48½′*
7h 28m	*32° 33¼′*	*48° 33½′*	*81° 6¾′*	*24° 0′*

Time	Reading	Value
7h 30⅙m	*Declination of the upper limb of the Moon [Declin. super. limbi ☾]*	*4° 39′*
7h 31m	*Declination of the lower limb [Declin. infer. limbi]*	*5° 6½′*
	Diameter	*27½′*

[1] Compare *Progymnasmata*, p. 462 (*Opera*, II, pp. 412–413) [Cf. Prog. p. 462 (Op. II pp. 412—413).].

[2] From codex V [E codice V.].

Time	Eastern limb of the Moon, east	♃, west	Equatorial distance	Altitude of the lower limb of the Moon
7h 34¾m	*30° 55½′*	*50° 15′*	*81° 10½′*	*24° 5′*
7h 36m	*30° 35⅙′*	*50° 36′*	*81° 11⅙′*	
7h 37½m	*30° 14¾′*	*50° 56½′*	*81° 11¼′*	*24⅙°*

Time	Reading	Value
7h 43m	*Declination of the upper limb [Declin. ſuper. limbi]*	*4° 40′*
7h 43¾m	*Declination of the lower limb [Declin. infer. limbi]*	*5° 10′*
		30′

The altitude of the Moon was then 24° 34½′ with respect to the lower limb [Tunc fuit. Alt. ☾ 24 34½ quo ad inferiorem limbum.].

Time	Reading	Value
7h 45½m	*Repeated, upper limb [Repetita ſuper. limbi]*	*4° 41′*
7h 46½m	*Repeated, lower [Repetita infer.]*	*5° 10′*
	Diameter	*29′*
	The altitude of the lower limb was then [Fuit tunc Alt. infer. limbi]	*24° 45′*
7h 48¼m	*Repeated declination, upper [Repetitadeclin.ſuper.]*	*4° 42′*
7h 49⅓m	*Repeated, lower [Repetita infer.]*	*5° 11¾′*
		30′
	The altitude of the Moon, as before, was then [Alt. ☾ vt prius tunc fuit]	*24° 55′*
7h 50¾m	*Declination of the lower limb of the Moon [Declin. infer. limbi ☾]*	*5° 11½′*
7h 52½m	*Declination of the upper limb of the Moon [Declin. ſuper. limbi ☾]*	*4° 43′*
	The altitude of the lower limb was then [Fuit tunc Alt. infer. limbi]	*25° 11½′*
8h 39m 10s	The Sun from the meridian towards the east [⊙ a Meridie ad ort.]	50° 22′
8h 40m 50s	for the clock [pro horologio]	49° 56′
8h 43⅙m	Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]	4° 54¼′ south [M.]
	Declination of the lower limb of the Moon [Declin. infer. limbi ☾]	5° 24½′
	Altitude of the lower limb by the lesser quadrant [Alt. infer. limbi per Q. min.]	27¾°

Time	Equatorial distance [Diſt. æquat.] of the centre of the Sun and the eastern [centri ⊙ & or.] limb of the Moon [limbi ☾]	Declination of the Sun [Decl. ⊙], south [auſt.]	Altitude of the Sun [Alt. ⊙]	Altitude of the lower [Alt. inf.] limb of the Moon [limbi ☾]
8h 50m	34° 50½′	16° 28′	7° 25⅓′	27⅚°
8h 55m	34° 49½′	16° 28½′	7° 54⅔′	27° 50′
8h 59⅓m	34° 43¾′, uncertain because of clouds [incerta propter nubes.]	16° 28½′	8° 18½′	27° 55′

Time	Reading	Value
$9^h\ 5^m$	Repeated declination of the upper horn of the Moon [Repetita decl. ſuper. cornu ☾]	4° 57′
$9^h\ 6½^m$	Declination of the lower limb of the Moon [Decl. infer. limbi ☾]	5° 26′

N.B. In the following observations it was clearer [N.B. in ſequentibus obſeruationibus erat ſerenius.].

Time	Equatorial distance of the centre of the Sun and the eastern limb of the Moon	Declination of the Sun, south	Altitude of the Sun	Altitude of the lower limb of the Moon
$9^h\ 8½^m$	34° 45′	16° 29′	9° 10′	
$9^h\ 11^m$	34° 44½′	16° 29½′	9° 23′	
$9^h\ 14^m$	34° 42½′	16° 29¾′	9° 41′	28° 30′
$9^h\ 17½^m$	34° 41′	16° 30′	10° 1⅓′	28° 40′
$9^h\ 20⅚^m$	34° 39′	16° 30′	10° 16⅔′	29° 0′

Time	Reading	Value
$9^h\ 23^m$	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	4° 59½′
$9^h\ 24½^m$	Declination of the lower horn of the Moon [Decl. infer. cornu ☾]	5° 29½′
$9^h\ 44^m$	Observed declination of the Sun [Decl. ☉ obſeruata]	16° 31¾′ south [M.]
	Corresponding apparent place of the Sun [Reſp. locus ☉ viſus]	15° 29′ ♏

At $0^h\ 32^m$ p.m. the Moon in the 90th degree, according to calculation [H.0 32 P.M. ☾ in 90 Gr. ſecundum ſupputationem.].

On 3 November, in the evening [DIE 3 NOUEMBRIS AD VESPERAS.]

Time [Tempus], h m s [H. M. S.]	Altitude of the upper horn of the Moon [Alt. ſuper. cornu ☾]	Azimuth of the western [Azim. occid.] limb of the Moon from [limbi ☾ a] the meridian towards the west [Mer. ad occ.]	Declination of the Moon [Decl. ☾], south [Merid.]	Horn [cornu]
$4^h\ 48½^m$	10° 38′	29° 15′	19° 12′	upper [ſup.]
$4^h\ 51⅓^m$	10° 26′	29° 55′	19° 37′	lower [inf.]
$4^h\ 58^m$	9° 59′	30° 50′	19° 13′	upper [ſup.]
$5^h\ 1^m\ 40^s$	9° 42½′	31° 52′		
$5^h\ 3^m\ 10^s$	9° 35′	32° 30′	19° 13½′	upper [ſup.]
$5^h\ 4^m\ 50^s$	9° 30′	32° 47½′	19° 14′	upper [ſup.]

Time [Tempus], h m s [H. M. S.]	Altitude of the upper horn of the Moon [Alt. ſuper. cornu ☾]	Azimuth of the western [Azim. occid.] limb of the Moon from [limbi ☾ a] the meridian towards the west [Mer. ad occ.]	Declination of the Moon [Decl. ☾], south [Merid.]	Horn [cornu]
$5^h\ 7^m\ 40^s$	9° 29¾′	33° 24′	19° 13⅔′	upper [ſup.]

In the following it was clearer, and they are more exact [In ſequentibus erat ſerenius & ſunt exactiores.].

Time, h m s	Altitude of the upper horn of the Moon	Azimuth of the western limb of the Moon from the meridian towards the west	Declination of the Moon, south	Horn
$5^h\ 15^m\ 0^s$	8° 46′	35° 0′	19° 12′	upper [ſup.]
			19° 38′	lower [inf.]
$5^h\ 21^m\ 0^s$	8° 20′	36° 13′	19° 11½′	upper [ſup.]
			19° 38½′	lower [inf.]
$5^h\ 24^m\ 30^s$	8° 2¼′	37° 0′	19° 10½′	upper [ſup.]
			19° 37½′	lower [inf.]

At $5^h\ 37^m\ 50^s$ the bright star of the Vulture [Lucida Vulturis] from the meridian towards the west, 16° 39½′. From this it will be possible to verify the clock by the new meridian[1] [5 37 50 Lucida Vulturis a meridie ad occaſum 16 39½. Hinc poterit verificari Horologium ad nouum Meridianum.[1]].

On 4 November, p.m. [DIE 4 NOUEMBRIS P. M.]

At $2^h\ 55^m$ the Moon around the 90th degree [H.2 M.55 ☾ circa 90 Grad.].

Time	Reading	Value
$1^h\ 59½^m$	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	18° 38½′ south [M.]
$2^h\ 0⅓^m$	Declination of the lower horn of the Moon [Decl. infer. cornu ☾]	19° 5′
	Diameter of the Moon [Diameter ☾]	0° 26½′
	The altitude was then [Tunc fuit Alt.] — upper horn [ſuper. cornu]	13⅓°
$2^h\ 5^m$	Declination of the upper horn, repeated [Decl. ſup. cor. repet.]	18° 38½′ south [M.]
	lower horn [infer. cornu]	19° 4′
	Altitude of the upper horn of the Moon [Alt. ſuper cornu ☾]	13½°

Time [Tempus]	Distance between the western [Dist. inter occ.] limb of the Moon and [limb. ☾ &] the centre of the Sun [centrum ☉] by the sextant [per Sext.]	Altitude [Altit.] of the Sun [☉]	Altitude of the upper [Alt. super.] horn of the Moon [cornu ☾]
2^h 10⅔^m	48° 1¼′	10° 50′	13⅚°
2^h 15⅔^m	48° 3′	10° 40′	13° 56′
2^h 18¼^m	48° 3¾′	10° 30′	14° 0′
2^h 20¾^m	48° 4¼′	10° 20′	14° 5′

At 2^h 23^m the declination of the Sun was 18° 14′; the altitude of the Sun was then 10° [Fuit declin. ☉ 18 14, Alt. ☉ tunc fuit 10°.].

Time	Reading	Value
2^h 25^m	Declination of the upper horn of the Moon [Declin. super. cornu ☾]	18° 36½′ south [M.]
	lower horn [infer. cornu]	19° 3½′
	Altitude of the upper horn [Alt. superioris cornu]	14¼°

[1] On the new meridian, compare above, p. 12 [De novo meridiano cf. supra p. 12.].

Time	Reading	Value
2^h 28^m	Repeated declination of the Sun [Repetita Declin. ☉]	18° 13¾′
	Altitude of the Sun [Alt. ☉]	9⅚°
2^h 31^m	Repeated declination [Repet. decl.] — upper horn [sup. cornu]	18° 36½′
	lower horn [infer. cornu]	19° 3½′
	Diameter of the Moon [Diameter ☾]	0° 27′

Time [Tempus]	Distance of the western limb [Dist. occ. limbi] of the Moon from the centre of the Sun [☾ a centro ☉]	Altitude [Altit.] of the Sun [☉]	Altitude of the upper [Alt. super.] horn of the Moon [cornu ☾]
2^h 37^m	20^s 48° 9½′	9° 0′	14° 37′
2^h 40^m	38^s 48° 11′	8° 45′	14° 46′
2^h 43^m	0^s 48° 12⅙′	8° 30′	14° 48′
2^h 45^m	35^s 48° 13¼′	8° 15′	14° 55′
2^h 50^m	0^s 48° 15¼′	8° 0′	15° 1′
2^h 52^m	*45^s 48° 16¾′*	*7° 45′*	*15° 10′*

Time	Reading	Value
2^h 55^m	*Declination of the upper horn [Declin. superioris cornu]*	*18° 36′*
2^h 56¼^m	*Declination of the lower horn [Declin. infer. cornu]*	*19° 4′*
	Visible diameter of the Moon [Diameter visibilis ☾]	*0° 28′*
2^h 57½^m	*Apparent declination of the centre of the Sun [Declin. centri ☉ visa]*	*18° 12½′*
	The altitude of the Sun was then [Fuit tunc Alt. ☉]	*7° 15′*

The altitude of the Moon was then about 15⅙°, and that with respect to the upper horn of the Moon [Fuit tunc lunæ Alt. 15⅙ quaſi, idque quo ad ſuperius cornu ☾ attinet.].

Time	*Distance of the western [Diſt. occ.] limb of the Moon from the Sun [limb. ☾ a ☉]*	*Altitude of the Sun [Alt. Solis]*	*Altitude of the upper [Alt. ſuper.] horn of the Moon [cornu ☾]*
3h 0½m	*48° 20′*	*7° 0′*	*15° 13′*
3h 2m	*48° 20¾′*	*6° 50′*	*15° 14′*
3h 3¾m	*48° 22′*	*6° 40′*	*15° 18′*
3h 5¾m	*48° 23′*	*6° 30′*	*15° 19′*

Time	Reading	Value
3h 7¼m	*Declination of the Sun [Declin. Solis]*	*18° 12′*
	The altitude of the Sun was then [Alt. Solis tunc fuit]	*6° 20′*
3h 9½m	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*18° 36′*
3h 10½m	*lower horn [infer. cornu]*	*19° 3¼′*
	Diameter	*0° 27¼′*
	Altitude of the upper horn of the Moon [Altitudo ſuper. cornu ☾]	*15° 20′*

For this reason the earlier altitudes of the Moon are not exact enough in the minutes themselves [Quapropter priores ☾ altitudines non ſunt in ipſis minutis ſatis exactæ.].

H. M.	*Distance of the Moon, as before, from the Sun [Diſt. ☾ vt prius a ☉]*	*Altitude of the Sun [Alt. ☉]*	*Altitude of the Moon, as before [Alt. ☾ vt prius]*
3h 13¼m	*48° 25⅙′*	*5° 40′*	*15° 21′*
3h 15m	*48° 26′*	*5° 30′*	*15° 23′*
3h 16⅓m	*48° 27′*	*5° 25′*	*15° 25′*
3h 19⅓m	*48° 28′*	*5° 0′*	*15° 28′*

Time	Reading	Value
3h 21⅓m	*Declination of the Sun with one pinnule [Declin. ☉ vno pinnac.]*	*18° 10⅙′*
3h 22⅙m	*Declination of the Sun with the other pinnule [Declin. ☉ alt. pinnac.]*	*18° 10¼′*
	Altitude of the Sun then [Alt. ☉ tunc]	*4° 50′*
3h 26m	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*18° 35′ south [M.]*
3h 27½m	*lower horn [infer. cornu]*	*19° 2½′*
3h 28m 5s	*The western limb of the Moon crossed the meridian, and the eastern horn had an altitude of [Tranſiuit occidentalis limbus ☾ per Merid. & habuit orientale cornu altitudinem]*	*15° 29¾′*
	lower horn [inferius cornu]	*15° 2¾′*
	Diameter	*0° 27′*
3h 29¾m	*Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]*	*18° 35′*
	lower [infer.]	*19° 1½′*
	Apparent diameter of the Moon [Diameter ☾ app.]	*0° 26½′*

Then, to verify the clock, the distance of the Sun from the meridian was observed in this way. The clock, moreover, had been corrected sufficiently exactly at noon itself [Deinde pro horologio verificando obſeruabatur diſtantia ☉ a Meridiano in hunc modum. Erat autem horolog. in ipſo Meridie ſatis exacte correctum.].

H. M.	*The Sun from the meridian, west [☉ a Meridiano occ.]*	*Declination of the Sun [Declin. ☉] with one pinnule [vno pinn.]*	*Altitude of the Sun [Alt. ☉]*
$3^h\ 33½^m$	52° 11½′	18° 8′	3¾°
$3^h\ 35⅓^m$	52° 31½′	18° 7¾′	3½°
$3^h\ 36¾^m$	52° 53′	18° 7⅔′	3⅓°
$3^h\ 38½^m$	53° 17′	18° 7½′	3¼°

But these observations of the Sun are not safe enough for the clock because of the solar refraction, but the stars should rather be consulted. For it is hardly at all certain that the clock is over noon by about 5^m [Sed hæ obſeruationes in Sole non ſunt ſatis tutæ pro horologio ob refractionem Solarem, ſed conſulendæ ſunt potius ſtellæ. Nam quod quinis circiter ſcrupulis abundet a Meridie Horologium vix habet certitudinem aliquam.].

The observation of the Moon repeated, compared with the Vulture by the greater equatorial armillae. Equatorial distance from the Vulture, and that with respect to the western limb [Repetita obſeruatio ☾ ad Vulturem per Armillas maiores æquatorias collata. Diſtantia æquatoria a Vulture idque quoad occidentalem limbum.].

H. M.	*Declination of the lower limb of the Moon [Declin. inferioris limbi ☾]*	*Equatorial distance [Diſt. æquat.]*	*Altitude of the lower limb of the Moon [Alt. inf. limbi ☾]*
$4^h\ 59^m$	18° 57¼′	11° 1⅓′	16° 0′
$5^h\ 3¼^m$	18° 58′	10° 59½′	13° 0′
$5^h\ 7^m$	18° 58½′	10° 58′	12° 30′
$5^h\ 10⅓^m$	18° 59′		12° 20′
$5^h\ 13⅓^m$	18° 59½′	10° 58′	12° 0′

But note that the refraction of the Moon, in so low a position, may have caused it to appear as if stationary [Sed nota quod refractio ☾ in tam decliui ſitu cauſare potuerit, quod ipſa quaſi ſtationaria videretur.].

Afterwards, to verify the time, the Vulture was observed at an equatorial distance from the meridian by the armillae [Poſtea pro tempore verificando obſeruabatur Vultur in diſtantia æquatoria a Meridiano per Armillas.].

Time	Reading	Value
$5^h\ 15^m\ 30^s$ [H.5 M.15 30″]	*The Vulture, west [Vultur occ.]*	14° 35′
$5^h\ 16^m\ 55^s$		14° 55′
$5^h\ 18^m\ 0^s$		15° 11½′

From these it is gathered, with the ascension set at [Ex his colligitur, poſita Aſcenſ.]

right, of the bright star of the Vulture 292° 41′, and the right ascension of the Sun 229° 17′, from the proper restitution of each: that from noon up to now the clock had been advanced faster than it should by about 4½^{m} [Recta lucidæ Vulturis 292 41 & Aſcen. Recta ☉ 229 17 ex propria reſtitutione vtriusque, quod horologium a Meridie hucusque citius iuſto promotum fuerit M.4½ fere.]. But it must be noted that the clock had been corrected to the new finding of the meridian. The armillae, however, showed it according to the old one, and therefore exactly one minute more slowly; so in reality no more than 3½^{m} are wanting in the clock, by which it was running fast, and you can trust these observations, of Venus [♀] as well as of the Moon, well limited to this correction of the time, with fair certainty. For it was very clear and calm [Verum animadvertendum quod horologium correctum erat ad nouam Meridiani inuentionem. Armillæ vero ad veterem monſtrabant, ideoque vno Minuto exacte tardius, quare non deficiunt revera in horologio niſi M.3½ quibus citius ibat, atque his obſeruationibus tam in ♀ quam ☾ ad hanc temporis correctionem bene limitatis potes ſatis certo fidere. Erat enim bene ſerenum & tranquillum.].

At the next following noon, the transit of the Sun through the meridian showed that the clock had been advanced 7^{m} faster than it should from 5¼^{h} in the evening [In Meridie proxime ſequenti Horologium 7 Minutis iuſto velocius ab H. 5¼ veſpertina promotum fuiße, Solis tranſitus per Meridianum indicauit.].

Investigation of the place of the Moon from its observation from the Sun, for the day of 4 November[1] [Inquiſitio loci ☾^{æ} ex obſervatione ejus a ☉ ad diem 4 Novemb.[1]]

Time	Reading	Value
2^{h} 52^{m} [H.2 M.52]	The Moon was in the ninetieth degree from the Ascendant [fuit ☾ in nonageſ. gradu ab Aſcendente.]	
2^{h} 51⅓^{m} [H.2 M.51⅓]	according to a fairly precise correction of the clock [juxta correctionem Horologij ſatis ſcrupuloſum]	
	Apparent [viſa]:	
	right ascension [Aſcenſio recta]	229° 28′ 0″
	declination, south [Declinatio M.]	18° 13′ south [M.]
	Equation of time 23′, sub.; from which apparent and mean [Æqvatio temp. 23′ ſub. unde viſa & æqvalis]	
	The right ascension of the Sun is set at [Aſcenſio recta ☉^{lis} ponatur]	229° 27′ 20″[2]
	Distance of the centre of the Sun and the western limb of the Moon [Diſtantia Centri ☉^{lis} & occid. limb. ☾^{æ}]	48° 16¾′
	Semidiameter of the Moon from its own observation [Semidiameter ☾^{æ} ex obſer. prop.]	14¼′
	Distance of the centre of the Moon from the centre of the Sun [Diſtantia Centri ☾^{æ} a Centro ☉^{lis}]	48° 31′ 0″
	Apparent declination of the Moon, south [Declinatio viſa ☾^{æ} Merid.]	18° 50′
	Angle of the ascensional difference [Angulus differentiæ Aſcenſionalis]	51° 21′ 4″
		229° 27′ 20″
	Right ascension of the Moon [Aſcenſio recta ☾^{æ}]	280° 48′ 24″
	Corresponding longitude [Reſp. Longitudo]	10° 15⅙′ ♑
	Latitude [Latitudo]	4° 19½′ north [B.]

Time	Reading	Value
	Arc of inclination, add. [Arcus inclinationis add.]	1¼′
	True longitude with respect to the Moon's own circle [Vera longitudo reſpectu proprij circuli ☾ᵉ]	10° 16′ 25″ ♍

On 5 November [DIE 5 NOUEMBRIS.]

The Moon was observed a little beyond the 90th degree [Obſeruabatur ☾ paulo vltra 90 Gradum.].

Time	Reading	Value
4^h 44½^m [H.4 M.44½]	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*16° 48¾′ south [M.]*
4^h 45^m	*Declination of the lower horn [Declin. infer. cornu]*	*17° 18⅔′*
	Diameter of the Moon [Diameter ☾]	*30′*

Time	*Azimuth of the western limb [Azim. occid. limbi]*	*Altitude of the upper horn [Alt. ſuper. cornu]*	*Altitude of the lower [Alt. inferioris]*
4^h 48^m 0^s	7° 0′	17° 2½′	16° 34′
4^h 52^m 7^s	8° 0′	16° 59′	16° 30′
5^h 0^m 25^s	10° 0′	16° 49½′	16° 19′

For the examination of the time the Vulture was presently observed, as follows [Pro examinatione temporis mox obſeruabatur Vultur vt ſequitur.].

At 5^h 1^m 32^s [H.5 1′ 32″] the Vulture was 13° 15′ from the meridian towards the setting, according to the emended correction of the meridian [Diſtabat Vultur a Meridiano verſus occaſum 13 15 iuxta correctionem Meridiani emendatam.].

Time	*Western azimuth of the Vulture [Vulturis Azim. occid.]*	*Altitude of the Vulture [Alt. vulturis]*	*Equatorial distance [Diſt. æquat.]*
5^h 10^m 8^s	20° 0′	*40° 29′ good [bona]*	*15° 21′*
	with the meridian verified by the armillae [verificato Merid. per Armillas.]		
5^h 13^m 33^s	21° 0′	*40° 18′*	*16° 13′*
5^h 16^m 20^s	22° 0′	*40° 11½′*	*16° 55′*

N.B. The times assigned have been verified [N.B. Tempora aßignata ſunt verificata.]. *From this let the clock be verified for limiting the lunar observations more exactly; the azimuths and the equatorial distances had also been corrected [Hinc verificetur horol. ad obſeruationes lunares exactius limitandas, erant etiam Azimuta & diſtantiæ æquatoriæ correctæ.].*

Note. The Moon was observed this evening among rather sparse clouds. The azimuths had been emended [Nota. ☾ obſeruabatur hoc veſperi inter rariusculas nubes. Azimuta erant emendata.].

On 6 November, p.m. [DIE 6 NOUEMBRIS P.M.]

At 3^h 27^m p.m. [H.3 27′ P.M.] the Moon was in the 90th degree, according to the computation [☾ in 90 Gradu iuxta ſupputationem.].

About the third hour the clock, which from noon had been advancing faster by $4\frac{1}{6}^m$, was corrected to the Sun [Circa horam tertiam Horologium correctum eſt ad Solem, quod a Meridie M.4⅙ velocius promouebatur.].

Time	Reading	Value
3^h 3^m 30^s [H.3 3′30″]	Declination of the upper horn of the Moon [Declin. ſuper. cor. ☾]	14° 29′ south [M.]
3^h 4^m 15^s	Declination of the lower horn [Declin. infer. cornu]	14° 57′
	Diameter of the Moon [Diameter ☾]	28′

[1] From codex V [E codice V.].

[2] In the margin: "For the refraction of the Sun 8¼, without parallax, at an altitude of 6°. Corresponding: add. to the right ascension 3′ 20″" [In margine: »Pro refractione ☉^{lis} 8¼ abſqve parall. in alt. 6°. Reſp. add. aſcen. rect. 3′ 20″«.].

Time [Tempus]	Altitude of the upper horn of the Moon [Alt. ſuper. cornu ☾]	Azimuth of the western limb of the Moon, from the meridian towards the rising [Azim. occid. limbi ☾ a Mer. ad ort.]
3^h 12^m 2^s	15° 44′	28° 0′
3^h 16^m 11^s	15° 58½′	27° 0′
3^h 20^m 42^s	*16° 20½′*	*26° 0′*
3^h 25^m 5^s	*16° 31′*	*25° 0′*
3^h 29^m 20^s	*16° 55¾′*	*24° 0′*

The upper horn of the Moon was observed in altitude, and the western limb of the Moon in the azimuths [Obſeruabatur ſuperius cornu ☾ in altitudine & occidentalis limbus ☾ in Azimutis.].

Time	Reading	Value
3^h 22^m 45^s [H3 22′45″]	*The equatorial distance between the Sun and the Moon was observed by the subterranean armillae [Inter ☉ & ☾ diſtantia æquatoria obſeruabatur per Armillas ſubterr.]*	*76° 22½′*
	The visible declination of the Sun, moreover, was then [Fuit autem tunc declinatio ☉ viſa]	*18° 38½′*

Note. Everywhere the western limb of the Moon and the centre of the Sun are taken; in the altitude, however, the upper horn of the Moon, as I said [Nota. Vbique accipitur occ. limbus ☾ & centrum ☉. In Altitudine vero ☾ ſuperius cornu, vt dixi.].

Time	*Declination of the Sun [Declin. ☉]*	*Equatorial distance of the Sun and the Moon [Diſt. æquat. ☉ & ☾]*
3^h 27^m 40^s	*18° 38′*	*76° 23′*

Time	*Declination of the Sun [Declin. ⊙]*	*Equatorial distance of the Sun and the Moon [Diſt. æquat. ⊙ & ☾]*
3^h $29\frac{3}{4}^m$	18° 37⅓′	76° 24¼′
3^h $31\frac{2}{8}^m$	18° 37′	76° 24¾′
3^h $34\frac{1}{3}^m$	18° 36½′	76° 25½′

Altitude of the Sun 3° [Alt. ⊙ 3 Grad.].

H. M. S.	*Altitude of the Moon [Alt. ☾]*	*Eastern azimuth [Azim. or.]*
3^h 33^m 25^s	17° 2½′	23° 0′
3^h 37^m 44^s	17° 14¼′	22° 0′
3^h 41^m 45^s	17° 22½′	21° 0′
3^h 45^m 55^s	17° 40′	20° 0′

Time	Reading	Value
3^h $39\frac{1}{2}^m$	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	14° 29½′
3^h 41^m	*Lower horn of the Moon [Infer. cornu ☾]*	14° 56′
	Observed diameter [Diameter obſeruatus]	0° 26½′
3^h 43^m	*Declination of the upper horn [Declin. ſuper. cornu]*	14° 28⅚′
3^h 44^m	*Declination of the lower horn [Declin. infer. cornu]*	14° 55½′
3^h $46\frac{3}{4}^m$	*Repeated declination of the upper horn [Repet. decl. ſup. cor.]*	14° 28½′
3^h 48^m	*Declination of the lower [Inferioris declinatio]*	14° 55′

Note. You can rely with fair safety on these lunar observations. It was very clear, and the Moon was near the 90th degree and not far from the greatest remotion of the epicycles. The azimuths are good and the altitudes good, but let the times be limited as follows [Nota. His obſeruationibus Lunaribus potes ſatis tuto te fundare. Erat bene ſerenum & ☾ erat iuxta 90 Gr. nec longe a maxima remotione Epicyclorum. Azimuta ſunt bona & Altitudines bonæ, ſed limitentur tempora vt ſequitur.].

Time	Reading	Value
5^h 7^m [H.5 M.7]	*When the Moon was on the meridian [Cum ☾ eßet in Meridiano]*	
	Altitude of the lower limb [Alt. inferioris limbi]	19° 17¼′
	of the upper [ſuperioris]	19° 49½′
	Visible diameter of the Moon [Diameter viſibilis ☾]	32¼′
5^h $9\frac{1}{2}^m$	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	14° 16′
5^h $10\frac{3}{4}^m$	*lower horn [infer. cornu]*	14° 45′
	Visible diameter [Diameter viſibilis]	0° 29′

Then, to verify the time, we observed the distance of the Vulture from the meridian in this way. The reckoning, moreover, is from the true corrected meridian [Deinde pro tempore verificando Vulturis a Meridiano diſtantiam obſeruauimus in hunc modum: Numeratio autem eſt a vero Meridiano correcto.].

Time	Reading	Value
	The Vulture, west [Vultur occidentalis]	
$5^h\ 12^m\ 45^s$ [$5^H 12^M 45''$]		$18°\ 15'$ [$18^G 15^M$]
$5^h\ 14^m\ 5^s$		$18°\ 37'$
$5^h\ 15^m\ 21^s$		$18°\ 59'$
$5^h\ 16^m\ 25^s$		$19°\ 14½'$
$5^h\ 17^m\ 55^s$		$19°\ 37'$
$5^h\ 19^m\ 8^s$		$19°\ 55'$
$5^h\ 20^m\ 1^s$		$20°\ 10'$

And from this the time of the preceding observations can be corrected with fair safety. The clock, moreover, had been corrected exactly at noon to the new emendation of the meridian, and the meridian distances of the Vulture also have regard to the new emendation of the meridian, and so also do the azimuths that were observed earlier on the Moon and Venus. Therefore you can rely with fair safety on these, for the Moon as well as for Venus, provided only that the time is rightly emended in this way and that account is taken of the refraction of Venus and of the lunar parallax when [the Moon] was outside the 90th degree [Atque hinc satis tuto potest corrigi tempus præcedentium obseruationum, erat autem Horologium in Meridie exacte correctum ad Nouam Meridiani emendationem & Vulturis distantiæ Meridianæ etiam Nouam emendationem Meridiani respiciunt, tum etiam Azimuta, quæ in ☾ & ♀ sunt prius obseruata. Quare potes satis tuto his te fundare tam in ☾ quam ♀ modo tempus hac ratione recte emendetur & refractionis ♀ habeatur ratio, parallaxeosque Lunaris, quando fuit extra 90 Gr.].

In addition, the Moon was observed at an equatorial distance from the Vulture in this way, and that with respect to the western limb [Luna insuper in distantia æquatoria a Vulture obseruabatur in hunc modum, idque quoad occidentalem limbum.].

Time	*Declination of the upper horn of the Moon [Declin. super. cornu ☾]*	*Declination of the lower limb [Decl. infer. limbi]*	*Equatorial distance from the Vulture [Dist. æquat. a Vulture]*
$5^h\ 30^m\ 40^s$ [5^H 14° 11′ 30^M 40″]			16° 14¾′
$5^h\ 34^m\ 10^s$		14° 44′	16° 15′
$5^h\ 38^m\ 25^s$		14° 43¾′	16° 16½′
$5^h\ 41^m\ 45^s$		14° 43½′	16° 18′

About these times of the observations the altitude of the Moon, and that with respect to the lower limb, was 18¾° [Fuit circa hæc tempora obseruationum Alt. lunæ idque quo ad inferiorem limbum 18¾].

Then the equatorial distance of the Vulture from the meridian was repeated, for a more exact and repeated examination of the clock, and that in this way [Deinde repetebatur distantia æquatoria Vulturis a Meridiano pro exactiori & repetita horologij examinatione, idque in hunc modum.].

Time	Reading	Value
5h 47m 58s [H.5 M.47 58″]	*The Vulture, west [Vultur occidentalis]*	*27° 26½′*
5h 49m 20s		*27° 50′*
5h 50m 17½s		*28° 3′*

From this the clock's indication can again be verified exactly; and it was observed fairly well, and the distance was taken from the true and corrected meridian, so that in all the preceding [observations] a more exact account can be sought with respect to the Moon and Venus [Hinc denuo poterit exacte verificari Horologij indicatio, eſtque ſatis bene obſeruatum & a vero Meridiano correctoque accepta diſtantia, vt in omnibus antecedentibus quoad ☾ & ♀ exactior ratio inquiri poßit.].

On 7 November, p.m. [DIE 7 NOUEMBRIS P. M.]

3h 45m [H.3 M.45]: the Moon in the 90th degree according to calculation [☾ in 90 Gr. iuxta calculum.].

At 3¼h [H.3¼] the clock was verified from the distance of the Sun from the meridian, to the effect that since noon it had been running slower by 2⅔m [Horologium ex Solis diſtantia a Meridiano verificatum eſt, quod a Meridie 2⅔ Minutis tardius ibat.].

Time	Reading	Value
3h 21½m [H.3 M.21½]	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	11° 25½′ north [B.]
	Declination of the lower horn [Decl. infer. cornu]	11° 53½′
	Diameter	0° 28′

Time	*Declination of the Sun [Declin. ☉]*	*Equatorial distance of the centre of the Sun and the western limb of the Moon [Diſt. æquat. centri ☉ & occ. limb. ☾]*	*Altitude of the Sun [Alt. ☉]*
3h 28m	*18° 52½′*	*87° 54½′*	*3¾°*
3h 30m	*18° 52′*	*87° 54¾′*	
3h 31⅔m	*18° 51¾′*	*87° 55¼′*	

These were observed with respect to the Sun and the Moon, yet on the understanding that an exact account be taken of the emendation of the time and of the solar refraction [Hæc quo ad Solem & ☾ obſeruabantur, ea ratione tamen, vt habeatur ratio exquiſita emendationis temporis & refractionis Solaris.].

Time	*Altitude of the upper limb of the Moon [Alt. ſuper. limbi ☾]*	*Azimuth of the western limb [Azim. occid. limbi]*
3h 33m 50s [3H33M50″]	*16° 49′*	*35° 0′*
3h 38m 7s	*17° 10¼′*	*34° 0′*
3h 42m 10s	*17° 29½′*	*33° 0′*
3h 46m 15s	*17° 43½′*	*32° 0′*

Time	*Altitude of the upper limb of the Moon [Alt. ſuper. limbi ☾]*	*Azimuth of the western limb [Azim. occid. limbi]*
3h 50m 23s	*18° 7′*	*31° 0′*
3h 58m 25s	18° 43¼′	29° 0′
4h 2m 29s	18° 59¾′	28° 0′
4h 6m 25s	19° 17¼′	27° 0′

The azimuths are true, according to the new meridian [Azimuta ſunt vera iuxta nouum Meridianum.].

Time	Reading	Value
3h 45m [H.3 M.45]	*Declination of the Moon in the upper horn [Declin. ☾ in ſuper. cornu]*	*11° 24′ south [Mer.]*
	Declination of the lower limb [Declin. infer. limbi]	*11° 51′*
	Apparent diameter [Diameter apparens]	*0° 27′*
4h 9⅓m	Declination of the upper horn of the Moon, repeated [Decl. ſuper. cornu ☾ repet.]	11° 19½′ south [M.]
	Lower horn of the Moon [Infer. cornu ☾]	11° 49′

Time	Between Venus and the western limb of the Moon, by the sextant [Inter ♀ & ☾ limb. occ. per Sext.]	Altitude of Venus by the least quadrant [Alt. ♀ per Quad. minim.]
4h 18m 55s [4H 18m 55s]	40° 55′	7⅙°
4h 22m 20s	40° 56⅔′	6⅚°
4h 27m 0s	40° 58′	6⅔°
4h 28m 25s	40° 59′	6½°
4h 30m 15s	40° 59⅙′	6° 25′
4h 32m 0s	41° 0′	6⅓°

Time	Altitude of Venus [Alt. ♀]	Declination of Venus, south [Declin. ♀ M.]	Equatorial distance of Venus and the western limb of the Moon [Diſt. æquat. ♀ & occid. limbi ☾]
4h 36m 46° 17′		25° 39½′	40° 46½′
4h 38m 46° 9′		25° 39½′	40° 46½′
4h 42m 36° 0′		25° 38½′	40° 47⅙′
4h 44m 55° 50′		25° 38′	40° 47½′
4h 47m 39° 40′		25° 37½′	40° 48½′

Time	Declination of the lower limb of the Moon, south [Decl. infer. limbi ☾ M.]	Equatorial distance of the western limb of the Moon from the bright star of the Vulture [Diſt. æquat. occid. limbi ☾ a luc. Vulturis]
4h 52m 23s	11° 44½′	28° 31¾′
4h 54m 40s	11° 44′	28° 32½′
4h 56m 37s	11° 44′	28° 33′
4h 58m 5s	11° 43′	28° 34½′

N.B. In the equatorial distances today those 15 minutes were not added everywhere, by which the Equator [Æquatur] [recte: Æquator] does not correspond to the true meridian; therefore, in emending the clock, care must be taken over this [N.B. In diſtantijs æquatorijs hodie non addebantur 15 illa Minuta vbique, quibus Æquatur non reſpondet vero Meridiano, quare pro emendatione Horologij hoc erit cauendum.].

On 10 November, p.m. [DIE 10 NOUEMBRIS P. M.]

5^h 23^m p.m. [H.5 23′P.M.]: the Moon was computed to be in the 90th degree[1] [☾ in 90 Gr. ſupputabatur.[1]].

Time	Reading	Value
4^h 26^m 13^s [4 26 13″]	Venus was distant from the meridian towards the west [Diſtabat ♀ a Merid. ad occ.]	18° 41′
4^h 27^m 48^s	Venus, west [♀ occ.]	19° 15′
	The declination of Venus was then [Fuit tunc decl. ♀]	25° 24′ south [M.]
4^h 28^m 47^s	Venus, west [♀ occ.]	19° 32′
4^h 30^m 35^s		19° 58′

From this the clock can be verified [Hinc poteſt verificari Horologium.].

Time	Reading	Value
4^h 34^m	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*0° 18½′*
	of the lower [inferioris]	*0° 51′ south [M.]*
4^h $38½^m$	*Declination of Venus [Declin. ♀]*	*25° 25½′*
	Equatorial distance between Venus and the western limb of the Moon [Diſt. æquat. inter ♀ & occid. limbum ☾]	*71° 52½′*
	Altitude of Venus 6½° by the least quadrant [Alt. ♀ 6½ per Q. minimum.]	
4^h 41^m	*Declination of Venus 25° 22½′, altitude of Venus [Declin. ♀ 25 22½, Alt. ♀]*	*6° 20′*
	Equatorial distance as before [Diſt. æquat. vt prius]	*71° 53′*
4^h $44½^m$	*Declination of Venus 25° 22½′; altitude [Decl. ♀ 25 22½ Alt.]*	*6⅙°*
	Equatorial distance [Diſt. æquat.]	*71° 54′*

[1] Written beside it in codex V: »the Moon actually in the 90th degree at 5^h 16^m« [Adſcriptum eſt in codice V: »☾ revera in 90 Gr. H.5 M.16«.].

Let the times be verified and the differences of the stars be taken exactly. From this the place of Venus can be verified from the Moon, and vice versa, yet on the understanding that the places of both of these are corrected from the fixed stars, and that from the following observations [Verificentur tempora & ſtellarum capiantur exacte differentiæ. Hinc poterit verificari locus ♀ a luna & viceverſa, ea tamen ratione, vt vtriusque harum loca e fixis corrigantur, idque ex ſequentibus obſeruationibus.].

Time	*The bright star of the Vulture, west [Lucida Vulturis occ.]*	*Western limb of the Moon, east [Occ. limbus ☾ or.]*	*Equatorial distance [Diſt. æquat.]*
5^h 3^m [5^H 3^M]	*19° 56½′*	*43° 25¾′*	*63° 22¼′*
5^h 5^m	*20° 28′*	*42° 57½′*	*63° 25½′*
5^h 6^m	*20° 41½′*	*42° 42½′*	*63° 24′*
5^h 7⅓^m	*21° 2½′*	*42° 20½′*	*63° 23′*

About these times the altitude of the upper horn of the Moon was 24° and the altitude of the Vulture 39° [Circa hæc tempora fuit Altitudo ſuperioris cornu ☾ 24 Graduum & Alt. Vulturis 39 Grad.].

Afterwards the Moon was observed approaching the 90th degree, as follows [Poſtea obſeruabatur ☾ appropinquans 90 Gradui vt ſequitur.].

Time	Reading	Value
5^h 15½^m [H.5 M.15½]	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*0° 13½′ south [M.]*
5^h 16⅔^m	*Declination of the lower limb of the Moon [Decl. infer. limbi ☾]*	*0° 43¾′*

The altitude of the Moon was then about 25° [Alt. ☾ tunc fuit quaſi 25 grad.].

Time	*The Vulture, west [Vultur occid.]*	*Western limb of the Moon, east [Occid. limbus ☾ or.]*	*Equatorial distance [Diſt. æquat.]*
5^h 18⅓^m	*23° 50¼′*	*39° 38½′*	*63° 28¾′*
5^h 19½^m	*24° 8¼′*	*39° 21½′*	*63° 29¾′*
5^h 21⅓^m	*24° 34½′*	*38° 54¾′*	*63° 29¼′*
5^h 22^m	*24° 49′*	*38° 40¾′*	*63° 29¾′*
5^h 23½^m	*25° 8′*	*38° 21′*	*63° 29′*

These equatorial distances must therefore be limited so that they can correspond exactly with reference to the Moon placed in the 90th degree [Limitandæ itaque ſunt hæ diſtantiæ æquatoriæ vt exacte reſpondere poßint iuxta ☾ in 90 Gr. poſitum.].

Time	Reading	Value
5^h 38^m [H.5 M.38]	Declination of the upper horn of the Moon, south [Declin. ſuper. cornu ☾ Auſtr.]	0° 10½′
5^h 40^m	Declination of the lower horn of the Moon [Declin. infer. cornu ☾]	0° 38½′

10 November, 5^h 16^m, 90°[1] [Die 10 Novemb. H.5 M.16 90°.[1]]

Time	Reading	Value
5^h 24^m [H.5 M.24]	Difference of ascension of the Moon from the Vulture [Different. Aſcenſ. ☾^{æ} a Vulture]	63° 44′
	Right ascension of the Vulture [Aſcenſio recta Vult.]	292° 38′

Time	Reading	Value
	Therefore the right ascension of the Moon [Ergo Aſcenſio recta ☾☌]	356° 22′
	Declination of the Moon [Declinatio ☾☌]	0° 27′ south [M.]
	Corresponding longitude [Reſp. Longitudo]	26° 29⅙′ ♓
	for the latitude [pro latitudine]	4⅕′
	Therefore the true longitude [Ergo vera longitudo]	26° 24⅚′

[1] From codex V [E codice V.].

On 11 November, p.m. [DIE 11 NOUEMBRIS P. M.]

6^h 17^m [H.6 M.17]: the Moon in the 90th degree from the Ascendant, according to computation [☾ in 90 Gr. ab Aſcendente iuxta ſupputationem.].

Time	Reading	Value
4^h 40⅓^m	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*3° 25½′ north [B.]*
	lower horn [inſer. cornu]	*2° 54′*
	Apparent diameter [Diameter appar.]	*0° 31½′*
	Altitude of the upper horn of the Moon [Alt. ſuper cornu ☾]	*18¾°*
4^h 46^m	*Declination of Venus [Declin. ♀]*	*25° 16¾′*
	Equatorial distance from the western limb of the Moon [Diſt. æquat. ab occid. limbo ☾]	*81° 49½′*
	Altitude of Venus 6° 36′, altitude of the Moon [Alt. ♀ 6 36, Alt. ☾]	*19½°*

Afterwards the clock was verified by the bright star of ♈, for the sake of the following lunar observations, and it was found that at 5^h 45½^m on the clock the time, according to the equatorial distance of the bright star of ♈ from the meridian, should have been 5^h 46^m, which differs from the true by only half a minute; and therefore the clock was not otherwise rectified [Poſtea verificabatur Horologium ad lucidam ♈ propter ſequentes lunares obſeruationes & inuentum eſt quod hora 5 45′½ in horologio iuxta diſtantiam æquatoriam lucidæ ♈ a Meridiano debuerit tempus eſſe 5^H 46^m, quod ſaltem dimidio ſcrupulo differt a vero, ideoquo non rectificabatur aliter horologium.] [recte: ideoque].

There follow observations of the Moon as it was itself approaching the 90th degree [Sequuntur obſeruationes Lunæ ipſa ad 90 Gradum applicante.].

Time	*Declination of the upper horn [Decl. ſuper. cornu]*	*Declination of the lower horn [Decl. infer. cornu]*	*Apparent diameter [Diameter apparens]*
5^h 55½^m	*3° 38′ north [B.]*	*3° 4′*	*34′*
5^h 59^m	*3° 38½′*	*3° 5′*	*33½′*
6^h 2^m	*3° 38½′*	*3° 6′*	*32½′*

From this let the declination of the centre of the Moon at about the time of the sixth hour from noon be set at 3° 22′, and you will err imperceptibly [Hinc ponatur centri ☾ iuxta horam ſextam a Meridie Declinatio 3 22 & inſenſibiliter aberrabis.].

Afterwards the equatorial distances of the Moon were observed as follows [Poſtea obſeruabantur æquatoriæ diſtantiæ ☾ vt ſequitur.].

Time	*Western limb of the Moon, east [Occ. limbus ☾ or.]*	*The bright star of the Vulture, west [Vulturis lucida occ.]*	*Equatorial distance [Diſt. æquat.]*	*Altitude of the upper horn [Alt. ſup. cornu]*
6h 6m	*39° 23′*	*35° 34½′*	*74° 57½′ doubtful [dub.]*	
6h 8¼m	*38° 49′*	*36° 7′*	*74° 56′ better [melior]*	*29° [29G]*
6h 10⅓m	*38° 16½′*	*36° 39½′*	*74° 56′*	*29¼°*
6h 13⅔m	*37° 30′*	*37° 28′*	*74° 58′*	*29½°*
6h 15⅙m	*37° 7¾′*	*37° 53′*	*75° 0¾′*	*29¾°*

Afterwards the Moon was observed from the bright star of ♈ as follows [Poſtea obſeruabatur ☾ a Lucida ♈ vt ſequitur.].

Time	*The bright star of ♈, east [Luc.♈ or.]*	*Western limb of the Moon, east [Occ. limbus ☾ or.]*	*Equatorial distance [Diſt. æquat.]*	*Altitude of the Moon [Alt. ☾]*
6h 18⅚m	*54° 32½′*	*36° 20′*	*18° 12½′*	*30°*
6h 20⅓m	*54° 9½′*	*35° 57¼′*	*18° 12¼′*	*30¼°*
6h 21½m	*53° 47¾′*	*35° 36¼′*	*18° 11½′ uncertain [incerta]*	
6h 23⅙m	*53° 23¾′*	*35° 10¾′*	*18° 13′*	*30½°*
6h 25m	*52° 59½′*	*34° 47¼′*	*18° 12¼′*	*30⅔°*
6h 26⅔m	*52° 33′*	*34° 23½′*	*18° 9½′*	*30⅚°*
6h 29m	*51° 58½′*	*33° 48′*	*18° 10½′*	*31°*
The lunar altitudes taken at the upper horn throughout [Altitudines Lunares in ſuperiori cornu vbique ſumptæ.]				
6h 31⅓m	*51° 20′*	*33° 12′*	*18° 8′ good [bona]*	*31⅙°*
6h 32⅚m	*50° 56½′*	*32° 48½′*	*18° 8′*	*31½°*

Let these be limited, and from this let the right ascension of the Moon be sought [Hæc limitentur & hinc inquiratur ☾ Aſc. R.].

Time	Reading	Value
6h 35m	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*3° 41¾′*
	Declination of the lower horn of the Moon [Declin. infer. cornu ☾]	*3° 13½′*
6h 39m	*Declination of the upper limb [Declin. ſuper. limbi]*	*3° 45′ better than the previous [melior priore]*
6h 40m	*Declination of the lower [limb] [Declin. inferioris]*	*3° 14½′*

Time	Reading	Value
	Diameter of the Moon [Diameter ☾]	*0° 30½′*
6h 41⅓m	*Declination of the upper horn [Declin. ſuper. cornu]*	*3° 45′*
6h 42½m	*Declination of the lower horn [Declin. infer. cornu]*	*3° 14½′*
		0° 30½′

Note. You can rely quite safely on these observations of the Moon, for it was very clear and quite calm, and the Moon was near the 90th degree; but they must be limited vice versa, so that they correspond with one another [Nota. His obſeruationibus ☾ potes te ſatis tuto fundare, erat enim bene ſerenum & ſatis tranquillum & ☾ iuxta 90 Gradum, ſed oportet viceverſa limitare vt inuicem ſibi reſpondeant.].

Time	Reading	Value
6h 45½m	Repeated declination of the upper horn [Repet. decl. ſuper. cor.]	3° 45½′ north [B.]
6h 46⅓m	Declination of the lower limb [Decl. infer. limbi]	3° 14′
6h 52m 31s [6 52 31″]	Distance of the bright star of the Vulture from the meridian, west [Diſt. luc. Vulturis a Mer. occ.]	47° 22′
6h 53m 22s	The Vulture, west [Vultur occ.]	47° 35′

By the equatorial armillae [per Armillas æquat.]. From this the clock can be verified [Hinc poteſt Horologium verificari.].

On 12 November [DIE 12 NOUEMBRIS.]

7h 18m p.m. [H.7 18′P.M.]: the Moon in the 90th degree from the Ascendant [☾ in 90 Gr. ab Aſcendente.].

Time	Reading	Value
6h 50m 55s [6 50′55″]	Saturn was distant from the meridian [Diſtabat ♄ a Mer.]	44° 0′
6h 55m 2s	toward the east [ad ortum]	42° 57′

From this let the clock be verified [Hinc verificetur Horologium.].

Time	Azimuth of the western limb of the Moon from the meridian toward the east [Azim. occid. limbi ☾ a Mer. ad or.]	Altitude of the upper limb of the Moon [Alt. ſuper. limbi ☾]
6h 59m 58s	44° 0′	33° 51′
7h 3m 34s	43° 0′	34° 13′
7h 7m 26s	42° 0′	34° 34¾′
7h 11m 4s	41° 0′	34° 53½′
7h 14m 56s	40° 0′	35° 15¾′
7h 19m 10s	38° 43′	35° 36½′

Time	Reading	Value
$7^h\ 10^m$	Declination of the upper limb of the Moon [Declin. ſuper. limbi ☾]	7° 27′ north [B.]
	Declination of the lower limb [Declin. infer. limbi]	6° 58′
$7^h\ 22^m$	Repeated declination of the upper limb [Repet. decl. ſup. limbi]	7° 28′
	Declination of the lower limb [Declin. infer. limbi]	6° 58½′
	Diameter of the Moon [Diameter ☾]	29½′

Time [Tempus]	Azimuth of the western limb of the Moon, toward the east [Azim. occid. limbi ☾ ad ort.]	Altitude of the upper limb of the Moon [Alt. ſuper. limbi ☾]
$7^h\ 26^m\ 44^s$ [7^H 26^M 45^S]		36° 15¾′
$7^h\ 29^m\ 45^s$	36° 0′	36° 31½′
$7^h\ 33^m\ 20^s$	35° 0′	36° 48½′
$7^h\ 37^m\ 7^s$	34° 0′	37° 4½′
$7^h\ 40^m\ 32^s$	33° 0′	37° 22′

Time	Reading	Value
$7^h\ 43^m$	Declination of the upper limb [Decl. ſuper. limbi]	7° 30′ north [B.]
$7^h\ 44^m$	lower limb [infer. limbi]	7° 0¾′
	Apparent diameter [Diameter apparens]	0° 29¼′
$7^h\ 46^m\ 25^s$	The bright star of the Vulture, west [Lucida Vult. occ.]	62° 41½′

From this let a test of the time be made again; although it was observed among clouds, it was nevertheless moderately good [Hinc rurſus temporis examen inſtituatur, licet inter nubes obſeruabatur, tamen mediocriter bona fuit.].

On 13 November [DIE 13 NOUEMBRIS.]

$8^h\ 26^m$ p.m. [H.8 M.26 P.M.]: the Moon in the 90th degree [☾ in 90 G.].

At about $7\frac{5}{6}^h$ we found the error of the clock imperceptible, by the bright star of the Vulture [Circa horam $7\frac{5}{6}$ horologij errorem inſenſibilem deprehendimus per lucidam Vulturis.].

Time	Reading	Value
$5^h\ 57\frac{1}{2}^m$	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	10° 53½′ north [B.]
	lower limb [infer. limbi]	10° 19′
	Diameter	34½′
$8^h\ 1\frac{2}{3}^m$	Repeated declination of the upper horn [Repet. decl. ſuper. cornu]	10° 52½′
	lower limb [infer. limbi]	10° 20′
	Diameter	0° 32½′

The altitude of the upper limb was then 38⅓° [Fuit tunc Alt. ſuper. limbi 38⅓].

Time	The bright star of the Vulture, west [Lucida Vulturis occ.]	Western limb of the Moon, east [Occid. ☾ limbus or.]	Equatorial distance [Diſt. æquat.]
8^h 6^m 54^s [8^H 6^M54^s]	67° 55′	31° 0′	98° 55′
8^h 8^m 48^s	68° 24′	30° 29′	98° 53′
8^h 11^m 0^s	68° 57′	29° 59¾′	98° 56¾′
8^h 12^m 35^s	69° 22′	29° 37½′	98° 59½′
8^h 14^m 0^s	69° 41½′	29° 18′	98° 59½′

At about this last observation the altitude of the bright star of the Vulture was 17⅔° [Fuit circa hanc poſtremam obſeruationem Alt. lucidæ Vulturis 17⅔.].

Time	The eye of ♉, east [Oculus ♉ or.]		
8^h 20^m 40^s	59° 1¾′	27° 35′	31° 26¾′
8^h 22^m 25^s	58° 34′	27° 9′	31° 25′
8^h 23^m 41^s	58° 15′	26° 52½′	31° 22½′
8^h 25^m 0^s	57° 55½′	26° 34½′	31° 21′
8^h 26^m 18^s	57° 36′	26° 15′	31° 21′
8^h 33^m 12^s	55° 51½′	24° 30′	31° 21½′
8^h 34^m 47^s	55° 27′	24° 5¾′	31° 21¼′
8^h 36^m 20^s	55° 4½′	23° 44½′	31° 20′
8^h 37^m 27^s	54° 45⅙′	23° 25¾′	31° 19½′
8^h 38^m 55^s	54° 23⅓′	23° 4′	31° 19⅓′

Time	Reading	Value
8^h 29^m 50^s	Declination of the upper horn, north [Decl. ſuper. cornu B.]	10° 56¼′
	Lower horn, north [Infer. cornu Bor.]	10° 25′
	Diameter of the Moon [Diameter ☾]	0° 31¼′
8^h 41^m 10^s	Declination of the upper horn [Decl. ſuper. cornu]	10° 58′
	Lower horn [Infer. cornu]	10° 26½′
	Diameter of the Moon [Diameter ☾]	0° 31½′

At the noon immediately following, the clock was running 4^m slower than it should, from 5^h in the evening, when it was corrected by the stars [Horologium in Meridie proxime ſequenti 4 Minutis iuſto tardius mouebatur, ab hora 5 veſpertina quando corrigebatur ad ſtellas.].

On 16 November [DIE 16 NOUEMBRIS.]

12^h 2^m p.m. [H.12 2′P.M.]: the Moon in the 90th degree, as it was computed [☾ in 90 Gr. prout ſupputabatur.].

Time	Reading	Value
7^h 23^m 55^s	The bright star of the Vulture, west [Lucida Vult. occ.]	63° 13′
7^h 25^m 5^s		63° 32′

From this distance of the Vulture from the meridian the clock was verified at $7\frac{1}{2}^{h}$ as revolving $11\frac{1}{6}^{m}$ slower than it should; two days earlier it had not been corrected exactly [Ex hac diſtantia Vulturis a Meridiano Horologium ad horam 7½ eſt verificatum, quod M.11⅙ ſcrupulis primis iuſto tardius circumvoluebatur; ante biduum non fuit exacte correctum.].

Time	Reading	Value
$11^{h}\ 30^{m}$	Declination of the upper limb of the Moon [Decl. ſuper. limbi ☾]	17° 46′ north [B.]
$11^{h}\ 30\frac{1}{2}^{m}$	lower limb [infer. limbi]	17° 13′
	Diameter	0° 33′

Time	The bright star of ♈, west [Lucida ♈ occ.]	Following limb of the Moon, east [Seq. limbus ☾ or.]	Equatorial distance [Diſt. æquat.]
$11^{h}\ 38^{m}\ 50^{s}$	31° 15¾′	13° 58½′	45° 14¼′
$11^{h}\ 40^{m}\ 30^{s}$	31° 40⅔′	13° 34′	45° 14⅔′
$11^{h}\ 42^{m}\ 10^{s}$	32° 5¾′	13° 10′	45° 15¾′
$11^{h}\ 44^{m}\ 0^{s}$	32° 35¼′	12° 43′	45° 18¼′ doubtful [dubia]
$11^{h}\ 45^{m}\ 20^{s}$	32° 56′	12° 21¾′	45° 17¾′
$11^{h}\ 47^{m}\ 35^{s}$	33° 31¾′	11° 48⅙′	45° 19⅚′
$11^{h}\ 49^{m}\ 0^{s}$	33° 52½′	11° 26⅔′	45° 19⅙′
$11^{h}\ 53^{m}\ 0^{s}$	34° 53′	10° 30′	45° 23′
$11^{h}\ 54^{m}\ 40^{s}$	35° 18′	10° 5½′	45° 23½′

Time	Reading	Value
$11^{h}\ 59^{m}\ 5^{s}$	Declination of the upper horn of the Moon [Decl. ſuper. cor. ☾]	17° 49′
	Lower limb [Infer. limbi]	17° 14′
	Diameter	0° 35′
$12^{h}\ 1^{m}\ 15^{s}$	The eye of ♉ crossed the meridian and had an altitude of [Tranſiuit oculus ♉ per Meridianum habuitque Alt.]	49° 42¾′

Time	The bright star of ♈, west [Lucida ♈ occ.]	Following limb of the Moon, east [Seq. limbus ☾ or.]	Equatorial distance [Diſt. æquat.]
$12^{h}\ 5^{m}\ 48^{s}$	38° 10′	7° 16′	45° 26′
$12^{h}\ 7^{m}\ 0^{s}$	38° 30½′	6° 58′	45° 28½′
$12^{h}\ 8^{m}\ 10^{s}$	38° 47¾′	6° 42′	45° 29¾′
$12^{h}\ 9^{m}\ 30^{s}$	39° 9½′	6° 20⅓′	45° 29⅚′

Time	Reading	Value
$12^{h}\ 11^{m}\ 35^{s}$	Declination of the upper horn [Decl. ſup. cornu]	17° 49½′
	Lower horn [Infer. cornu]	17° 15′
	Diameter of the Moon [Diameter ☾]	0° 34½′

Time	The lower head of ♊, east [Infer caput ♊ or.]	Following limb of the Moon, east [Seq. limbus ☾ or.]	Equatorial distance [Diſt. æquat.]
12h 16m 25s	42° 59′	4° 39¼′	38° 19¾′
12h 18m 0s	42° 34¾′	4° 16′	38° 18¾′
12h 19m 0s	42° 20½′	4° 0½′	38° 20′

On 18 November, a.m. [DIE 18 NOVEMBRIS A. M.]

1h 15m a.m. [H. 1 M. 15 A. M.]: the Moon in the 90th degree from the Ascendant, according to computation [☾ in 90 G. ab Aſcendente iuxta ſupputationem.].

Time	Reading	Value
12h 33m 40s [12 33′40″]	Eastern limb of the Moon, east [Orient. limb. ☾ or.]	12° 15′
12h 35m 9s	The same limb, east [Idem limb. or.]	11° 53½′
12h 35m 49s	Following limb, east [Seq. limb. or.]	11° 44′
	for verifying the clock [pro horologio verificando.]	

Time [Tempus]	Azimuth of the eastern limb of the Moon from the meridian toward the east [Azim. orient. limbi ☾ a Mer. ad ort.]	Altitude of the upper limb of the Moon [Alt. ſuper. limbi ☾]	Declination of the upper limb, north [Decl. ſuper. limbi B.]
12h 42m	15°° 0′	51° 38′	
12h 46m	13°° 30′	51° 49′	18° 17⅔′
12h 48m	12°° 30′	51° 54¾′	18° 17½′
12h 51m	11°° 30′	52° 0′	18° 18′
12h 54m	10°° 30′	52° 3½′	18° 18′
12h 55m	10°° 0′	52° 6¼′	18° 18′
12h 58m	9°° 0′	52° 9¾′	18° 18′
13h 0m	8°° 0′	52° 13′	
13h 6m	6°° 0′	52° 18′	18° 18½′
13h 8m	5°° 0′	52° 20½′	18° 18½′

In these observations of the Moon it was not clear enough [In hiſce obſeruationibus ☾ non fuit ſatis ſerenum.].

Time	Reading	Value
1h 22m 9s	The western limb of the Moon was on the meridian, and the upper limb had an altitude, by the quadrant, of [Fuit occident. limb. ☾ in Merid. & habuit ſuperior limbus Alt. per Q.]	52° 26′
1h 24m 14s	The eastern limb of the Moon was on the meridian, also by the revolving quadrant [Fuit orient. limbus ☾ in Meridiano etiam per Q. Volubilem.]	

From the difference in the transits of both limbs of the Moon, 2m 5s [2M 5″], the diameter of the Moon is deduced as 31¼′ [Ex differentia tranſitus limbi vtriusque ☾ 2M 5″ colligitur Diameter ☾ 31¼′.].

At noon the clock was running only 20s slower than it should. It had been verified by the stars on the night immediately preceding [Horologium in

Meridie 20 ſcrupulis ſecundis ſaltem iuſto tardius mouebatur. Nocte proxime antecedenti ad ſtellas verificatum eſt.].

On 23 November [DIE 23 NOUEMBRIS.]

8^h 0^m a.m. [H.8 0′ A. M.]: the Moon in the 90th degree from the Ascendant [☾ in 90 Gr. ab Aſcend.].

At $5\frac{1}{6}^h$ the clock was verified by the stars [Hora 5⅙ Horologium verificatum eſt ad ſtellas.].

Time	Reading	Value
5^h 44^m 23^s [5 44′ 23″]	Eastern limb of the Moon on the meridian [Orient. limb. ☾ in Merid.]	
	Altitude of the upper horn [Altit. ſuper. cornu]	40° 24¼′
	lower horn [infer. cornu]	39° 52¼′
	Diameter of the Moon [Diameter ☾]	0° 32′

Afterwards the Moon was observed approaching the 90th degree, in this manner [Poſtea obſeruabatur ☾ appropinquans 90 Gradui in hunc modum.].

Time	Reading	Value
7^h 28½^m	*Declination of the upper horn of the Moon [Declin. ſuperioris cornu ☾]*	*5° 59⅚′*
7^h 29¾^m	*Declination of the lower horn [Declin. inferior. cornu]*	*5° 28½′*
	Apparent diameter in declination [Diameter in declinatione apparens]	*0° 31⅓′*
7^h 31^m	*Upper declination repeated [Repetita decl. ſup.]*	*5° 59¾′*
7^h 31½^m	*Lower horn [Infer. cornu]*	*5° 28′*
	Apparent diameter in declination [Diameter app. in declinat.]	*0° 31¾′*

From this it is deduced that the declination of the Moon's centre at about this time was 5° 44′ north [Hinc colligitur declinationem centri ☾ fuiße iuxta hoc tempus 5 44 B.].

Time	*The heart of ♌, west [Cor ♌ occid.]*	*Following limb of the Moon, west [☾ limbus ſeq. occ.]*	*Equatorial distance [Diſt. æquat.]*
7^h 34⅙^m	*36° 1½′*	*26° 39½′*	*9° 22′*
7^h 35⅔^m	*36° 23′*	*27° 1′*	*9° 22′*
7^h 37½^m	*36° 49¾′*	*27° 25′*	*9° 24¾′*
7^h 38½^m	*37° 4′*	*27° 37½′*	*9° 26½′*
			doubtful [dubia]
Set the equatorial distance here as [Pone hic diſt. æquat.]			*9° 26′*
7^h 40^m 45^s [7 40 45″]	*37° 38½′*	*28° 13′*	*9° 25½′*
			dawn [aurora]
7^h 42^m 20^s	*38° 2¾′*	*28° 37¾′*	*9° 25′*
Set the equatorial distance for 7^h 40^m as [Pone H.7 M.40 diſt. æquat.]			*9° 25′*

Time	Reading	Value
$7^h\ 44½^m$	*Declination of the upper horn of the Moon [Declin. ſuper. cornu ☾]*	*5° 57′*
$7^h\ 45½^m$	*Declination of the lower horn [Declin. infer. cornu]*	*5° 25′*
	Apparent diameter [Diameter apparens]	*32′*
	Therefore the declination of the Moon's centre, north [Ergo declinatio centri ☾ B.]	*5° 41′*

Afterwards the Moon was observed with reference to ♃, because on account of the dawn the fixed stars were no longer well visible; it was observed, however, in distances with the sextant, because the armillae could not be used in such a position [Poſtea obſeruabatur ☾ ad ♃, quia propter auroram fixæ non bene amplius apparebant, obſeruabatur autem in diſtantijs per Sextantem, eo quod Armillarum in tali ſitu uſus eſſe non poterat.].

Time	Reading	Value
$7^h\ 50⅓^m$ [$7^H 50⅓^M$]	*Between ♃ and the eastern limb of the Moon [Inter ♃ et or. limbum ☾]*	*52° 5′*
$7^h\ 51⅓^m$	*The same, repeated [Eadem repet.]*	*52° 5½′*
$7^h\ 52¼^m$	*The same, repeated [Eadem repetita]*	*52° 6′*
$7^h\ 53¼^m$		*52° 7′*
$7^h\ 54^m$		*52° 8′*
$7^h\ 55^m$		*52° 8½′*
$7^h\ 56^m$		*52° 9′*
$7^h\ 57¾^m$		*52° 9½′*
$7^h\ 59^m$		*52° 10′*
$8^h\ 0^m$		*52° 10½′*
$8^h\ 1½^m$	*The declination of the upper horn of the Moon was [Fuit declin. ſuper. cornu ☾]*	*5° 54′*
$8^h\ 2^m$	*Declination of the lower [horn] [Declin. inferioris]*	*5° 24′*
	Apparent diameter [Diameter apparens]	*0° 30′*
	Therefore the declination of the Moon's centre, north [Ergo declin. centri ☾ Bor.]	*5° 39′*
$8^h\ 4^m$	*Again between ♃ [Rurſus inter ♃]*	*52° 13′*
$8^h\ 5½^m$	*and the eastern limb of the Moon [& or. limb. ☾]*	*52° 13¾′*
$8^h\ 6½^m$	*The same, repeated [Eadem repetita]*	*52° 14¼′*
$8^h\ 7¾^m$		*52° 14½′*
$8^h\ 8¾^m$		*52° 15′*

Then, to verify the clock, ♃ was observed in this manner [Deinde pro verificatione horologij obſeruabatur ♃ in hunc modum.].

Time	Reading	Value
$8^h\ 12^m$	*♃ from the meridian [♃ a Merid.]*	*87° 4′* west [occ.]
$8^h\ 13⅔^m$		*87° 32′*
$8^h\ 14¾^m$		*87° 47′*
$8^h\ 15⅚^m$		*87° 58′*

At about these times the Sun was rising [Circa hæc tempora ⊙ oriebatur.].

$8^h\ 20^m$ [8 20]: the middle of the Sun's body was rising [Medium de corpore Solis oriebatur.].

But the clock cannot be corrected exactly from this, because of the solar refraction [Sed hinc horologium corrigi exacte nequit ob refractionem ſolarem.].

Time [Tempus]	*Equatorial distance of the centre of the Sun and the eastern limb of the Moon [Diſt. æquat. centri ⊙ & or. limbi ☾]*	*Declination of the Sun, south [Decl. ⊙ auſtr.]*	*Altitude of the upper horn of the Moon [Alt. ſuper. cornu ☾]*	*Altitude of the Sun [Altit. ⊙]*
$10^h\ 58^m$	31° 54′	22° 5½′	11° 42′	10° 50′
$11^h\ 3^m$	31° 53′	22° 5½′	11° 0′	11° 0′
$11^h\ 6^m$	31° 50′	22° 5½′	10° 40′	11° 10′
$11^h\ 8^m$	31° 49′	22° 5½′	10° 32′	11° 15′

But these equatorial distances are not to be trusted too far in their very exactness [Sed his diſtantijs æquatorijs non nimium erit in ipſa ſcrupuloſitate fidendum.].

Time	Reading	Value
$11^h\ 11^m$ [H.11 M.11]	*Declination of the Moon [Declin. ☾], upper horn [ſuper. cornu]*	5° 19′
	lower horn [infer. cornu]	4° 51½′
	Apparent diameter [Diameter apparens]	0° 27½′

Then, by the armillae, with the place of the Sun set at 10° 30′ ♐, such as the declination seen [Deinde per Armillas poſito loco ⊙ in 10ᵍ 30′ ♐ qualem declinatio viſa]

showed, the Moon was observed by the zodiacal armillae, as follows, at the eastern limb [exhibebat, obſeruabatur ☾ per Armillas Zodiacales vt ſequitur in orientali limbo.].

Time	*Place of the Moon as seen, at the eastern limb [Locus ☾ viſus in orient. limbo]*	*Altitude of the Sun [Altitudo ⊙]*	*Altitude of the upper horn of the Moon [Alt. ſuper. cornu ☾]*
$11^h\ 18^m$ [11h 18M]	6° 50′ ♍	11° 30′	9° 6′
$11^h\ 20^m$	6° 51′	11° 35′	8° 40′
$11^h\ 21⅓^m$	6° 51¾′	11° 40′	8° 20′
$11^h\ 23⅓^m$	6° 52½′	11° 45′	8° 15′
$11^h\ 25⅙^m$	6° 53½′	11° 50′	8° 5′
$11^h\ 26¾^m$	6° 55′	12° 0′	7° 50′
$11^h\ 28½^m$	6° 55½′	12° 5′	7° 40′
$11^h\ 29⅚^m$	6° 57′	12° 10′	7° 30′

The altitudes of the Sun were taken by the least quadrant, and the Moon's [altitudes], however, by the revolving azimuthal quadrant; and throughout, the longitude of the Sun was presupposed at 10° 30′ ♐ [Altitudines ⊙ accipiebantur per Q. minimum. ☾ vero per Q. Volub. Azimutalem & vbique præſupponebatur longitudo ⊙ in 10 30 ♐.].

Time	Reading	Value
$11^h\ 33^m$ [H.11 33′]	*Declination of the Sun with one pinnule [Decl. ⊙ vno pinnac.]*	22° 5⅔′
	Declination of the Sun with the other pinnule [Decl. ⊙ altero pinnac.]	22° 6′

Time	Reading	Value

The place of the Moon can be taken two minutes later [Poteſt locus ☾ accipi duobus ſcrupulis poſterior.].

At noon the clock was running slower than it should by only one minute exactly, an error that had applied to it from 5⅙^h in the morning until now [Horologium in Meridie ſaltem vnico ſcrupulo exacte tardius iuſto mouebatur, qui error illi ab H.5⅙ matutina hucusque competebat.].

In the year 1586, 23 November, morning, 7^h 55^m: the Moon in 90°[1] [Anno 1586 D. 23 Novemb. Mane H.7 M.55 ☾ in 90°.[1]]

Time	Reading	Value
7^h 42^m [H.7 M.42]	Right ascension of the Moon from the heart of ♌ [Aſcenſio recta ☾^{æ} a Corde ♌]	155° 44′
7^h 54^m [H.7 M.54]	Right ascension of the Moon from ♃ [Aſcenſio recta ☾^{æ} a ♃]	155° 50′

These agree well enough, taking account of the interval [Qvæ ſatis bene ratione intervalli conveniunt.].

Therefore, for the last right ascension, with the declination of the centre given as 5° 41′ north, the corresponding values are [Ergo ad ult. Aſc. rectam data declinatione B. Centri 5°41′ Reſp.]:

Reading	Value
Longitude [Longit.]	5° 32¼′ ♍
Subt. for latitude [Subt. pro latit.]	6′ 50″ [6 50][15]
True longitude [Vera longit.]	5° 25⅖′

On 24 November [DIE 24 NOUEMBRIS.]

At 7¼^h it was seen, from the distance of the heart of ♌ from the meridian, that the clock, corrected from the nearest noon, was running only two minutes slower than it should; but we then let it remain in its revolution [H. 7¼ horologium duobus tantum minutis a Meridie proximo correctum iuſto tardius moueri ex diſtantia cordis ♌ a Meridie viſum eſt, ſed illud tunc permanere in ſua revolutione permißimus.].

Afterwards the Moon was observed from ♃ by the zodiacal armillae, in this manner [Poſtea obſeruabatur ☾ a ♃ per armillas Zodiacales in hunc modum.].

[15]set in the minute and second positions: the 6 stands under the units figure of the minutes of 5 32¼, the 50 to the right of the minutes, and nothing stands in the degree position

Time	Reading	Value
$7^h\ 54^m$ [H. 7 54′]	With the place of ♃ set at 13° 41′ ♋, the eastern limb of the Moon was seen at 19° 59½′ ♍; the declination of the Moon was then, at the upper limb [Poſito loco ♃ in 13 41 ♋ videbatur orientalis limbus ☾ in 19 59½ ♍, fuit tunc Declin. ☾ in ſuperiori limbo]	1° 33′
	at the lower limb [in inferiori limbo]	1° 3′
	And the altitude of the upper horn [Et Alt. ſuper. cornu]	33° 21′
$7^h\ 57^m$ [H. 7 57′]	The Moon from ♃, as before [☾ a ♃ vt prius]	20° 1′ ♍
	Altitude of the Moon then [Altitudo ☾ tunc]	33° 20′
	The altitude of ♃ was [Alt. ♃ erat]	21° 12′
$7^h\ 59\frac{1}{3}^m$	The Moon from ♃, as before [☾ a ♃ vt prius]	20° 3′ ♍
$8^h\ 1^m$	The Moon, as before, from ♃ [☾ vt prius a ♃]	20° 3½′ ♍
	The declination of the upper horn was then [Fuit tunc Declin. ſuper. cornu]	1° 32⅔′
	Declination of the lower limb [Decl. infer. limbi]	1° 2½′
	Apparent diameter [Diameter appar.]	0° 30′
	The altitude of ♃ was then [Alt. ♃ tunc erat]	20° 48½′
	Altitude of the Moon [Alt. ☾]	32° 50′
$8^h\ 5\frac{5}{6}^m$	The Moon from ♃, as before, at [☾ a ♃ vt prius in]	20° 5¼′ ♍
	Declination of the upper horn [Declin. ſuper. cornu]	1° 32½′
	Of the lower limb [Inferioris limbi]	1° 2⅓′
	Diameter	30′
	Altitude of the upper horn of the Moon [Alt. ſuper. cornu ☾]	32° 34′
	Altitude of ♃ [Alt. ♃]	20° 25′
$8^h\ 9\frac{1}{3}^m$	The Moon from ♃, as before [☾ a ♃ vt prius]	20° 7¾′
	Declination of the upper horn [Declin. ſuperioris cornu]	1° 31′
	lower horn [infer. cornu]	1° 1⅓′
	Diameter [Diam.]	30′
	Altitude of the upper horn [Alt. ſuperioris cornu]	32° 21½′
	Altitude of ♃ [Alt. ♃]	19° 55′
$8^h\ 13\frac{1}{6}^m$	The Moon from ♃, as before, at [☾ a ♃ vt prius in]	20° 9¾′ ♍
	Declination of the upper horn [Declin. ſuper. cornu]	1° 30′
	Of the lower [horn] [Inferioris]	1° 0⅓′
	Altitude of the upper horn [Alt. ſuper. cornu]	32° 10′
	Altitude of ♃ [Alt. ♃]	19° 0′

As the Moon approached the 90th degree, it was observed further from ♃ in this manner [☾ applicante ad 90 Gra. a ♃ vlterius obſeruabatur in hunc modum.].

Time [Temp.]	Place of the eastern limb from ♃, by the armillae, in ♍ [Locus or. limbi a ♃ per armill. ♍]	Declination [Declinat.]: upper horn [ſuper. cornu]	lower [in-fer.]	Altitude [Altit.]: upper horn of the Moon [ſup. cor. ☾]	♃
$8^h\ 20\frac{1}{6}^m$	20° 10½′	1° 27′	0° 59′	31° 31′	18° 30′
$8^h\ 23^m$	20° 11½′	1° 26′	0° 58′	31° 17′	18° 5′
$8^h\ 24\frac{1}{3}^m$	20° 13′	1° 26′	0° 58′	31° 10′	17° 40′
$8^h\ 26\frac{1}{6}^m$	20° 14′	1° 25′	0° 57′		

$8^h\ 21^m$ [8 21]: the Sun was rising, half-way [☉ Medius oriebatur.].

Then, to verify the clock, ♄ was observed by its distance from the meridian [Deinde pro verificando horologio obſeruabatur ♄ a Meridiano diſtantia], and this on account of the Moon's following [idque propter ſequentes ☾] azi-

[1] From codex V [E codice V.].

muthal observations, so that the time can be fitted exactly to them and the error of the clock determined [mutales obſeruationes,vt tempus exacte ijs adaptari & error horologij limitari queat.].

Note. The place of ♄, however, can be taken from the preceding observations [Nota. Locus autem ♄ accipi poteſt e præcedentibus obſeruationibus.].

Time	Reading	Value
$8^h\ 29^m\ 20^s$ [$8^H 29^M 20''$]	♄ *toward the west [♄ verſus occ.]*	92° 47¾′
$8^h\ 30^m\ 57^s$		93° 8′
$8^h\ 32^m\ 32^s$		93° 31′

From this it will be possible to verify the time, but let the error of the clock at the following noon be compared, which arises from the interval since the preceding noon; and this is rather to be trusted. For ♄ was observed with the armillae unfastened, which is not exact enough [Hinc poterit verificari tempus, ſed conferatur error horologij in Meridie ſequente, qui provenit interuallo a Meridie antecedente, & huic potius fidendum. Nam ♄ obſeruabatur ſolutis Armillis, quod non ſatis eſt exactum.].

Time [Tempus]	*Azimuth of the eastern limb of the Moon, toward the west [Azim. or. lim. ☾ ad occ.]*	*Altitude of the upper horn [Alt. ſuper. cornu]*	*Altitude of the lower horn of the Moon [Alt. infer. cornu ☾]*
$8^h\ 38^m\ 3^s$	35° 30′	30° 18½′	
$8^h\ 40^m\ 6^s$	36° 0′	30° 8′	29° 34′
$8^h\ 43^m\ 55^s$	37° 0′	29° 49¾′	29° 16½′
$8^h\ 47^m\ 49^s$	38° 0′	29° 29¾′	28° 55¼′
$8^h\ 51^m\ 44^s$	39° 0′	29° 9⅓′	28° 35¼′
$8^h\ 55^m\ 37^s$	40° 0′	28° 48¾′	28° 15⅙′
$8^h\ 59^m\ 42^s$	41° 0′	28° 27½′	27° 53′
$9^h\ 3^m\ 40^s$	42° 0′	28° 5′	27° 30½′
$9^h\ 7^m\ 44^s$	43° 0′	27° 41¾′	27° 8¾′
$9^h\ 11^m\ 53^s$	44° 0′	27° 17½′	26° 44¼′
$9^h\ 15^m\ 48^s$	45° 0′	26° 55½′	26° 24′

Time [Tempus]	*Equatorial distance of the eastern limb of the Moon and the centre of the Sun [Diſt. æquat. or. limb. ☾ & centri ☉]*	*Declination of the Sun, south [Decl. ☉ M.]*	*Altitude of the Sun by the lesser quadrant [Alt. ☉ per Q. Min.]*	*Altitude of the upper horn by the revolving azimuthal quadrant [Alt. ſup. cornu per Q. v. Az.]*
$10^h\ 19\frac{1}{3}^m$	80° 1′	22° 11¼′	9° 0′	19° 59′
$10^h\ 21\frac{5}{6}^m$	79° 59½′	22° 11¼′	9° 10′	19° 43½′
$10^h\ 26\frac{2}{3}^m$	79° 57½′	22° 11½′	9° 15′	19° 10′
$10^h\ 29\frac{1}{6}^m$	79° 56¾′	22° 11⅔′	9° 23′	18° 52′

Time [Tempus]	*Equatorial distance of the eastern limb of the Moon and the centre of the Sun [Dist. æquat. or. limb. ☾ & centri ☉]*	*Declination of the Sun, south [Decl. ☉ M.]*	*Altitude of the Sun by the lesser quadrant [Alt. ☉ per Q. Min.]*	*Altitude of the upper horn by the revolving azimuthal quadrant [Alt. sup. cornu per Q. v. Az.]*
10h 33m	*79° 55¾′*	*22° 11¾′*	*9° 30′*	*18° 27′*

At 10½h the observed declination of the Sun was 22° 11¾′. To it corresponds the apparent place of the Sun, 11° 13′ ♐; with the place of the Sun set there, the Moon was observed by the zodiacal armillae [H. 10½ Declin. ☉ obſer. 22 11¾, reſpondet locus ☉ apparens 11 13 ♐, in quo poſito loco Solis obſeruabatur ☾ per Armillas zodiacales.].

At 10h 42¾m the place of the Moon, the eastern limb, was seen at 20° 22¾′ ♍; altitude of the Sun 10° 0′; altitude of the upper horn of the Moon 17° 19′ [H. 10 42¾ Locus ☾ orient. limbus viſus eſt 20 22¾ ♍, Altit. ☉ 10 0, Alt. ſuper. cornu ☾ 17 19.].

Again by the equatorial armillae, the Moon from the Sun [Rurſus per æquatorias Armillas ☾ a ☉]

Time [Tempus]	Equatorial distance of the eastern limb of the Moon and the centre of the Sun [Dist. æquat. or. limbi ☾ & centri ☉]	Declination of the Sun [Decl. ☉]	Altitude of the Sun [Alt. ☉]	Altitude of the lower limb of the Moon [Alt. infer. limbi ☾]
10h 56m	79° 46′	22° 12½′	10° 40′	15° 0′
11h 0½m	79° 45¼′	22° 12½′	10° 45′	14° 47′
11h 4⅔m	79° 43′	22° 13′	10° 50′	14° 15¾′

To the observed declination of the Sun, 22° 13′, corresponds the place of the Sun as seen, at 11° 22′ ♐; from this was observed [Declinationi ☉ obſeruatæ 22 13 reſpondet locus Solis viſus in 11 22 ♐, hinc obſeruatus eſt]

Time	Place of the Moon at the eastern limb by the zodiacal armillae [Locus ☾ in or. limbo per Armill. Zodiac.]	Altitude of the Sun by the lesser quadrant [Alt. ☉ per Q. min.]	Altitude of the lower limb of the Moon by the revolving azimuthal quadrant [Alt. infer. limbi ☾ per Q.Vol. Azim.]
11h 9m	25♍ 40½′ ♍	11° 0′	13° 37′
11h 12m	10♎ 41′	11° 2′	13° 17¼′
11h 15m	5♎ 20° 43′	11° 10′	12° 51½′
11h 17m	4♎ 44½′	11° 15′	12° 33′
11h 19m	2♎ 46′	11° 17′	12° 20′

At 11h 21m the declination of the Sun, south, 22° 13½′. Altitude of the Sun 11° 20′; the corresponding place of the Sun 11° 26′ ♐. From this, with the place of the Sun again set at 11° 26′ ♐ [H. 11 M. 21 Declin. Solis Merid. 22 13½. Alt. ☉ 11 20, reſp. Locus ☉ 11 26 ♐, Hinc rurſus poſito loco ☉ in 11 26 ♐]

Time [Tempus]	Place of the Moon observed at the eastern limb [Locus ☾ obſeruatus in or. limbo]	Altitude of the Sun [Alt. ☉]	Altitude of the lower limb of the Moon [Alt. infer. limbi ☾]
$11^h\ 26^m$	30♓ 20° 53⅔′ ♍	11° 30′	11° 29½′
$11^h\ 29^m$	30♓ 20° 55′	11° 34′	11° 3½′
$11^h\ 32^m$	40♓ 20° 57′	11° 37′	10° 41′
$11^h\ 34^m$	50♓ 20° 58½′	11° 40′	10° 22½′
$11^h\ 38^m$	34♓ 20° 59′	11° 45′	9° 54′
$11^h\ 41^m$	30♓ 21° 0′	11° 47′	9° 30′

Time	Reading	Value
$11^h\ 44^m\ 10^s$	Repeated declination of the Sun with one pinnule [Repetita declin. ☉ vno pinnacidio]	22° 13½′
	The corresponding apparent place of the Sun, at [Reſp. Locus ☉ appar. in]	11° 26′ ♐
	With the other pinnule [Altero pinnacidio]	22° 13⅔′
	The corresponding place of the Sun [Reſp. Locus ☉]	11° 27′ ♐

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Afterwards the Moon was observed again [Poſtea ☾ rurſus obſeruabatur.].

Time	Reading	Value
$11^h\ 53¾^m$ [H. 11 53¾]	*With the place of the Sun set at 11° 30′ ♐, the eastern limb of the Moon was seen at [Poſito loco ☉ in 11 30 ♐ videbatur ☾ limbus orientalis]*	*21° 13¼′ ♍*
	Altitude of the lower limb of the Moon [Alt. infer. limbi ☾]	*7° 40′*
$11^h\ 56⅔^m$ [H. 11 56⅔]	*The Moon from the Sun, as before [Luna a Sole vt prius]*	*21° 11′*
		doubtful [dubia]
$11^h\ 59⅔^m$	*The Moon from the Sun, as before [Luna a Sole vt prius]*	*21° 17′ ♍*
	Altitude of the lower limb of the Moon [Alt. ☾ infer. limbi]	*7° 20′*

Note. At noon the clock was running faster than it should by $5^m\ 57^s$; this error is to be determined from the noon of the preceding day. And from this the times of the azimuthal observations can be corrected [Nota. Horologium in Meridie celerius iuſto mouebatur 5′57″, qui error a Meridie antecedentis diej venit limitandus. Hincque tempora Azimutalium obſeruationum poßunt corrigi.].

Note. From this observation of the Moon with reference to the stars, and afterwards of the Moon with reference to the Sun, taking account of the lunar parallax, the longitude of the Sun as it approaches the winter solstice can be investigated, etc. [Nota. Ex hac obſeruatione ☾ ad ſtellas et poſtea ☾ ad Solem, habita ratione parallaxeos Lunaris, poteſt longitudo Solis ad Solſtitium hybernum applicantis indagari &c.].

[16] these rows stand on the page directly beneath the six preceding rows, continuing that table, with the time 11 44 10 in its time column; the values are declinations and places of the Sun, not places or altitudes of the Moon.

On 28 November [DIE 28 NOUEMBRIS.]

Time	Reading	Value
$7^h\ 15^m\ 50^s$ [H.7 15′50″]	The heart of ☋, west [Cor ☋ occident.]	42° 21′
$7^h\ 17^m\ 47^s$		42° 52′
$7^h\ 18^m\ 35^s$		43° 2½′

From this it will be possible to verify the clock, and it is inferred that the clock was going 22⅙^m [?] slower than it should [Hinc poterit verificari horologium, & colligitur quod horologium M. 22[[⅙/⅛]] iuſto tardius ibat.].[17]

N.B. The times given have been verified [N.B. Tempora aßignata ſunt verificata.].

Time	Reading	Value
$7^h\ 45^m\ 45^s$ [H. 7 45′ 45″]	With the place of the heart of ☋ set at 24° 7′ ☋, the eastern limb of the Moon was observed at [poſito loco cordis ☋ in 24 7 ☋ obſeruabatur orient. limbus ☾ in]	18° 3¾′ ♏
	The declination of the upper horn was then [Tunc fuit declin. ſuper. cornu]	15° 5′ south [M.]
	Altitude of the lower limb of the Moon [Alt. infer. limbi ☾]	12° 40′
	Set here the place of the eastern limb of the Moon [Pone hic locum or. limbi ☾]	18° 3½′ ♏
$7^h\ 49^m\ 30^s$ [H.7 49′ 30″]	With the heart of ☋ set as before, the place of the eastern limb of the Moon was [poſito corde ☋ vt prius fuit locus orient. limbi ☾]	18° 4′ ♏
	Declination of the upper limb [Declin. ſuper. limbi]	15° 15′ south [M.]
	Altitude of the lower limb [Alt. infer. limbi]	13° 5′
$7^h\ 52^m\ 45^s$ [H.7 52′ 45″]	With the place of the heart of ☋ set as before, the eastern limb was observed at [Poſito loco cordis ☋ vt prius obſeruabatur or. limbus]	18° 4½′ ♏
	Then the altitude of the lower limb of the Moon [Tunc Alt. infer. limbi ☾]	13° 23′

From this it will be possible to verify the place of the Moon as seen, which, afterwards applied to the Sun, will reveal the place of the Sun as it approaches the solstice [Hinc poterit verificari locus viſus ☾, qui poſtea ad Solem applicatus Solis locum ad Solſtitium appropinquantis manifeſtabit.].

At the noon immediately following, the clock was going round only $0^m\ 3^s$ faster than it should, which was imperceptible. It had, however, been verified in the morning from the distance of the heart of ☋ from the meridian, at about 8^h [Horologium in Meridie proxime ſequente 0′ 3″ tantummodo iuſto velocius circumuoluebatur, quod erat inſenſibile. Fuit autem mane ex diſtantia cordis ☋ a Meridiano verificatum circa Horam 8.].

[17]the denominator of the fraction reads either 6 or 8 on the scan.

Reading	Value
The true[1] place of the heart at the end of November 86 [Verus[1] locus cordis ad finem Nouembris 86]	24° 3′ 28″ ♌
The place assumed [Locus aßumpt.]	24° 7′ ♌
Difference [Diff.]	3′ 32″

It is therefore evident that the assumed place of the heart is 3′ 32″ greater than it should be. For this reason 3′ 32″ must also be subtracted from the observed place of the eastern limb, so that it is at 18° 0′ 13″ ♏. From this, the true place of the lunar centre: 17° 45′ 13″ ♏. Declination of the centre of the Moon 15° 20′ south. Latitude north 1° 51′ 48″ [Apparet ergo locum cordis aßumptum 3′ 32″ maiorem eße iuſto. Quare etiam 3′ 32″ detrahenda veniunt a loco orientalis limbi obſeruato, vt ſit in 18 0 13 ♏. Hinc verus locus centri Lunaris 17°45′13″ ♏. Decl. centri ☾ 15° 20′M. Lat. ſept. 1°51′48″.].

Time	Value
7^h 49½^m [H.7 49½′]	17° 45′ 28″ ♏
7^h 52¾^m	17° 45′ 58″ ♏

On 29 November, a.m. [DIE 29 NOUEMBRIS A. M.]

At 7^h 39^m (corrected), with the place of the heart of ♌ set at 24° 7′ ♌, the eastern limb of the Moon was observed at 2° 25¾′ ♐, uncertain. The altitude of the lower limb of the Moon was then 5° 0′ [H.7 39′(corr.) Poſito loco cordis ♌ in 24°7′ ♌ obſeruabatur or. limbus ☾ in 2 25¾ ♐, incerta. Tunc fuit Alt. infer. limbi ☾ 5 0.].

At 7^h 43½^m, with the place of the heart of ♌ set as before, the place of the eastern limb of the Moon was seen at 2° 31′ ♐; altitude 5° 29′ [H.7 43½ Poſito loco cordis ♌ vt prius, fuit viſus locus orient. limbi ☾ in 2 31 ♐, Altitudo 5 29.].

With the place of the heart of ♌ remaining as before, [the Moon] was observed [Manente cordis ♌ loco vt prius obſeruabatur.].

Time	Eastern limb of the Moon at [Or. limbus ☾ in]	Altitude of the lower limb [Alt. infer. lim.]
7^h 46^m	2° 32½′ ♐	5° 37½′
7^h 48½^m	2° 33¾′	5° 52½′
7^h 50⅔^m	2° 35¼′	6° 5′
7^h 53^m	2° 36½′	6° 15½′

Time	Reading	Value
7^h 42^m 29^s [7 42 29″]	The heart of ♌, west [Cor ♌ occ.]	48° 27′
7^h 44^m 56^s		49° 1′
7^h 45^m 35^s		49° 14¼′

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From this it is inferred that the error of the clock around this time was $14^m\ 35^s$, going slower. From this the clock is verified [Hinc colligitur errorem horologij circa hoc tempus fuiße M.14 35″ tardius eundo. Hinc verificatur horologium.].

The error has been corrected in the preceding [observations] [Error correctus eſt in antecedentibus.].

Corrected places of the Moon, 29 November[2] [Loca correcta lunæ d. 29. Nou.[2]]

Time	Value
$7^h\ 39^m$ [H.7 39′]	2° 7′ 13″ ♐
$43½^m$	2° 12′ 28″
46^m	2° 13′ 58″
$48½^m$	2° 15′ 13″
$50⅔^m$	2° 16′ 43″
53^m	2° 17′ 58″

On 1 December, p.m. [DIE 1 DECEMBRIS P. M.]

The Moon, newly departed from the Sun, was observed [Obſeruabatur Luna recens e Sole digreßa.].

Time	Reading	Value
$4^h\ 45½^m$ [H.4 45½], corrected $42^m\ 43^s$ [corr. 42′ 43″]	*Between ☿ and the western limb of the Moon [Inter ☿ & occ. limb. ☾]*	*32° 2½′*
	Altitude of the lower limb of the Moon [Alt. infer. limbi ☾]	*2° 30′*
	Declination of the lower limb [Decl. infer. limbi]	*19° 12′*
	upper [ſuper.]	*18° 43′*
$4^h\ 47¾^m$, corrected $44^m\ 58^s$ [corr. 44′ 58″] (for both readings)	*Between ☿ and the Moon [Inter ☿ & ☾]*	*32° 1′*
	Altitude of the lower limb [Alt. inf. limbi]	*1° 53′*
$4^h\ 48⅚^m$, corrected $46^m\ 3^s$ [corr. 46′ 3″] (for both readings)	*Between ☿ and the Moon [Inter ☿ & ☾]*	*32° 0′*
	Altitude of the lower limb [Alt. inf. limbi]	*1° 45′*
	Declination of the lower limb [Decl. infer. limbi]	*19° 11⅓′*

[1] The annotation that follows was written in codex M long afterwards [Annotatio quæ ſequitur longe poſtea in codice M conſcripta eſt.].

[2] From codex M [E codice M.].

[18] these three rows stand on the page directly beneath the four preceding rows, with their values under the head "Alt. infer. lim."; the values are those of the heart of ♌, not altitudes of the Moon's limb.

Time	Reading	Value
4^h 50^m, corrected 47^m 13^s [corr.47′ 13″] (for both readings)	*Distance as before [Dist. vt prius]*	*31°59¼′*
	Altitude of the lower limb [Alt. inf. limb.]	*1° 36′*
	Declination of the lower limb [Decl. infer. limbi]	*19°10½′*
4^h 52½^m, corrected 49^m 43^s [corr.49′ 43″]	*Distance between the western limb of the Moon and ♀ [Dist. occ. limbi ☾ & ♀]*	*31°57¾′*
	Altitude of the lower limb [Alt. infer. limbi]	*1° 20′*
	Declination of the lower limb [Decl. infer. limbi]	*19°10′*

The Moon was then very new, but both parallax and refraction will have to be guarded against in so low a position; and the time is to be verified from the following [observations], and also the place of ♀ from its observations from the bright star of ♈ [Luna erat tunc admodum recens, sed cauenda erit tam parallaxis quam refractio in tam decliui situ, tempusque ex sequentibus verificandum, tum etiam locus ♀ ex obseruationibus ipsius a lucida ♈.].

Places of the Moon on 1 December[1] [Loca ☾ die 1 Decembris[1].]

Time	Reading	Value
4^h 42^m 43^s [4ʰ42′ 43″]	Declination of the Moon [Lunæ Decl.]	18° 57′ south [M.]
	Right ascension [Asc. Recta]	274° 55′ 21″
	Longitude [Longitudo]	4° 40′ 11″ ♌
	Latitude [Latitudo]	4° 30′ north [S.]
4^h 47^m 13^s	Declination [Decl.]	18° 55′ 30″ south [M.]
	Right ascension [Asc. Recta]	275° 0′ 31″
	Longitude [Long.]	4° 45′ 6″ ♌
	Latitude [Lat.]	4° 31′ north [S.]
4^h 49^m 43^s	Declination [Decl.]	18° 55′ south [M.]
	Right ascension [Asc. Recta]	275° 1′ 41″
	Longitude [Long.]	4° 46′ 17″ ♌
	Latitude [Lat.]	4° 31½′ north [S.]

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On 2 December, p.m. [DIE 2 DECEMBRIS P. M.]

Clock [Horol.]: lesser [Min.]	greater [Mai.]	Reading	Value
4^h 32½^m [4ʰ32½′]	*4^h 50½^m*	*Between ♀ and the western limb of the Moon [Inter ♀ & occ. limb. ☾]*	*19°52½′*

The altitude of the lower limb of the Moon was then 8½° [Fuit tunc altit. infer. limbi ☾ 8½°.].

[19] this table begins at the foot of the left column and ends at the head of the right column; the last four rows (4^h 49^m 43^s) stand in the right column.

Clock: lesser [Min.]	greater [Mai.]	Reading	Value
4^h 36^m (for both readings)	*4^h $53¾^m$ (for both readings)*	*Between ♀ and the Moon [Inter ♀ & ☾]*	*19° 52¼′*
		Altitude of the lower limb [Alt. inf. lim.]	*8° 19′*
4^h $38⅔^m$ (for both readings)	*4^h 57^m (for both readings)*	*Between ♀ and the Moon [Inter ♀ & ☾]*	*19° 51′*
		Altitude of the lower limb [Alt. inf. lim.]	*8° 10′*
4^h $40¾^m$	*4^h 59^m*	*Declination of the lower limb [Decl. infer. limbi]*	*18° 10⅙′ [?] south [M.]*[20]
4^h 42^m (for both readings)	*5^h $0½^m$ (for both readings)*	*Declination of the upper horn [Declin. super. cornu]*	*17° 43½′*
		Difference [Differentia]	*0° 27′*

[21]

On 2 December[1] [DIE 2 DECEMBRIS[1].]

Supposed time 4^h 40^m 45^s [Hora putativa $4^H40^M45''$.]. Since from the following observations of this day the diameter of the Moon has been found, by the declination, to be 27′, then, when the semidiameter 13′ 30″ is taken from the distance of the Moon and ♀, the distance of the centre of the Moon and ♀ will remain 19° 39′. Altitude of the centre 8° 43′ 30″. After 8^m 15^s of time the declination of the centre of the Moon was observed as 17° 56′ 40″. And since the altitude of the Moon decreases by 20′ from the first to the last observation, in a space of 6^m 10^s of time, let the altitude of the Moon at the time of the observation of the declination — which is 8^m 15^s of time from the first observed altitude — be 26′ 45″ less than it was at the first observation; therefore the altitude of the centre at the time of the observed declination was 8° 17′ 45″[2].

Since, further, in 3^m 30^s of time from the first to the second observation of the distance of ♀ from the Moon, the distance was also found to decrease by 15″, in 8^m 15^s of time it will certainly decrease by 35″; so that on this reckoning, at the time of the observed declination, the distance of ♀ and the centre of the Moon is 19° 38′ 25″. Also, by the diurnal [motion] of ♀, 66′, ♀ will have advanced 23″ from the first observation to this last one, [in] 8^m 15^s of time; whereas before it was at 7° 26′ 2″ ♒, it will now be at 7° 26′ 25″ ♒.

On the day before this, when ♀ was at 6° 22′ 38″ ♒, its declination from observation was 20° 51′ 15″ south [M.]. Now, since it has advanced 1° 4′ — because the declination of the degrees of the ecliptic from 6° 22′ 38″ to 7° 26′ 25″ ♒ decreases by 16′ 6″ — I shall set the declination of ♀ as having decreased by the same amount, so that for the data above the declination of ♀ is 20° 35′ 9″. Right ascension 289° 13′ 52″. The latitude of the Moon was found to be 4° 21′ 46″ north [S.], longitude 18° 19′ 40″ ♉. Distance of the Moon from the

[20] the denominator of this fraction is uncertain on this copy; it may also be read 8 (⅛)

[21] the line on the altitude of the lower limb stands on the page between the first group of rows and the rest, inside the one sequence of clock readings; the table is given in two parts around it.

meridian, on the equator [Diſt. ☾ a Merid. Æquat.], 41° 29′; this, added to the right ascension of the Moon, gives the right ascension of the midheaven [A. R. Medij Cœli] 330° 42′ 52″, from which it is to be tested whether the supposed time is correct. The true place of the Sun at the given time, the year 86, December 2, $4^h\ 40^m\ 45^s$ p.m., is 20° 23′ 29″ ♐. Its right ascension 259° 32′ 17″; right ascension of the time [A. R. Temporis] 70° 11′ 15″; hence the right ascension of the midheaven 329° 43′ 32″, 1° 0′ less than it should be, which in time makes 4^m, by which the lesser clock went slower on this day.

[1] From codex M [E codice M.].

[2] So in the codex [Sic in codice.].

On the same day, at the corrected time [H. corr.] $4^h\ 42^m\ 40^s$, the right ascension of ♀ was 309° 51′ 46″, the right ascension of the Moon 289° 13′ 46″, declination 17° 56′ 40″. Therefore the latitude of the Moon 4° 21′ 48″ north [S.], longitude 18° 18′ 56″ ♑.

On 7 December [DIE 7 DECEMBRIS.]

The Moon in the 90th degree at about $3^h\ 20^m$ [☾ in 90 gradu circa horam 3 M. 20.]. [The Moon] was afterwards observed in azimuths and altitudes, since no stars were yet visible because of the light of the day and of the twilight, the instrument having been well verified [Obſeruabatur poſtea in Azimutis & altitudinibus, ſiquidem nullæ ſtellæ ob diej & crepuſculi lumen adhuc apparebant, bene verificato inſtrumento.].

Time [Tempus]	*Azimuth of the western limb [Azimut. occ. limbi]*	*Altitude of the upper horn [Altitud. ſuper. cornu]*
$3^h\ 15^m\ 40^s$ [$3^{\text{H}}15^{\text{M}}40''$]	*41° 0′ east [or.]*	*24° 46¼′*
$3^h\ 19^m\ 37^s$	*40° 0′*	*25° 8¾′*
$3^h\ 21^m\ 33^s$	*39° 30′*	*25° 20′*

Time	Reading	Value
	Then the declination of the upper horn of the Moon was [Tunc erat declin. ſuper. cornu ☾]	*1° 58½′ south [M.]*
	Lower horn [Infer. cornu]	*2° 27¼′ south [M.]*
		0° 29′
$3^h\ 25½^m$	*Declination of the upper horn [Declin. ſuper. cornu]*	*1° 59′*
		2° 27½′
		0° 28½′

[22]

Note. These observations of the Moon were good enough, except that the time must be verified by the stars. Afterwards, however, the clock was corrected moderately well at noon, although the Sun did not appear bright enough, clouds coming between

[22] the three values without a label stand in the value column beneath the labelled values and are given as degrees and minutes, as those are.

from time to time [Nota. Hæ obſeruationes in ☾ erant ſatis bonæ niſi quod tempus ſit verificandum ad ſtellas, poſtea erat autem horologium mediocriter bene correctum in Meridie, licet ☉ non ſatis lucidus apparebat intereuenientibus ſubinde nubibus.].

Note. After the new correction of the quadrant in the level [in libella], it appeared on both sides that the indices did not correspond to each other exactly across the diameter, falling short in each case by only a single minute [vnico ſcrupulo primo]; this error was afterwards limited [Nota. Poſt nouam correctionem quadrantis in libella vtrinque videbatur quod indices non exacte per Diametrum ſibi reſpondebant deficiente ſaltem in ſingulis vnico ſcrupulo primo, qui error poſtea eſt limitatus.].

Time [Tempus]	*☿ from the meridian, west [☿ a mer. occ.]*	*Between the western limb of the Moon and ☿, equatorial distance [Inter occ. limb. ☾ & ☿ diſt. æquat.]*	*Altitude of ☿ [Altit. ☿]*	*Altitude of the Moon, lower horn [Alt. ☾ inf. cor.]*
3h 45m	*50s 6° 57¼′*	*36° 16¼′*		
3h 51m	*10s 8° 23′*	*36° 17⅙′*	*15° 0′*	*27° 21½′*
3h 56m	*23s 9° 45½′*	*36° 19′*	*14° 30′*	*27° 49′*
4h 1m	*2s 10° 55¼′*	*36° 20′*	*14° 15′*	*28° 7¾′*
4h 4m	*12s 11° 46¾′*	*36° 21½′*	*14° 0′*	*28° 23′*

In every case the lower limb of the Moon was observed in altitude [Vbique obſeruabatur in altitudine inferior limbus ☾.].

3h 45m 50s1 [3ᴴ 45′ 50″1.]. Corrected time 3h 51m 24s [Tempus correctum 3ᴴ 51′ 24″.].

Reading	Value
Declination of ☿ [Decl. ☿]	18° 52′ 51″
Right ascension of ☿ [AR ☿]	45° 40′ 9″
Right ascension of the Moon [AR ☾]	352° 10′ 43″
Latitude of the Moon [Lat. ☾]	1° 8′ north [S.]
True place of the Moon [Verus locus ☾]	21° 57′ 45″ ♓

23

For the place of the Moon from its observations on 7 December, from ☿2 [Pro loco ☾ᵉᵉ ex Obſeruationibus ejus ad Diem 7 Decembris a ☿2.]

Time	Reading	Value
3h 6m [H.3 M.6]	The Moon in the ninetieth degree of the ecliptic [☾ in nonageſ. gradu Eclip.]	
3h 48m [H.3 M.48]	Distance of the centre of the Moon from ☿ [Diſtantia Centri ☾ᵉᵉ a ☿]	36° 32′
	Right ascension of ☿ reduced from observation [Aſcenſio recta ☿ reducta ex obſervatione]	315° 40′
	Therefore the right ascension of the Moon [Ergo Aſcenſio recta ☾ᵉᵉ]	352° 12′

[23] these five rows stand at the head of the right column and continue the reckoning of 3h 45m 50s at the foot of the left column.

Time	Reading	Value
	Declination south [Declinatio M.]	2° 10′
	Corresponding longitude [Reſp. Longitudo]	21° 57½′ ♓
	Latitude [Latitudo]	1° 5⅓′ north [Sept.]
	Parallax to be added [Parallaxis addenda]	4′ 20″
	For the arc of inclination, subt. [Pro arcu inclinationis ſubt.]	5′ 0″
	Therefore the true longitude of the Moon is to be set down, and that almost without perceptible error [Ergo vera longitudo ☾ᵉᵉ ponenda, idque absque fere ſenſibili errore.]	21° 57′ ♓

[24]

Revision [Reviſio.]

Reading	Value	Time
From the given altitude [Ex data altitudine]	15°	
of ♀, and declination [♀ et declinatione]	18° 53′ south [M]	
likewise right ascension [item Aſcenſ. recta]	315° 40′	
right ascension of the Moon [Aſcenſ. recta ☾ᵉᵉ]	265° 2′	
the angle of distance is found [invenitur angulus diſtant.]	6° 28′	3^h 51^m [H.3 M.51.]

Therefore the time then was 3^h $48\frac{2}{5}^m$ [H.3 M.48⅖], so that there is some error in the clock and in the old correction of the time [ut error aliquis ſit in Horolog. et antiqua temporis correctione.].

With the observations of the Moon corrected, however, the longitude will be 22° 0′ ♓ at 3^h 48^m exactly [Correctis autem ☾ᵉᵉ obſer. erit Longit. 22° 0′ ♓ H.3 M.48 exacte.].

On 27 December [DIE 27 DECEMBRIS.]

Time	Reading	Value
7^h 47^m [H.7 M.47]	Declination of the upper horn of the Moon [Decl. ſuper. cornu ☾]	18° 34½′
	lower [infer.]	19° 2¼′
	Altitude of the lower horn of the limb [Alt. infer. cornu limbi]	11° 57′

On 31 December [DIE 31 DECEMBRIS.]

After 4^h the Moon appeared new and was observed from ♀ in this way [Poſt horam 4 apparebat ☾ noua & obſeruabatur a ♀ in hunc modum.].

[1] From codex M [E codice M.].

[2] From codex V [E codice V].

[24] the figures 5 0 stand under the 4′ 20″ of the row above and are given as minutes and seconds. The last row's value stands on the first of its three lines.

Time	*Between ♀ and the western limb of the Moon [Inter ♀ & occ. limb. ☾]*	*Declination of the lower limb [Decl. infer. limbi]*	*Altitude of the lower limb [Alt. infer. limbi]*
4^h 17^m [4^H 26^m] 37′			
4^h 20^m	*26° 35⅔′*	*14° 27′ south [Mer.]*	*11½°*
4^h 23^m	*26° 33¼′*	*14° 26′*	*10° 50′*
4^h $27\frac{3}{4}^m$	*26° 31½′*	*14° 25⅔′*	*10⅓°*

25

Note. These observations of the new Moon are to be limited as regards the time, for at the preceding noon the clock had been advanced faster by 9¼, and that from the morning of the preceding day, when it had been corrected by Arcturus. Therefore the rate [proportio] of the clock is to be limited and corrected from the following observations made by the stars on this day, especially in those that pertain to the Moon's place; account is moreover to be taken of refraction and parallax [Nota. Hæ obſeruationes in ☾ noua quoad tempus limitandæ ſunt, nam horologium in Meridie antecedente celerius promotum erat 9¼, idque a mane antecedentis diej cum per arcturum erat correctum, ideo ex ſequentibus obſeruationibus hac die ad ſtellas factis limitanda & corrigenda erit horologij proportio in his præſertim quæ ad lunæ locum pertinent, habenda inſuper ratio refractionis & parallaxeos.].

Observations of Saturn [OBSERUATIONES SATURNI.]

On 13 January [DIE 13 JANUARIJ.]

Time	Reading	Value	Remark
7^h 3^m p.m. [7^H 3^MP. M.]	Distance between ♄ and the eye of ♉ by the sextant △ [Diſt. inter ♄ & oculum ♉ per Sext. △]	50° 18½′	good [bonæ] (for all three)
7^h 8^m		50° 18′	
7^h 11^m		50° 18′	
7^h $17\frac{1}{3}^m$	Declination of ♄ by the armillae [Declin. ♄ per Armill.]	3° 13′ north, with one [B.vno]	
	with the other pinnule [altero pinn.]	3° 12½′[1]	

On 23 September, a.m. [DIE 23 SEPTEMBRIS A. M.]

Time	Reading	Value
4^h 15^m a.m. [H.4 15′ A. M.]	Declination of ♄ by the subterranean armillae [Declin. ♄ per Armill. ſubterr.]	9° 7¼′ north [B.]
4^h 24^m	Distance between ♄ and the bright star of ♈ by the old sextant △ [Diſt. inter ♄ & luc. ♈ per Sext. △ vet.]	I 12° 47½′
4^h $25\frac{1}{2}^m$		II 12° 47½′
4^h $27\frac{1}{6}^m$		III 12° 47½′

[25] 11½ and 10⅓ stand in the altitude column at the degree figures of 10 50, with no minutes figures, and are given as degrees.

Time	Reading	Value
$4^h\ 30^m$	Repeated declination of ♄ [Repetita decl. ♄]	9° 7¼′
	With the other pinnule [Alt. pinnac.]	9° 7½′

Time	♄ from the meridie toward the west [♄ a meridie ad occ.]	Eye of ♉, west [Oculus ♉ occid.]	Equatorial distance [Diſt. æquat.]
$4^h\ 37½^m$	48° 36½′	15° 0½′	33° 36′
$4^h\ 38⅛^m$	49° 4¼′	15° 28′	33° 36¼′
$4^h\ 41½^m$	49° 36½′	16° 0¼′	33° 36¼′

For the place of ♄ [Pro loco ♄.]

Time	Reading	Value
$4⅔^h$ [H.4⅔]	Difference of right ascension of ♄ and Aldebaran [Differ. Aſc. R. ♄ & Aldeboræ]	33° 36′
	Right ascension of Aldebaran [Aſc. R. Aldeboræ]	63° 6′
	Right ascension of ♄ [Aſc. R. ♄]	29° 30′
	Declination of ♄, north [Declin. ♄ Bor.]	9° 7′
	Corresponding longitude of ♄ [Reſp. Longitudo ♄]	0° 38⅙′ ♉
	Latitude of the same [Latitudo eiusdem]	2° 37⅓′ south [M.]

Comparison of the place found with the Alphonsine and Copernican calculation [Collatio inuenti loci cum calculo Alphonſino & Coperniano]

♄	From observation [Ex obſeruatione]	Alphonsine calculation [Calc. Alph.]	Copernican calculation [Calc. Coper.]
$4⅔^h$, longitude [H.4⅔ Long.]	0° 38⅙′ ♉	3° 3′ ♉	0° 42′ ♉
Latitude [Lat.]	2° 47⅓′ south [M.]	3° 0′ south [M.]	2° 58′ south [M.]

26

On 24 September, a.m. [DIE 24 SEPTEMBRIS A. M.]

Time	Reading	Value
$1^h\ 20^m$ [H.1 20′]	Altitude of ♄ on the meridian, by the revolving quadrant [♄ in Merid. Alt. per Quadr. Volub.]	43° 13⅙′
	Declination from the altitude [Declin. ex altitudine]	9° 7′ 40″
	Declination by the armillae [Declin. per Armillas]	9° 7′ 50″
$3^h\ 37^m$	Repeated declination of ♄ [Repetita declin. ♄]	9° 6½′

[26] the latitude from observation is printed 2 37⅓ M. in the reckoning above and 2 47⅓ M. in this comparison.

Time	♄, west [♄ occid.]	Eye of ♉, west [Oculus ♉ occid.]	Equatorial distance [Diſt. æquat.]
$3^h\ 44^m$	35° 55′	2° 16′	33° 39′
$3^h\ 48^m$	36° 46½′	3° 8½′	33° 38′
$3^h\ 49½^m$	37° 10¾′	3° 33¼′	33° 37½′
$3^h\ 51^m$	37° 37′	3° 58¾′	33° 38¼′

On 27 September [DIE 27 SEPTEMBRIS.]

Time	Reading	Value
$11^h\ 45^m$ p.m. [11^H45^M P. M.]	Declination of ♄, north, by the subterranean armillae [Declin. ♄ Bor. per armillas ſubterraneas]	8° 59½′
$11⅝^h$ [11⅝]	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	I 33° 52½′ II 33° 52⅙′ III 33° 52⅙′

On 10 October [DIE 10 OCTOBRIS.]

Observation of the star ♄ nearly in opposition [☍] to the Sun [Obſeruatio ſtellæ ♄ in ☍ Solis fere.]

At $7^h\ 34^m$ [H.7 34] the declination of ♄ was observed by the greater subterranean armillae as 8° 40′ north [P. 8 M. 40 B.], with both pinnules, and it was taken when its altitude was 18½° [part. 18½]. But afterwards, at $9½^h$ [hora 9½], when the star ♄ was higher, its northern declination was found by the same armillae to be 8° 39¼′ [P. 8 M. 39¼], with only one pinnule [vno ſaltem pinnacidio]. You may therefore use a declination of 8° 39½′ [part. 8 M. 39½] without perceptible error, except in so far as the later observations are more exact, since ♄ is near the meridian [iuxta Meridiem]. To obtain its right ascension, however, there was observed by the same armillae

[1] You will find the observation of Saturn made on 23 January below, among the observations of Mercury [Obſeruationem Saturni die 23 Januarii factam infra inter obſervationes Mercurii invenies.].

its ascensional difference [differentia aſcenſionalis] from the bright star of the Vulture, in this way:

Time	Bright star of the Vulture, west [Vulturis Lucida occ.]	The star of Saturn, east [Stella Saturni or.]	Equatorial difference [Differ. æquat.]
$7^h\ 42^m$	27° 32¾′	67° 55′	95° 27¾′
$7^h\ 48^m$	28° 58′	66° 30′	95° 28′

The altitude of ♄ at that time, moreover, was nearly 18½° [Erat autem Altitud. ♄ tum temporis Part 18½ fere.].

The following observations were made in greater clearness of the sky [Sequentes obſeruationes factæ ſunt in maiori ſerenitate.·].

Time	Reading	Value
$11^h\ 23^m$	Between ♄ and the far end of the wing of Pegasus, by the sextant △ [Inter ♄ & extremam alæ Pegaſi per Sext. △]	I 29° 55⅙′
$11^h\ 25^m$		II 29° 55¾′
$11^h\ 27^m$		III 29° 55⅓′
$11^h\ 29^m$		IV 29° 55⅓′
	Altitude of ♄ [Alt. ♄]	41⅚°
$11^h\ 36^m$	Distance between ♄ and the eye of ♉ by the sextant [Diſt. inter ♄ & oculum ♉ per Sext.]	34° 48½′
		34° 48½′
$11^h\ 42^m$	Declination of ♄ by the armillae, with one pinnule [Declin. ♄ per Armillas, vno pinn.]	8° 39′ north [B.]
	With the other pinnule [Altero pinnacidio]	8° 38¾′

By the greater subterranean armillae [Per Armillas ſubterran. maiores.]

Time	♄ from the meridian toward the east [♄ a Mer. ad ort.]	Eye of ♉, east [Oculus ♉ orient.]	Equatorial distance [Diſt. æquat.]
$11^h\ 49^m$	5° 56′	40° 49½′	34° 53½′
$11^h\ 52^m$	5° 11¼′	40° 5′	34° 53¾′
$11^h\ 55^m$	4° 27½′	39° 21′	34° 53½′

At $12^h\ 13½^m$ ♄ was on the meridian and had an altitude by the portable quadrant [per Q. Portatilem] of 42° 44½′.

At the same instant its declination was observed by the subterranean armillae [Eodem inſtanti obſeruabatur ipſius declinatio per Armillas ſubterraneas]: 8° 39′.

Time	Reading	Value
	With the other pinnule [Alt. pinnac.]	*8° 39½′*
$12^h\ 26^m$ [H.12 M.26]	*♄ from the eye of ♉ [♄ ab oculo ♉]*	*34° 48⅔′*
$12^h\ 29½^m$	*The same, repeated [Eadem repetita]*	*34° 48⅓′*

Let the northern declination of ♄ be set at exactly 8° 39′ [8ᵍ 39ᴹ], such as corresponds well enough by the armillae and by its meridian altitude; and the distance from the eye of ♉ 34° 48½′, such as was observed several times near the meridian [iuxta Meridianum] in its higher position. And from this let the ascensional difference be sought, which is to be compared with the preceding observation made by the greater subterranean armillae, so that the place of ♄ may be established and examined exactly near the opposition of the Sun [vt locus ♄ⁿⁱ exacte iuxta Solis oppoſitum conſtituatur examineturque.].

Time	*♄, west [♄ occident.]*	*Eye of ♉, east [Oculus ♉ or.]*	*Equatorial distance [Diſt. æquat.]*	*Remark*
$12^h\ 47^m$ [$12^H 47^{M9}$]	*28½′*	*26° 24¾′*	*34° 53¼′*	*almost as before [fere vt prius]*

Time	*♄, west [♄ occident.]*	*Eye of ♉, east [Oculus ♉ or.]*	*Equatorial distance [Diſt. æquat.]*	*Remark*
12h 51m	*9° 21¼′*	*25° 32⅙′*	*34° 53′ 25″*	
12h 53m	*9° 53′ 30″*	*24° 59′ 30″*	*34° 53′ 0″*	

27

On 11 October [DIE 11 OCTOBRIS.]

In the evening [Ad Veſperas.]

At 9⅓h [H. 9⅓] the clock was corrected, for since noon of day 10 it had been turning 5m 24s [5′ 24″] slower than it should [iuſto tardius conuoluebatur].

Time	Reading	Value	Remark
9h 35m [9h 35m]	Declination of ♄, north [Declin. ♄ B.]	8° 37¾′	with a single pinnule only, by the armillae [vnico tantum pinnacidio, per Armillas.]
9h 48m	Distance between ♄ and the eye of ♉ [Diſt. inter ♄ & oculum ♉]	34° 52⅓′	
9h 50m	The same distance [Eadem diſtantia] by the sextant △ [per Sext. △] Altitude of ♄ 35°, altitude of the eye of ♉ 24° [Alt. ♄ 35°, Alt. oculi ♉ 24°.]	34° 52⅓′	
9h 55m	Repeated declination of ♄, with both pinnules [Repetita Declin. ♄, vtroque pinnacidio]	8° 37¾′	

By the greater subterranean armillae [Per Armillas ſubt. maiores:]

Time	Bright star of the Vulture, west [Lucida Vult. occ.]	♄, east [♄ or.]	Equatorial distance [Diſt. æquat.]
9h 59m	63° 26½′	31° 57′	95° 23½′
10h 4m	64° 47½′	30° 36¼′	95° 23¾′
By the greater armillae [Per Armillas Maiores:]			
10h 9½m	66° 4′	29° 19½′	95° 23½′

Time	Reading	Value
10h 23m	With the place of the eye of ♉ put at 4° 2′ ♊, the place of ♄ was observed by the lesser subterranean armillae in [poſito loco oculi ♉ in 4° 2′ ♊ obſeruabatur per Armillas minores ſubt. locus ♄ in]	29° 16′ ♈
10h 30m	Place of the same [Eiuſdem locus]	29° 16′ ♈
10h 35m	Place of ♄ [♄ locus]	29° 16′ ♈

[27] the words fere vt prius stand on a line of their own under the row of 12h 47m, joined to its value 34 53¼.

On 13 October [DIE 13 OCTOBRIS.]

In the evening [Ad Veſperas.]

Time	Reading	Value
$9^h\ 47½^m$ [$9^H47½^M$]	Diſtance between ♄ and the far end of the wing of Pegasus [Diſtantia inter ♄ & extremam alæ Pegaſi]	29° 42¼′
	Repeated [Repetita]	29° 42¾′
$9^h\ 50½^m$	The same [Eadem]	29° 42½′

By the greater subterranean armillae [Per armillas mai. ſubterr.:]

Time	Bright star of the Vulture, west [Lucida Vult. occid.]	♄, east [♄ orient.]	Difference of right ascension [Differ. Aſcenſ. R.]
$9^h\ 54^m$	63° 54′	31° 20¾′	95° 14¾′
$9^h\ 56⅙^m$	64° 26½′	30° 48⅙′	95° 14⅔′

These two observations seem to agree most of all, above the rest, with the observations of the preceding and following days [Hæ duæ obſeruationes præ cœteris maxime conuenire videntur cum antecedentium dierum & ſequentium obſeruationibus.].

Time			
$9^h\ 59½^m$	65° 20′	29° 56′	95° 16′
$10^h\ 1⅔^m$	65° 53′	29° 24½′	95° 17½′
$10^h\ 3⅔^m$	66° 21′	28° 55′	95° 16′
$10^h\ 6^m$	67° 26′	27° 49½′	95° 15½′

28

Time	Reading	Value
$10^h\ 12^m$	Declination of ♄, north [Declin. ♄ Boreal.] with both pinnules [vtroque pinnacidio]	8° 33′

Time	♄, east [♄ orient.]	Eye of ♉, east [Oculus ♉ orient.]	Equatorial distance [Diſt. æquat.]
$10^h\ 17^m$	25° 32½′	60° 41⅙′	35° 8⅔′
$10^h\ 19^m$	24° 56¼′	60° 4¾′	35° 8½′
$10^h\ 21^m$	24° 32½′	59° 40′	35° 7½′
$10^h\ 23½^m$	24° 4½′	59° 12′	35° 7½′

[28] these four rows carry no heads on this page; they continue the four-column table of 13 October at the foot of the previous page (heads there: bright star of the Vulture, west; ♄, east; difference of right ascension), and are printed after the remark that closes that page.

Time	Reading	Value
$10^h\ 40^m$	With the place of Aldebaran put at 4° 2′ ♊, ♄ was seen at [Poſito loco Aldeboræ in 4° 2′ ♊ viſus eſt ♄ in]	29° 4′ ♈

This observation showed exactly the same thing three times [Quæ obſeruatio ter præciſe idem oſtendebat.].

Time	Reading	Value
$10^h\ 50^m$	Between ♄ and the eye of ♉, by the sextant △ [Inter ♄ & oculum ♉ per Sext. △]	I 35° 3′
		II 35° 2⅔′
		III 35° 3′
$12^h\ 1⅝^m$	♄ at the meridian had an altitude, by the revolving quadrant, of [♄ in meridie habuit Altit. per Q. Volubilem]	42° 39⅝′
	At the same moment the declination of ♄ by the subterranean armillae [Eodem momento declin. ♄ per Armillas ſubterr.]	8° 33½′ north [B.]
	With the other pinnule [Altero pinnacidio]	8° 33⅔′
$12^h\ 7½^m$	Distance of Aldebaran from the meridian [Diſt. Aldebor. a Merid.]	33° 40′

Therefore, from the time when we began to observe until now, the clock had been moving $3¼^m$ [3¼ M.] faster than it should [celerius iuſto mouebatur].

On 14 October [DIE 14 OCTOBRIS.]

p.m. [P. M.]	Bright star of the Vulture, west [Vult. lucid. occ.]	♄, east [♄ or.]	Equatorial distance [Diſt. æquat.]
$8^h\ 13½^m$ [$8^H 13½^M$]	39° 8½′	56° 2½′	95° 11′
$8^h\ 16^m$	39° 44′	55° 26′	95° 10′
$8^h\ 17⅔^m$	40° 7¾′	55° 3′	95° 10¾′
Around [the time of] these observations, the altitude of ♄: 26° [26 Gr.], by the least quadrant [Circa has obſeruationes Alt. ♄ 26 Gr. per Q. minimum.]			
$8^h\ 18⅚^m$	40° 29′	54° 43′	95° 12′

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Time	Reading	Value
$8^h\ 23^m$	Declination of ♄, north [Declin. ♄ Bor.]	8° 33′ 35″ [8° 33′ 35″]
	With the other pinnule [Alt. pinnacid.]	8° 33′ 30″
$8^h\ 34^m$	Between ♄ and the far end of the wing of Pegasus, by the sextant [Inter ♄ & extremam alæ Pegaſi per Sextantem]	29° 39¼′
		II 29° 39⅙′

[29] the remark on the altitude of ♄ is printed across the column between the rows of $8^h\ 17⅔^m$ and $8^h\ 18⅚^m$, and is kept at that place in the table.

Time	Reading	Value
$9\frac{1}{4}^{h}$ [H. $9\frac{1}{4}$]	Between ♄ (altitude 33°) and the eye of ♉ [Inter ♄ (Alt. 33°) & oculum ♉]	35° 6½′
		II 35° 6′
		III 35° 6½′
9^{h} $26\frac{1}{3}^{m}$	Declination of ♄, north [Declin. ♄ Bor.]	8° 33′

It was not free from clouds [Non erat libera a nubibus.].

Time	Reading	Value
9^{h} 31^{m}	Declination of ♄, north [Declin. ♄ Bor.]	8° $33\frac{1}{3}$′
	With the other pinnule [Altero pinnacid.]	8° 33′
9^{h} $39\frac{1}{2}^{m}$	♄, east [♄ orient.]	33° 47′
	Eye of ♉, east [Oculus ♉ orient.]	68° 59½′
	Equatorial distance [Dist. æquat.]	35° 12½′

From then on the sky was continuously covered with clouds [Dehinc cœlum continuo obducebatur nubibus.].

On 16 October [DIE 16 OCTOBRIS.]

p.m. [P. M.]	Marcab, west [Marcab occid.]	♄, east [♄ orient.]	Equatorial distance [Dist. æquat.]	Altitude of ♄ [Alt. ♄]
9^{h} 54^{m}	18° 34′	28° 0½′	46° 34½′	38°
9^{h} $58\frac{3}{4}^{m}$	19° 44½′	26° 51½′	46° 36′	

The star was in clouds [Stella erat in nubibus.].

Time	Reading	Value
10^{h} 2^{m}	Declination of ♄, north [Declin. ♄ Bor.]	8° 28½′
10^{h} $3\frac{1}{3}^{m}$	With the other pinnule [Alt. pinnacidio]	8° $28\frac{2}{3}$′

Time	♄, east [♄ orient.]	Aldebaran, east [Aldeb. orient.]	Equatorial distance [Dist. æquat.]
10^{h} $9\frac{1}{2}^{m}$	24° 12′	59° 32¼′	35° 20¼′
10^{h} $12\frac{1}{2}^{m}$	23° 27′	58° 47½′	35° 20½′

In none of these observations, which were made this evening, was the sky perfectly clear [In nulla harum obſeruationum, quæ hoc veſpere factæ ſunt, cœlum erat exquiſite ſerenum.].

On 18 October [DIE 18 OCTOBRIS.]

Time	Reading	Value
10½ʰ [H. 10½]	With the place of the Vulture put at 26° 0′ ♒, ♄ was observed by the zodiacal armillae [poſito loco Vulturis in 26 0 ♒ obſeruabatur ♄ per Armillas Zodiacales]	I 28° 32′ ♈ II 28° 32′ ♈

The altitude of the bright star of the Vulture, moreover, was then about 15° [Fuit autem tunc Alt. lucidæ Vulturis quaſi 15 p.].

Time	Reading	Value
11ʰ 7ᵐ	Declination of ♄, north [Decl. ♄ B.], by the greater armillae [per Armill. maior.]	8° 27½′

Time	♄, east [♄ orient.]	Aldebaran, east [Aldeb. orient.]	Difference of ascension [Diff. aſcens.]
11ʰ 11⅚ᵐ	6° 41′	42° 11½′	35° 30½′
11ʰ 15ᵐ	5° 42′	41° 12¼′	35° 30¼′
11ʰ 19⅔ᵐ	4° 56⅔′	40° 27⅙′	35° 30½′

Time	Reading	Value
11ʰ 38⅓ᵐ	Meridian altitude of ♄ by the revolving quadrant [Alt. ♄ Merid. per Q. Volubilem]	42° 31⅓′

30

On 19 October [DIE 19 OCTOBRIS.]

In the evening, at 8⅙ʰ [Ad Veſperas, H. 8⅙.]. With the place of the bright star of the Vulture put at 26° 0′ ♒, the place of ♄ was observed at 28° 29½′ ♈, once, because of the clouds [Poſito loco Vulturis lucidæ in 26 0 ♒, obſeruabatur locus ♄ in 28 29½ ♈, ſemel propter nubes.].

On 6 November [DIE 6 NOUEMBRIS.]

At 10ʰ 16ᵐ [H. 10 M. 16] ♄ on the meridian had an altitude [Alt.] of 42° 2′.

At the same time the declination of the same, by the greater subterranean armillae [Eodem tempore declinatio eiusdem per Armillas maiores ſubterran.]: 7° 57′.

Time	Reading	Value
11ʰ 34ᵐ 0ˢ [11ᴴ34ᴹ 0ˢ]	Between ♄ and the far end of the wing of Pegasus [Inter ♄ & extrem. alæ Pegaſi]	28° 11⅙′
11ʰ 35ᵐ 55ˢ		II 28° 11⅙′

[30] in the line of 11ʰ 7ᵐ the words *per Armill. maior.* are printed after the value 8 27½; the English gives them with the reading.

Time	Reading	Value
$11^h\ 38^m\ 10^s$	Distance between ♄ and the eye of ♉ [Diſt. inter ♄ & oculum ♉]	36° 53¼′
$11^h\ 39^m\ 35^s$		36° 53⅓′
	Declination of ♄, north [Declin. ♄ Bor.]	7° 57′

31

Time	♄, west [♄ occid.]	Eye of ♉, east [Oculus ♉ or.]	Equatorial distance [Diſt. æquat.]
$11^h\ 53^m\ 20^s$	24° 44½′	12° 3′	36° 47½′
$11^h\ 55^m\ 40^s$	25° 19′	11° 28′	36° 47′
$11^h\ 58^m\ 5^s$	25° 57′	10° 50′	36° 47′

Set this equatorial distance of ♄ and the eye of ♉ at 36° 47¼′ [Pone hanc diſtantiam æquatoriam ♄ & oculi ♉ 36° 47¼′.].

Note, on 7 November. At this noon the clock had been moving 30^m [30 Minutis] slower than it should since the preceding [noon], because too much had been taken off the weight on the preceding day [Nota, Die 7 Nouembris. Horologium in hoc Meridie a præcedente 30 Minutis tardius iuſto mouebatur, eo quod nimium de pondere præcedente die erat ablatum.].

On 10 November [DIE 10 NOUEMBRIS.]

Time	Reading	Value
$8^h\ 10^m$ [$8^H 10^M$]	Declination of ♄, north [Declin. ♄ B.], with one pinnule [vno pin.]	7° 52′
	with the other pinnule [altero pin.]	7° 52¼′

Time	Eye of ♉, east [Oculus ♉ orient.]	♄, east [♄ orient.]	Equatorial distance [Diſt. æquat.]
$8^h\ 15^m\ 20^s$	61° 34½′	24° 28¾′	37° 5¾′
$8^h\ 17^m\ 30^s$	61° 1¼′	23° 55½′	37° 5¾′
$8^h\ 22^m\ 38^s$	59° 41½′	22° 36½′	37° 5′
$8^h\ 26^m\ 15^s$	58° 58⅙′	21° 42¾′	37° 5½′

32

Keep the difference of ascension [Retine differentiam Aſc.]: 37° 5½′.

[31] each of the two labels is printed over two lines, with a time on each line; the English gives each label whole on the first of its two rows.

[32] in the row of $8^h\ 26^m\ 15^s$ the two star values as printed, 58 58⅙ and 21 42¾, differ by 37° 15′ 25″, while the distance is printed 37 5½ here and in the line that follows, where the other rows agree with their differences; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

On 11 November, a.m. [DIE 11 NOUEMBRIS A. M.]

Time	*♄ was distant from Aldebaran [Diſtabat ♄ ab Aldeb.]*	*Its declination [Declinatio eius]*	*Altitude then about [Alt. tunc quaſi]*
4^h 39^m [4^H 39^M]	*36° 52¾′*	*8° 9½′*	*1° 0′*
4^h 42^m	*36° 50′*	*8° 9¾′*	*0° 30′*
4^h 46^m	*36° 47′*	*8° 10′*	*0° 15′*

This variation in the observation of ♄ did not arise from a fault of the observation, but because of the refraction that occurred in so low a position. Therefore it will be possible to investigate from this the reckoning of the refraction [Hæc varietas in obſeruatione ♄ non accidit vitio obſeruationis, ſed propter refractionem quæ obueniebat in tam decliui ſitu. Poterit itaque hinc indagari refractionis ratio.].

At noon the clock was going faster by 1^m 55^s [M. 1 55″]. This error: only from $3\frac{5}{6}^h$ in the morning [Qui error ſaltem ab hora matutina $3\frac{5}{6}$.].

The same day, in the afternoon [EODEM DIE P. M.]

Time	*Reading*	*Value*
5^h 25^m p.m. [H. 5 M. 25 P. M.]	*Declination of ♄ [Declin. ♄]*	*7° 53′*
	With the other pinnule [Alt. pinnac.]	*7° 52½′*
	The altitude of ♄ was then [Fuit tunc Alt. ♄]	*19° 5′*

Time	*Bright star of the Vulture, west [Lucid. Vult. occ.]*	*♄, east [♄ orient.]*	*Equatorial distance [Diſt. æq.]*	*Altitude of ♄ [Alt. ♄]*
5^h 29^m	*26° 14′*	*66° 54′*	*93° 8′*	*19° 26′*
5^h 31^m	*26° 47′*	*66° 22′*	*93° 9′*	*19° 30′*

Therefore set the equatorial distance of ♄ and the bright star of the Vulture at 93° 8½′ [Pone itaque diſtantiam æquatoriam ♄ & Lucidæ Vulturis 93 8½.].

Time	Reading	Value
5^h 37^m	*Declination of ♄, with both pinnules [Declin. ♄ vtroque pinnac.]*	*7° 52½′*
	The altitude of ♄ was then [Alt. ♄ tunc fuit]	*20° 12′*
7^h 53^m	Declination of ♄, north [Decl. ♄ Bor.]	7° 52′

Time	Eye of ♉, east [Oculus ♉ or.]	♄, east [♄ or.]	Equatorial distance [Diſt. æquat.]
7^h 58^m 55^s	66° 8½′	29° 0′	37° 8½′
8^h 0^m 30^s	65° 43¼′	28° 35′	37° 8¼′
8^h 2^m 0^s	65° 21′	28° 11½′	37° 9½′
8^h 3^m 30^s	64° 56½′	27° 48¼′	37° 8¼′
8^h 5^m 49^s	64° 23′	27° 15′	37° 8′

Time	Eye of ♉, east [Oculus ♉ or.]	♄, east [♄ or.]	Equatorial distance [Diſt. æquat.]
$8^h\ 8^m\ 25^s$	63° 44′	26° 35½′	37° 8½′

Set the equatorial distance of ♄ from the eye of ♉ [Pone diſtantiam æquatoriam ♄ ab oculo ♉] at 37° 8½′.

On 16 November [DIE 16 NOUEMBRIS.]

Time	Reading	Value
$7^h\ 23^m\ 55^s$ [$7^H 23'\ 55''$]	Bright star of the Vulture, west [Lucida Vult. occid.]	63° 13′
$7^h\ 25^m\ 5^s$		63° 32′

From this distance of the Vulture from the meridian the clock was verified at the hour 7½: that it had been turning $11\frac{1}{6}^m$ [11⅙ ſcrupulis primis] slower than it should. Two days before it had not been exactly corrected [Ex hac diſtantia Vulturis a Meridiano horologium ad horam 7½ eſt verificatum, quod 11⅙ ſcrupulis primis iuſto tardius circumuoluebatur. Ante biduum non fuit exacte correctum.].

Time	Reading	Value
$9^h\ 33^m\ 3^s$ [$9^H 33'\ 3''$]	Meridian altitude of ♄ by the revolving quadrant [Alt. Meridiana ♄ per Q. Volubilem]	41° 52½′
$9^h\ 34^m\ 57^s$	Altitude of the bright star of ♈ on the meridian [Alt. luc. ♈ in Merid.]	55° 34½′

From this you will be able to perceive whether the clock is correctly set [Hinc poteris percipere an horologium ſit recte conſtitutum.].

Time	Reading	Value
$9^h\ 48^m$	Declination of ♄ by the armillae [Decl. ♄ per Armillas]	7° 46¼′
	With the other pinnule [Altero pinnacidio]	7° 46⅓′
$10^h\ 29^m\ 30^s$	With the place of the eye of ♉ put at 4° 2′ ♊, the place of ♄ was observed at [Poſito loco oculi ♉ in 4° 2′ ♊, obſeruabatur locus ♄ in]	26° 36½′ ♈
$10^h\ 33^m\ 34^s$	With the place of Aldebaran put as before, ♄ was at [Poſito loco Aldeb. vt prius fuit ♄ in]	26° 36¾′
$10^h\ 36^m\ 59^s$	With Aldebaran put as before, ♄ was at [Poſito Aldeb. vt prius fuit ♄ in]	26° 36½′

Time	♄, west [♄ occid.]	Eye of ♉, east [Oculus ♉ or.]	Equatorial distance [Diſt. æquat.]
$10^h\ 55^m\ 40^s$	20° 50¾′	16° 34½′	37° 25¼′
$10^h\ 57^m\ 9^s$	21° 14′	16° 10′	37° 24′
$10^h\ 59^m\ 4^s$	21° 43′	15° 41½′	37° 24½′
$11^h\ 0^m\ 55^s$	22° 10′	15° 13½′	37° 23½′
$11^h\ 2^m\ 26^s$	22° 33¼′	14° 51′	37° 24¼′

Set the equatorial distance [Pone diſtantiam æquatoriam] at 37° 24⅓′.

Time	Reading	Value
$11^h\ 5^m\ 0^s$	Repeated declination of ♄ [Repetita declin. ♄]	7° 47′

On 17 November [DIE 17 NOUEMBRIS.]

By the zodiacal armillae [Per Armillas Zodiacales.].

Time	Reading	Value
$8^h\ 29^m\ 26^s$ p.m. [8ᴴ29′26″P. M.]	With the place of the bright star of the Vulture put at 26° 0′ ♐, the place of ♄ was observed at [poſito loco lucidæ Vult. in 26°0′ ♐ obſeruabatur locus ♄ in]	26° 36¾′ ♈
$8^h\ 31^m\ 29^s$	Again, with the place of the Vulture put as before, the place of ♄ was observed at [Rurſus poſito loco Vult. vt prius obſeruabatur locus ♄ in]	26° 37′ ♈

On 2 December, p.m. [DIE 2 DECEMBRIS P. M.]

For the correction of the place of ♄, it was observed from the bright star of the Vulture [Pro emendatione loci ♄ⁿⁱ obſeruabatur a lucida Vulturis.].

Clock [Horol.]: greater [Mai.]	lesser [Min.]	Reading	Value
$4^h\ 40^m\ 19^s$ [4ᴴ40′19″] (for both readings)	$4^h\ 23^m\ 17^s$ (for both readings)	Bright star of the Vulture, west [Luc. Vult. occ.]	34° 14⅔′
		♄, east [♄ or.]	58° 2¾′
		Equatorial distance [Diſt. æquat.]	92° 17½′
		Azimuth of ♄ [Az. ♄] 63° 33′, altitude of ♄ [Alt. ♄]	23° 47¼′
$4^h\ 43^m\ 11^s$ (for both readings)	$4^h\ 25^m\ 55^s$ (for both readings)	Vulture, west [Vult. occ.]	34° 56′
		♄, east [♄ or.]	57° 20½′
		Equatorial distance [Diſt. æquat.]	92° 16½′
		Azimuth of ♄ [Az. ♄] 65° 50′, altitude [Alt.]	24° 22½′
$4^h\ 45^m\ 56^s$ (for both readings)	$4^h\ 28^m\ 25^s$ (for both readings)	Vulture, west [Vult. occ.]	35° 34⅓′
		♄, east [♄ or.]	56° 40½′
		Equatorial distance [Diſt. æquat.]	92° 15′
		Azimuth of ♄ [Azim. ♄]	65° 31′

33

Let the equatorial distance of ♄ from the Vulture be set at 92° 16′ [Ponatur diſtantia æquatoria ♄ a Vult.].

[33] in each group the time by the greater clock stands above the time by the lesser, and a brace joins the two times to the two distance readings; the times are given once, on the first row of the group. In the first group *Horol.* stands on a line of its own above *Mai.*, beside the first reading.

Reading	Value
Right ascension of the bright star of the Vulture [Aſcenſ. R. lucidæ Vult.]	292° 41′
The right ascension of ♄ comes out [Prouenit Aſcenſ. R. ♄]	24° 57′

On 6 December [DIE 6 DECEMBRIS.]

Time	*Reading*	*Value*
8^h 15^m 15^s [H. 8 15′ 15″]	*♄ through the meridian, altitude [♄ per Meridianum Alt.]*	*41° 40½′*
8^h 20^m 8^s	*Bright star of ♈ on the meridian, altitude [Luc. ♈ in Merid., Alt.]*	*55° 34¾′*

From this it will be possible to verify the time [Hinc poterit tempus verificari.].

Reading	*Value*
Declination of ♄ by the equatorial armillae [♄ per Armillas æquat. declin.]	*7° 32¾′*
With the other pinnule [Alt. pinnacid.]	*7° 33′*

On 16 December [DIE 16 DECEMBRIS.]

To verify the place of ♄, on account of its observations made relative to ♀, its equatorial distance from the eye of ♉ was taken in this way [Pro verificando loco ♄^{ni} ob obſeruationes ipſius ad ♀ habitas accipiebatur ipſius diſtantia æquatoria ab oculo ♉ in hunc modum.]:

Time	*Aldebaran, east [Aldebor. or.]*	*♄, east [♄ or.]*	*Equatorial distance [Diſt. æquat.]*
5^h 22½^m [5^H22½]	*65° 25½′*	*27° 5½′*	*38° 20′*
5^h 28^m	*64° 7⅙′*	*27° 46½′*	*38° 20⅔′*
5^h 30⅓^m	*63° 33⅙′*	*25° 13½′*	*38° 19⅔′*

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At about the hour 5½, set the distance of ♄ and Aldebaran at 38° 20′ [Pone iuxta Horam 5½ diſt. ♄ & Aldeb.].

Time	*Reading*	*Value*
5^h 36^m	*Declination of ♄, with one pinnule [Decl. ♄ vno pinn.]*	*7° 34½′*
	With the other pinnule [altero pinn.]	*7° 34⅔′*

[34] in the row of 5^h 28^m the printed values 64 7⅙ and 27 46½ differ by 36° 20⅔′, while the distance is printed 38 20⅔, where the other two rows agree with their differences; the ♄ and distance figures are confirmed on a native-resolution crop, all are given as printed, and no correction is made.

Time	*Aldebaran, east [Aldebor. or.]*	*♄, east [♄ or.]*	*Equatorial distance [Diſt. æquat.]*
5h 42⅚m	*60° 22′*	*22° 2½′*	*38° 19½′*
5h 45¼m	*59° 45½′*	*21° 27½′*	*38° 18′*
5h 46m 35s	*59° 20½′*	*21° 0⅙′*	*38° 20⅓′*
5h 49m	*58° 49½′*	*20° 31½′*	*38° 18′*

If, therefore, you set the ascensional difference of ♄ from the eye of ♉ at about this time at 38° 19′, you will not go perceptibly wrong — or rather 38° 19½′; but see what follows [Si itaque poſueris ♄mi ab oculo ♉ differentiam aſcenſionalem iuxta hoc tempus 38 19, non aberrabis ſenſibiliter, vel potius 38 19½, ſed vide ſequentia.].

Time	*Reading*	*Value*
7h 9m 40s	*Meridian altitude of ♄ [Altit. Merid. ♄]*	
	by the revolving [quadrant] [per Volub.]	*41° 40′*
	by the mural [quadrant] [per Mural.]	*41° 39½′*
7h 15m 14s	*Bright star of ♈, by the revolving [quadrant] [Lucid. ♈ per Volub.]*	*55° 34⅔′*
	by the mural [quadrant] [per Mural.]	*55° 34⅓′*

The time between the transit of ♄ and the head of ♈ was therefore 5m 34s [5ᵐ 34ˢ], or 1° 23½′. Hence, since the right ascension of the bright star of ♈ is 26° 3′, the right ascension of ♄ will be 24° 39½′, which you can compare with the preceding [observations] [Fuit itaque tempus inter tranſitum ♄ & caput ♈ 5ᵐ 34ˢ vel 1° 23½′, quare cum Aſc. R. Lucidæ ♈ ſit 26 3, erit Aſc. R. ♄ 24 39½, quod potes conferre cum antecedentibus.].

Reading	*Value*
Declination of ♄, with one pinnule [Declin. ♄ vno pinnacidio]	*7° 34¾′*
With the other [altero]	*7° 34⅔′*

On 26 December [DIE 26 DECEMBRIS.]

Reading	*Value*
For the place of ♄:1 between Aldebaran and ♄, by the sextant [Pro loco ♄1 inter Aldeb. & ♄ per Sextantem]	*38° 19′*
Declination of ♄ [Decl. ♄]	*8° 21½′*

Time	*Aldebaran, east [Aldeb. or.]*	*♄, east [♄ or.]*	*Equatorial distance [Diſt. æquat.]*	*Altitude of ♄ [Alt. ♄]*
5h 0m 5s [5ᴴ 0ᴹ 5ˢ]	*61° 17′*	*23° 1′*	*38° 16′*	*38⅚°*
5h 2m 36s	*60° 41¾′*	*22° 25′*	*38° 16¾′*	*38° 55′*
5h 4m 22s	*60° 13′*	*21° 55¾′*	*38° 17¼′*	*39°*
5h 6m 37s	*59° 40′*	*21° 22½′*	*38° 17½′*	

Time	*Aldebaran, east [Aldeb. or.]*	*♄, east [♄ or.]*	*Equatorial distance [Dist. æquat.]*	*Altitude of ♄ [Alt. ♄]*
5h 8m 35s	*59° 12′*	*20° 52¾′*	*38° 19¼′*	*39¼°*

Therefore, at about the fifth hour after noon, set the equatorial distance of ♄ and the bright star of ♈ at 38° 17½′, and the declination of ♄, twice repeated, at 8° 21¼′ [Pone itaque iuxta horam 5 pomeridianam dist. æquat. ♄ & Lucidæ ♈ 38 17½ & declinationem ♄ 8 21¼ bis repetitam.].[35]

For a more exact observation of ♄, however, its distance from Aldebaran was observed by the sextant in this way — and that by the old sextant, just as the preceding [observations were] also by the same [Pro exactiori autem ♄ obseruatione obseruabatur per Sextantem eius distantia ab Aldebora in hunc modum, idque per Sextantem veterem, velut & præcedentes per eundem.].

Time	*Reading*	*Value*
5h 35m [5ʰ35′]	*Between ♄ and the eye of ♉, by the old trigonal sextant [Inter ♄ & oculum ♉ per Sext. trigonicum veterem]*	*38° 19′*
5h 40m	*The same, repeated [Eadem repetita]*	*38° 18′*

1 This observation was made between $4^h\ 22^m$ and $4^h\ 27^m$. You will find the distances of ♄ from ♀ among the observations of Venus [Hæc obseruatio facta est inter $4^h\ 22^m$ et $4^h\ 27^m$. Distantias ♄ a ♀ inter obseruationes Veneris inuenies.].

Time	
5h 43m [5ʰ43′]	*38° 18′*
5h 46m	*38° 17′*
5h 51m	*38° 18′*
5h 55m	*38° 18′*
5h 57m	*38° 17⅔′*

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Therefore, around these times — that is, at about the hour 5¾ — set the distance of ♄ from Aldebaran at 38° 18′ [Pone itaque circa hæc tempora, videlicet iuxta horam 5¾ distantiam ♄ ab Aldeb.].

Afterwards ♄ was observed the other way round, from the first [star] of the neck of Pegasus, which is in its great square, in this way [Postea obseruabatur ♄ vice versa a prima colli pegasi, quæ est in quadrato magno ipsius, in hunc modum.]:

[35] the sign printed after *Lucidæ* here is ♈; the table above is headed *Aldeb.*

[36] these five rows carry no heads on this page; they continue the distances between ♄ and the eye of ♉ by the old trigonal sextant ($5^h\ 35^m$, $5^h\ 40^m$) at the foot of the previous page.

Time	*Reading*	*Value*
$6^h\ 25^m$	*Between ♄ and the first [star] of the wing [Inter ♄ & primam alæ] good [bona]*	*43° 16½′*
	The same, repeated [Eadem repetita]	*43° 16′*
	but the former [is] better [ſed prior melior]	*43° 14½′*
$6^h\ 30^m\ 55^s$ *[6 30 55″]*	*♄ crossed the meridian; altitude by the revolving [quadrant] [tranſiuit ♄ Merid., Alt. per Volub.]*	*41° 44′*
$6^h\ 36^m\ 8^s$	*The bright star of ♈ crossed the meridian; altitude [tranſiuit lucida ♈ Merid., Alt.]*	*55° 34¼′*
At about $6^h\ 50^m$ *[Circa horam 6 50′]*	*Between ♄ and the first [star] of the wing of Pegasus [inter ♄ & primam alæ Pegaſi]*	*43° 16′*
	Between ♄ and the eye of ♉ [Inter ♄ et oculum ♉]	*38° 18′ twice [bis]*

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Hence, from this distance of ♄ by the old sextant, its place can be verified, with the declination applied for the observations both of this evening and of the preceding days[1] [Hinc ex hac diſtantia ♄ per Sext. veterem poteſt verificari ipſius locus, adhibita declinatione tam pro huius Veſperi quam præcedentium dierum obſeruationibus[1].].

On 27 December [DIE 27 DECEMBRIS.]

At $6^h\ 24^m\ 0^s$ [H. 6 24′ 0″] ♄ was on the meridian, having an altitude [altit.] of 41° 45½′.

On 31 December [DIE 31 DECEMBRIS.]

[At] $6^h\ 24^m\ 4^s$ [6^H24′ 4″] ♄ crossed the meridian, having an altitude [Altitudinem] of 41° 47¾′.

Saturn therefore crossed the meridian between the following [star] in the horn of ♈ and the bright one, or between the second and the 3rd;[2] its right ascension can therefore be searched out from the transit, by the clock, between the two observations [Saturnus itaque inter ſequentem in cornu ♈ et lucidam vel inter ſecundam & 3^{am} tranſiuit per meridianum[2], poteſt itaque ipſius Aſcenſio Recta rimari ex tranſitu per Horologium inter vtramque obſeruationem.].

Time	*Reading*	*Value*
	♄, moreover, had a declination, with one [♄ autem habuit Decl. vno]	*7° 41¼′*
	with the other pinnule [altero pinn.]	*7° 41½′*
$7^h\ 0^m$	*Between ♄ and Aldebaran, by the sextant [Inter ♄ & Aldeb. per Sext.]*	*38° 11¼′*
	twice [bis]	

38

[37] *bona* stands on a line of its own, at the right, below the value of $6^h\ 25^m$, and is kept on its own row.

[38] *bis* stands on a line of its own, at the right, below the value of $7^h\ 0^m$, and is kept on its own row.

Time	*Reading*	*Value*
$7^h\ 15^m$	*Between ♄ and the far end of the wing of Pegasus, by the sextant [Inter ♄ & extremam alæ Pegaſi per Sext.]*	*26° 54½′*
		26°[3]
		54¼′
		26°[3] *55′*

39

Time	*♄, west [♄ occ.]*	*Aldebaran, east [Aldeb. or.]*	*Equatorial distance [Diſt. æquat.]*
$7^h\ 7^m\ 50^s$	*10° 46¾′*	*27° 25′*	*38° 11¾′*
$7^h\ 10^m\ 10^s$	*11° 22¼′*	*26° 48′*	*38° 10¼′*
$7^h\ 12^m\ 0^s$	*11° 49½′*	*26° 20½′*	*38° 10′*
$7^h\ 13^m\ 50^s$	*12° 17½′*	*25° 53′*	*38° 10½′*
$7^h\ 15^m\ 40^s$	*12° 45′*	*25° 25′*	*38° 10′*
$7^h\ 17^m\ 45^s$	*13° 14¾′*	*24° 55′*	*38° 9¾′*
$7^h\ 20^m\ 8^s$	*13° 50′*	*24° 20′*	*38° 10′*

Therefore set the ascensional difference of ♄ and Aldebaran at 38° 10′, and you will err imperceptibly [Pone itaque differentiam aſcenſionalem ♄ & Aldeb. 38 10 & inſenſibiliter errabis.].

The declination of ♄ can be sought from the above [Declinatio ♄ e ſuperioribus peti poteſt.].

Places of Saturn[4] *[LOCA SATURNI*[4]*.]*

Day [Die]	Longitude [Long.]	Latitude [Lat.]
10 October [10 Octobris]	29° 13′ ♈	2° 45′ 50″ south [M.]
11 — [October]	29° 9′ ♈	2° 46′ 40″ south [M.]
13 — [October]	28° 59′ 50″ ♈	2° 45′ 50″ south [M.]
26 December [26 Decemb.]	25° 43′ 20″ ♈	2° 30′ 30″ south [A.]

40

From a comparison of these apparent places of ♄, it is found to have been in opposition with the simple [motion] of the Sun on the 10th day of the month of October, at $16¾^h$ [H. 16¾], at 29° 12′ 0″ ♈ [Ex his apparentibus locis ♄ collatis invenitur fuiße in ☍ cum ſimplici $☉^{l_i^s}$ Menſis Octobris Die 10 H. 16¾ in 29° 12′ 0″ ♈.].

[39] the label is printed over three lines, with one value on each line; the English gives the label whole on the first row.

[40] in the rows of the 11th and 13th a dash stands in the place of the month.

Calculation [Calculus]	Place
Copernican [Copern.]	29° 12½′ ♈
Alphonsine [Alphon.]	1° 37½′ ♉

41

You will have a more exact place of ♄ *when, on the day of opposition, those [values] have been limited which were taken from the distances by the sextant on both sides, from Aldebaran and from the 1st [star] of the wing of Pegasus [Exactiorem* ♄ *locum habebis limitatis die* ☍ *ijs quæ ex diſtantijs per Sextantem vtrinque accepta ſunt ab Aldebora et I alæ Pegaſi.].*

I conclude that ♄*, in opposition to the Sun, was at 29° 13′* ♈*, if the mean is taken between the two observations, from the eye of* ♉ *and from the far end of the wing of Pegasus [Colligo* ♄ *in* ☍ ☉ *fuiße in 29 13* ♈ *ſi medium accipiatur inter vtramque obſeruationem ab oculo* ♉ *& extrema alæ Pegaſi.].*

N.B. Limitation. Since the distance from Aldebaran gave 29° 13′, and the other, from the first [star] of the wing, gave 29° 15½′, we take as true 29° 14′, which is, as it were, intermediate but inclining nearer to Aldebaran, the more certain. Hence the 5 hours up to the opposition take off 1′ [M. 1], so that the true place of the opposition was 29° 13′ ♈*; but the reckoning of its course, on account of the latitude, takes off ⅔, so that it is 29° 12′ 20″* ♈ *[N.B. Limitatio. Quia diſt. ab Ald. dedit 29 13 & altera a prima alæ dedit 29 15½, accipimus verum 29 14, quod eſt quaſi intermedium ſed propius ad Aldeboram certiorem vergens, hinc auferunt horæ 5 vſque ad* ☍ *M. 1 vt fuerit verus locus* ☍ *29 13* ♈ *ſed ratio ſui ductus ob lat. aufert ⅔, vt ſit 29° 12′ 20″* ♈*.].*

[1] In codex V there is written beside it: »Longitude comes out 25° 43′ ♈, latitude 2° 30′ 15″ south« [Adſcriptum eſt in codice V: »Prouenit Long. 25° 43′ ♈ Latitudo 2° 30′ 15″ Merid.«.].

[2] See below, among the observations of the stars in Aries [Vide infra inter obſeruationes ſtellarum in Ariete.].

[3] The codex has 24°, but wrongly [Codex habet 24°, ſed prave.].

[4] From codex V [E codice V.].

For the place of ♄ *on 26 December, around the last station [Pro loco* ♄ *Die 26 Decembris circa ultimam ſtationem.]:*

Time	*Reckoning*	*Value*
5^h 45^m [H.5 M.45]	*Distance of* ♄ *from Aldebaran [Diſtantia* ♄ *ab Ald.]*	*38° 18′*
	Declination of ♄ *[Declinatio* ♄*]*	*7° 38½′*
	Declination of Aldebaran [Declinatio Aldeboræ]	*15° 36½′*
	Angle of the difference of ascension, supp. [Angulus differentiæ aſcenſ. ſupp.]	*38° 18′ 45″*
	Right ascension of Aldebaran [Aſcenſio recta Ald.]	*63° 4′ 30″*
	Therefore the right ascension of ♄ *[Ergo Aſc. recta* ♄*]*	*24° 45′ 45″*

[41] *Calculus* stands once, joined by a brace to both lines; the head "Place" is this edition's.

Time	*Reckoning*	*Value*
6h 25m [H.6 M.25]	*Distance of ♄ from the first [star] of the wing of Pegasus [Diſtantia ♄ a prima alæ Pegaſi]*	*43° 16′ 30″*
	Declination of the 1st [star] of the wing of Pegasus [Declinatio I alæ Pegaſi]	*13° 1½′*
	Right ascension of this [star] [Aſcenſio recta hujus]	*341° 3′ 15″*
	Angle of the difference of ascension [Angulus dⁱæ Aſcen.]	*43° 41′ 30″*
	Therefore, from this, the right ascension of ♄ [Ergo hinc Aſc. recta ♄]	*24° 44′ 45″*
6h 0m [H.6 M.0]	*Right ascension of ♄, limited [Aſcenſio recta ♄ limitata]*	*24° 45¼′*
	Declination, north [Declinat. B.]	*7° 38½′*
	Corresponding longitude [Reſp. Longitudo]	*25° 43′ 20″ ♈*
	Latitude [Latitudo]	*2° 30′ 30″ south [A.]*
	Arc of inclination, subt. [Arcus inclinat. ſubt.]	*20″*
	True longitude [Vera longitudo]	*25° 43′ 0″ ♈*

42

Observations of Jupiter [OBSERUATIONES IOUIS.]

On 13 January [DIE 13 JANUARIJ.]

Time	Reading	Value
	Meridian altitude of ♃ by the quadrant [Alt. ♃ Meridiana per Quadr.]	53° 56′
	Declination of ♃ by the armillae when it was on the meridian, with both pinnules [Decl. ♃ per Armillas cum eßet in Merid., vtroque pinnac.]	19° 53′ north [B.]

By the sextant △ [Per Sext. △.]:

Time	Reading	Value
6h 0m [6ᴴ 0ᴹ]	Distance between ♃ and the bright star of ♈ [Diſt. inter ♃ & lucid. ♈]	31° 10′
6h 5m	The same, repeated [Eadem repetita]	31° 10½′
6h 18½m	Between ♃ and the eye of ♉ [Inter ♃ & oculum ♉]	5° 34′
6h 44m	The same [Eadem]	5° 33′
6h 54m	The same, good [Eadem, bona]	5° 34½′
6h 30m	Declination of ♃ with both pinnules [Declin. ♃ vtroque pinnac.] by the subterranean armillae [per Armillas ſubterraneas.]	19° 53′

On 14 January [DIE 14 JANUARIJ.]

[42] the rows from 5h 45m to 6h 25m stand in the left column and those from the declination of the first star of the wing of Pegasus on in the right column; a rule is set above the right ascension of ♄ (24° 45′ 45″) and above the true longitude. The value 20 of the arc of inclination stands alone, in the column of the seconds of the lines above and below it.

Time	*Reading*	*Value*
	Altitude of ♃ on the meridian [Alt. ♃ in Merid.]	*53° 57′*
	Declination by the armillae [Declin. per Armillas]	*19° 52⅓′*
	With the other pinnule [Altero pinnacid.]	*19° 52′*

The difference is 40″ [Differentia eſt ſcrupulorum 40″.].[43]

On 15 January [DIE 15 JANUARIJ.]

Time	*Reading*	*Value*
	Meridian altitude of ♃ by the revolving quadrant [Alt. Merid. ♃ per Q. Volub.]	*53° 57′ 35″*
	Declination of the same, with one pinnule [Declin. eiusdem vno pinnac.]	*19° 52½′*
	With the other pinnule [Alt. pinnacid.]	*19° 52′ 0″*
	By the Tychonic quadrant [Per Q. Tichon.]	*53° 57½′*

On 16 January [DIE 16 JANUARIJ.]

Time	*Reading*	*Value*
	Meridian altitude by the revolving quadrant [Alt. Meridiana per Q. Volub.]	*53° 58′*
	Declination by the pinnules of the great armillae [Declin. per pinnacidia Armill. magnar.]	*I 19° 52½′*
		II
		19° 52¾′
	agrees well enough [ſatis bene conuenit.]	
	Altitude of ♃ by the Tychonic quadrant [Alt. ♃ per Q. Tichon.]	*53° 58′*

44

On 21 January [DIE 21 JANUARIJ.]

Time	Reading	Value
7⅙[h] [H. 7⅙]	Declination of ♃ by the subterranean armillae [Declin. ♃ per Armill. ſubt.]	19° 54½′ north [B.]
	Meridian altitude of ♃, Tychonic quadrant[1] [Alt. ♃ Mer. Q. Tich.[1]]	49° 42′
	With the other pinnule [Alt. pinnac.]	49° 42⅓′

Observation of ♃ by the armillae [Obſeruatio ♃ per Armillas.]:

[43] the two declinations are printed 19 52⅓ and 19 52, which differ by 20″, while this line states the difference as 40″; the ⅓ is confirmed on a native-resolution crop, both are given as printed, and no correction is made.

[44] the declination by the pinnules is the last line of the left column; the lines from *Armill. magnar.* on stand at the head of the right column. The numerals I and II are printed before the values.

Time	☽, west [☽ occid.]	The heart of ☊, east [Cor ☊ or.]	Equatorial distance [Diſt. æq.]
$9^h\ 41^m$	39° 50′	47° 17¾′	87° 7¾′
$9^h\ 43½^m$	40° 23′	46° 44½′	87° 7½′
$9^h\ 45½^m$	40° 57′	46° 10¼′	87° 7¼′
$9^h\ 48^m$	Declination of ☽, north [Declin. ☽ Bor.]		19° 54¾′

45

But when ☽ was on the meridian [Cum vero eßet ☽ in meridiano,]:

Reckoning	*Value*
Altitude by the mural [quadrant] [Alt. per Muralem]	*54° 0′*
	34° 5′ 30″
Declination [Decl.]	*19° 54′ 30″*

46

From this let the place of ☽ be sought, setting for the hour 9⅔ its difference of ascension from the heart of ☊ at 87° 7½′ and its northern declination at 19° 54½′, so that the place of ☽, being not far from the station, may be established. But let the right ascension of the heart of ☊ be verified from the right ascension of the eye of ♉ for this year, 63° 5′, so that it agrees in respect of the distance [Inquiratur hinc locus ☽ ponendo ad horam 9⅔ ipſius differentiam Aſc. a corde ☊ 87 7½ & declinationem boream 19 54½, vt conſtet locus ☽ non longe a ſtatione exiſtentis. Sed cordis ☊ Aſc. Recta verificetur ex Aſcenſione recta oculi ♉ hoc anno 63 5 vt conueniat ratione diſtantiæ.].

On 22 January [DIE 22 JANUARIJ.]

Time	Reading	Value
	Meridian altitude of ☽ by the Tychonic quadrant [Altit. Merid. ☽ per Q. Tichon.]	54° 0⅙′
	with the other pinnule [altero pinnac.]	54° 0¼′

[1] Without doubt it should be: »Altitude of Aldebaran« [Sine dubio debet eße: »Alt. Aldeboræ«.].

Time	☽, west [☽ occident.]	The heart of ☊, east [Cor ☊ orient.]	Equatorial distance [Diſt. æquat.]
$10^h\ 52^m$ [$10^h\ 52^m$]	59° 5′	28° 2′	87° 7′
$10^h\ 55⅓^m$	59° 44½′	27° 23½′	87° 8′
$10^h\ 58^m$	60° 27′	26° 43½′	87° 10½′
$11^h\ 1^m$	61° 3¾′	25° 5¼′	87° 9′

[45] the declination at $9^h\ 48^m$ stands in the column of the equatorial distances; it is not an equatorial distance.

[46] the value 34° 5′ 30″ carries no label on this page; a rule is set above the declination.

Time	♃, west [♃ occident.]	The heart of ♌, east [Cor ♌ orient.]	Equatorial distance [Dist. æquat.]
$11^h\ 3½^m$	61° 47¼′	25° 21½′	87° 8¾′
	The brightness of the Moon produced this variation [Splendor ☾ hanc varietatem peperit.]		
$11^h\ 7⅓^m$	Declination of ♃ by the armillae [Declin. ♃ per Armillas]		19° 55½′

47

On 23 January [DIE 23 JANUARIJ.]

Time	♃, west [♃ occ.]	The heart of ♌, east [Cor ♌ or.]	Equatorial distance [Dist. æquat.]
$10^h\ 2^m$ [10^H 2′]	47° 47½′	39° 19⅓′	87° 6⅚′
$10^h\ 5⅚^m$	48° 41⅔′	38° 24⅔′	87° 6⅓′
$10^h\ 8½^m$	49° 20½′	37° 46⅔′	87° 7⅙′
$10^h\ 10⅚^m$	49° 54¾′	37° 12½′	87° 7¼′
$10^h\ 16½^m$	Declination of ♃, north, with one pinnule [Decl. ♃ B. vno pinn.]		19° 55′
	with the other pinnule [altero pinn.]		19° 54½′

48

On 1 February [DIE 1 FEBRUARIJ.]

Time	Reading	Value
$6^h\ 30^m$ [H. 6 M. 30]	*Declination of ♃ by the armillae [Declin. ♃ per Armillas]*	*20° 1½′*
	with the other pinnule [alt. pinnacid.]	*20° 1⅓′*
	when it was not far from the meridian [cum non longe abeßet a Meridiano.]	
	Its meridian altitude [Alt. eius Meridiana]	54° 7⅔′
	by the Tychonic quadrant, with both pinnules [per Q. Tichon., vtroque pinnacidio.]	

[47] these rows continue 22 January from the preceding page; the declination at $11^h\ 7⅓^m$ stands in the column of the equatorial distances, and is not an equatorial distance. In the row of $11^h\ 1^m$ the printed values 61 3¾ and 25 5¼ add to 86° 9′, while the distance is printed 87 9, where the other rows agree with their sums, and 25 5¼ breaks the run of the column of the heart of ♌; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

[48] the two declinations stand in the column of the equatorial distances; they are not equatorial distances.

On 5 February [DIE 5 FEBRUARIJ.]

Time	Reading	Value
	Meridian altitude of ♃ by the Tychonic quadrant [Alt. merid. ♃ per Q. Tich.] with both pinnules [vtroque pinnacidio]	54° 11′

On 7 February [DIE 7 FEBRUARIJ.]

Time	Reading	Value
6^h 10^m [H. 6 M. 10]	♃ on the meridian had an altitude, by the Tychonic quadrant [♃ in Merid. altitudinem habuit per Q. Tichon.]	54° 13′
	with both pinnules [vtroque pinnacidio]	
	Declination by the armillae [Declin. per Armillas]	20° 7¼′
	With the other pinnule [Alt. pinnacid.]	20° 7⅔′

On 23 September, a.m. [DIE 23 SEPTEMBRIS A. M.]

After midnight [P. M. N.]	Reading	Value
4^h 50^m [$4^H50'$]	Declination of ♃, north, with one pinnule [Decl. ♃ Bor. vno pin.]	22° 43′
	With the other pinnule [Alt. pinnacid.]	22° 43′
4^h 58^m	Between ♃ and Aldebaran [Inter ♃ & Aldebor.]	I 40° 9⅓′
	by the sextant △ [per Sext. △]	II 40° 9⅓′
5^h 3^m	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]	I 40° 12¾′
	by the sextant △ [per Sext. △]	II 40° 12¾′

49

For the place of ♃ [Pro loco ♃.]:

Time	Reckoning	Value
5^h [H. 5]	Difference of right ascension of ♃ and the eye of ♉, from the distance by the sextant [Diff. Afc. R. ♃ & oculi ♉ ex diſtantia per Sext.]	41° 59′
	Right ascension of the eye of ♉ [Afc. R. oculi ♉]	63° 6′
	Right ascension of ♃ [Afc. R. ♃]	105° 5′
	Declination, north [Decl. B.]	22° 43′
	Corresponding longitude [Reſp. Longitudo]	13° 53½′ ♋
	Latitude [Latitudo]	0° 4⅓′ south [M.]

50

[49] the numerals I and II are printed before the values.

[50] the first row is the last line of the left column; the rows from the right ascension of the eye of ♉ on stand at the head of the right column.

Comparison of the place found with the Alphonsine and Copernican calculation [Collatio inuenti loci cum calculo Alphonſino & Coperniano.]:

	From the observation [Ex obſeruatione]	Alphonsine calculation [Calc. Alph.]	Copernican calculation [Calc. Cop.]
Longitude [Long.]	13° 53½′ ♋	13° 38′ ♋	13° 21′ ♋
Latitude [Lat.]	0° 4⅓′ south [M.]	0° 19′ south [M.]	0° 38′ south [M.]

On 24 September, a.m. [DIE 24 SEPTEMBRIS A. M.]

After midnight [P. M. N.]	☿, east [☿ orient.]	Eye of ♉, east [Oculus ♉ orient.]	Equatorial distance [Diſt. æquat.]
3^h 13^m [3ʰ13′]	47° 43¼′	5° 40½′	42° 2¾′
3^h 18^m	46° 19⅓′	4° 17′	42° 2⅓′
3^h 20^m	45° 48½′	3° 46′	42° 2½′
3^h $24½^m$	Declination of ☿, north [Declin. ☿ B.]		22° 43¼′

51

On 10 October [DIE 10 OCTOBRIS.]

Time	*Reading*	*Value*
12^h 36^m [12ʰ36′]	*The distance of ☿ was [Fuit diſtantia ☿]*	*41° 22′*
12^h $38½^m$	*and of the eye of ♉ [& oculi ♉]*	*41° 22¼′*
12^h 42^m	*The declination of ☿ was observed by the subterranean armillae [Declin. ☿ obſeruabatur per Armillas ſubterraneas]*	*22° 36½′ north [B.]*
12^h 44^m	*The same declination, repeated [Eadem declin. repet.]*	*22° 36½′*

52

Time	Eye of ♉, east [Oculus ♉ orient.]	☿, east [☿ orient.]	Equatorial distance [Diſt. æquat.]
1^h 2^m	22° 43′	66° 1½′	43° 18½′
		Altitude of ☿ 32° [Alt. ☿ 32°]	
1^h $4⅚^m$	22° 1′	65° 18¾′	43° 17¾′
1^h $8⅙^m$	21° 9′	64° 25¼′	43° 16¼′
1^h $10¾^m$	20° 30′	63° 48⅙′	43° 18⅙′

[51] the declination at 3^h $24½^m$ stands in the column of the equatorial distances; it is not an equatorial distance.

[52] *Fuit diſtantia* ☿ *& oculi* ♉ — "the distance of ☿ and of the eye of ♉ was" — runs over two lines, with a value on each line.

53

Therefore let the difference of ascension of ☽ and Aldebaran be set, at about these times, at 43° 18′, and let it be compared with the distance taken from the same star [Conſtituatur itaque iuxta hæc tempora Diff. Aſc. ☽ & Aldeboræ 43 18, & conferatur cum diſtantia ab eadem ſtella accepta.].

The first observation by the armillae of the zodiac [Per Armillas Zodiaci prima obſeruatio.].

At 1^h 40^m [H.1 M.40], with the place of the eye of ♉ set at 4° 2′ ♊, the place of ☽ appeared to be at 14° 58′ ♋ [poſito loco oculi ♉ in 4° 2′ ♊ videbatur locus ☽ in 14 58 ♋.].

But afterwards, at 1^h 50^m [hora 1 M. 50], repeating twice and observing more exactly, I found in the same way the place of longitude of ☽ at 15° 2′ ♋. Therefore by the equatorial armillae the longitude comes out 15° 6′ ♋, a difference of 4′ [Sed poſtea hora 1 M. 50 bis reiterando & exactius obſeruando inueni eadem ratione locum longitudinis ☽ in 15° 2′ ♋. Ergo per Armillas æquatorias prouenit Longitudo 15° 6′ ♋, differentia 4 minutorum.].

On 22 October, a.m. [DIE 22 OCTOBRIS A. M.]

Observation of Jupiter [Obſeruatio Iouis.]

Time	Reading	Value
5⅝^h [H. 5⅝]	Declination of ☽, north, by the armillae [Declin. ☽ B. per Armillas]	22° 35¼′
5^h 56^m [H. 5 56′]	Distance between ☽ [Diſtantia inter ☽]	I 38° 44½′
	and the heart of ♌, by the sextant △ [& cor ♌ per Sext. △]	II 38° 44½′

54

On 24 October [DIE 24 OCTOBRIS.]

Time	*Reading*	*Value*
7^h 2^m [H.7 M.2]	*The declination of ☽, north, was [Fuit Declin. ☽ Bor.]*	*22° 36′*
7^h 3½^m	*Declination of ☽ repeated, with the other pinnule [Repet.Decl. ☽ alt.pin.]*	*22° 36′*

On 25 October, a.m. [DIE 25 OCTOBRIS A. M.]

Time	Reading	Value
4^h 35^m [H. 4 M. 35]	By the verified clock, ☽ had a meridian altitude by the revolving quadrant [per horologium verificatum habuit ☽ Alt. Merid. per Q.Volub.]	56° 41½′

[53] *Alt. ☽ 32°* is set in small type under the ☽ value of 1^h 2^m.

[54] *Diſtantia inter ☽ & cor ♌ per Sext. △* — "distance between ☽ and the heart of ♌, by the sextant △" — runs over two lines, with a value on each line; the numerals I and II are printed before the values.

Time	Reading	Value
	hence the declination [hinc declinatio]	*22° 36′*
4h 59m [4ʜ59′]	*Between ☿ and Aldebaran, by the old sextant [Inter ☿ & Aldeb. per Sext. vet.]*	*41° 36¾′*
5h 0m	*Declination of ☿ by the armillae [Declin. ☿ per Armillas]*	*22° 36′*
	which agrees well enough with the meridian altitude [quod ſatis bene conuenit cum altitudine Meriд.]	
5h 1m [H.5 1′]	*Distance of ☿ and Aldebaran repeated [Reiterata diſtantia ☿ & Aldeb.]*	*41° 36¾′*

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You can therefore use the distance 41° 37′ without any error, adding ¼ on account of refraction, if Aldebaran had any [Potes itaque absque omni errore vti diſtantia 41 37, addendo ¼ propter refractionem, ſi quam habuit Aldeboram,]; the declination of ☿ itself was observed with the other pinnule by the greater armillae, 22° 35⅚′, nearly as before [obſeruabatur altero pinnacidio ipſius ☿ declinatio per Armillas maiores 22 35⅚ fere vt prius.].

Time	*Reading*	*Value*
5h 4m [H. 5 M. 4]	*Between ☿ and Regulus [Inter ☿ & Regulum]*	*38° 45½′*
5h 6½m	*Between ☿ and the heart of ☌ [Inter ☿ & cor ☌]*	*38° 45½′*
5h 9m	*The same distance repeated [Eadem diſt. repet.]*	*38° 45½′*

Good, by the old sextant [Bonæ, per Sext. veterem.].

From these you can find out the place of ☿ and reduce it to the preceding day, on account of the observations of the Moon made with reference to it; moreover, it was nearly stationary [Ex his potes indagare locum ☿ & illum ad diem antecedentem redigere propter obſeruationes ☾ ad illum habitas, erat autem fere ſtationarius.].

At 5¾h, with the lesser armillae rectified by the heart of ☌, its place set at 24° 7′ ☌, the longitude of ☿ appeared to be at 15° 17′ ♋ [H. 5¾ Armillis minoribus rectificatis per cor ☌, poſito eius loco in 24 7 ☌, videbatur ☿ longitudo in 15 17 ♋.].

At 5h 50m we observed ☿ again by the lesser zodiacal armillae, verified by the heart of ☌, as before, at 24° 7′ ☌, and the longitude of ☿ was found at 15° 17′ ♋, exactly as before [H. 5 M. 50 Denuo obſeruauimus ☿ per Armillas Zodiacales minores, verificatis per cor ☌, vt prius in 24 7 ☌ & reperiebatur Longitudo ☿ in 15 17 ♋ exacte vt prius.].

On 29 October, a.m. [DIE 29 OCTOBRIS A. M.]

At 5h 14½m the clock was verified at the eye of ♉; it was running slower by only 1½m, and this deficiency was [that] of more than two days since it was corrected. Then ☿ was observed in this way [H. 5 M. 14½ verificabatur horologium ad oculum ♉, quod ſaltem 1½ Minuto tardius ibat, isque defectus erat vltra bidui quo corrigebatur. Deinde obſeruabatur ☿ in hunc modum.].[56]

[55] the altitude 56° 41½′ is printed at the head of the line that follows its label, not in the column of values; the two distances 41° 36¾′ each stand on a line of their own under their labels.

[56] this passage runs from the foot of the left column into the head of the right; it is given here whole.

Time	*Reading*	*Value*
5h 21⅓m [5H21⅓M]	*Declination of ☋, north [Declin. ☋ Bor.]*	*22° 37¼′*
5h 21¾m	*It was distant from Aldebaran [Diſtabat ab Aldeb.]*	*41° 34½′*
5h 23m	*The same distance of ☋ [Eadem ☋ diſtantia]*	*41° 34½′*
5h 28m	*Between ☋ and the heart of ☌ [Inter ☋ & cor ☌]*	*38° 50′*
5h 30½m	*The same, repeated [Eadem repetita]*	*38° 50⅙′*
5h 34½m	*Declination of ☋, north, repeated [Repetita declin. ☋ B.]*	*22° 37¼′*

On 31 October, a.m. [DIE 31 OCTOBRIS A. M.]

At 4⅙h the clock was verified at the eye of ☿: over the space of two days since it was last corrected, it was running slower by 3½m [H. 4⅙ Verificabatur Horologium ad oculum ☿, M. 3½ ſpatio duorum dierum, poſtquam corrigebatur proxime, tardius ibat.].

N.B. that the distance of the eye of ☿ from the meridian was taken only once. Therefore consult the following observations of the fixed [stars] from noon, and you will not be in doubt about the time [N. B. quod diſtantia oculi ☿ a meridiano ſemel tantum accipiebatur. Conſule igitur ſequentes fixarum obſeruationes a Meridie, & de tempore non dubitabis.].

Time	Reading	Value
4h 37½m [4H37½′]	Declination of ☋, north [Declin. ☋ Bor.]	22° 37′

Time	*Aldebaran, west [Aldeb. occid.]*	*☋, west [☋ occident.]*	*Equatorial distance [Diſt. æquat.]*
4h 42¾m	*53° 39⅔′*	*10° 11¼′*	*43° 28½′*
4h 45m	*54° 17⅚′*	*10° 49¾′*	*43° 28′*
4h 47½m	*54° 50′*	*11° 20′*	*43° 30′*
4h 55½m	*56° 56½′*	*13° 28′*	*43° 28½′*
4h 57½m	*57° 19½′*	*13° 51¼′*	*43° 28¼′*

Set, at about the hour 4¾, the equatorial difference of ☋ and Aldebaran at 43° 28½′, together with its northern declination 22° 37′, and from this let its longitude and latitude be sought [Pone iuxta Horam 4¾ Differentiam æquatoriam ☋ & Aldeboræ 43 28½ vna cum ipſius declinatione boreali 22 37, hincque inquiratur ipſius longitudo & latitudo.].

Time	*Reading*	*Value*
5h 8m [H. 5 M. 8]	*Declination of ☋ repeated [Declin. ☋ repetita]*	
	with one pinnule [vno pinnacidio]	*22° 37¼′*
	with the other pinnule [pinnacid. alt.]	*22° 37⅙′*

Afterwards we observed ☋ from the heart of ☌ in this way [Poſtea ☋ a corde ☌ obſeruauimus hoc modo.].

Time	☽, *west [☽ occident.]*	*The heart of ♌, east [cor ♌ orient.]*	*Equatorial distance [Diſt. æquat.]*
$5^h\ 32^m$	*22° 29¼′*	*17° 30′*	*39° 59¼′*
$5^h\ 34½^m$	*23° 2′*	*16° 56′*	*39° 58′*
$5^h\ 36^m$	*23° 38′*	*16° 20¾′*	*39° 58¾′*
	Between ☽ and the heart of ♌ [Inter ☽ & cor ♌]		*39° 59′*
	Between ☽ and Aldebaran [Inter ☽ & Aldeb.]		*43° 28½′*
	Equatorial distance [Diſt. æquat.]		*83° 27½′*

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And since the same distance was observed by the instrument[1], it is clear that both the instrument was true and these observations were good [Cumque eadem diſtantia per inſtrumentum obſeruabatur[1], patet & inſtrumentum verum & obſeruationes has fuiße bonas.].

[1] See below, among the observations of stars in Leo made on this day [Vide infra inter obſervationes ſtellarum in Leone hoc die factas.].

On 1 November, a.m. [DIE 1 NOUEMBRIS A. M.]

At $4½^h$ the clock was verified; in the space of one day it was running faster than it should by nearly 2^m. This correction of the clock was moderate [H. 4½ Horologium verificatum eſt, quod vnius diej ſpacio 2 Minutis fere iuſto citius ibat. Hæc correctio Horologij mediocris erat.].

Time	Reading	Value
$4^h\ 48^m$ [$4^H48'$]	Declination of ☽, north [Declin. ☽ B.]	22° 37½′

Time	The heart of ♌, east [Cor ♌ or.]	☽, west [☽ occ.]	Difference of ascension [Diff. Aſcenſ.]
$4^h\ 55½^m$	25° 40′	14° 20′	40° 0′
$4^h\ 57^m$	25° 12½′	14° 47′	39° 59½′
$5^h\ 0^m$	24° 33′	15° 24′	39° 57′

Not certain enough, on account of some small clouds [Non ſatis certæ propter nubeculas quasdam.].

At $5^h\ 16^m$, between ☽ and the heart of ♌, 38° 53′, by the trigonal sextant[1] [H. 5 16 Inter ☽ et cor ♌ 38 53 per Sext. Trig[1].].

On 2 November, a.m. [DIE 2 NOUEMBRIS A. M.]

A little before the hour 4, from the distance of the eye of ☿ from the meridian, we detected almost no error in the clock, which had been corrected by the

[57] the last three labels stand at the left of the column, under the first two columns of the table; their values stand in the column of the equatorial distances.

⊙ at the preceding noon [Paulo ante horam 4 errorem Horologij ad ⊙ in Meridie antecedente correcti, fere nullum ex diſtantia oculi ♉ a Meridiano deprehendimus.].

Time	Reading	Value
4^h 0^m [H. 4 M. 0]	☋ on the meridian had an altitude [☋ in Merid. habuit Alt.]	
	by the revolving quadrant [per Q. Volub.]	56° 43′
4^h 5^m	Declination of ☋ [Decl. ☋]	
	by the greatest armillae [per Armill. max.]	22° 36¾′
	With the other pinnule [Alt. pinnacidio]	22° 37′
4^h 24^m	Between ☋ and the eye of ♉ [Inter ☋ & ocul. ♉]	I 41° 27½′
	by the trigonal sextant [per Sext. Trigon.]	II 41° 27½′
4^h 31^m	Between ☋ [Inter ☋]	I 38° 54½′
4^h 33^m	and the heart of ♌ [& cor ♌]	II 38° 55′
4^h 35^m	by the trigonal sextant [per Sext. Trigon.]	III 38° 55′

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Time	The heart of ♌, east [Cor ♌ or.]	☋, west [☋ occ.]	Equatorial distance [Diſt. æquat.]
4^h 54^m 56^s	25° 57⅓′	14° 4½′	40° 2′
4^h $55½^m$	25° 33′		
4^h 56^m 28^s		14° 28½′	40° 1½′

At noon the clock was running slower by only ¼^m [Horologium in Meridie ſaltem ¼ Min. tardius ibat.]. This was imperceptible [Quod erat inſenſibile.].

On 4 November, a.m. [DIE 4 NOUEMBRIS A. M.]

Time	*Reading*	*Value*
5^h 50^{m2} [H. 5 50^2]	*Declination of ☋ [Declin. ☋]*	*22° 38¾′*

Time	*Aldebaran, west [Aldebor. occ.]*	*☋, west [☋ occ.]*	*Equatorial difference [Diff. æquat.]*
5^h $53^2/_8{}^m$	*74° 20′*	*31° 5½′*	*43° 14½′*
5^h $55⅙^m$	*74° 40′*	*31° 20′*	*43° 20′*
6^h 0^m	*75° 42½′*	*32° 23¾′*	*43° 18¾′*
6^h $2⅔^m$	*76° 13′*	*32° 55′*	*43° 18′*

Set the equatorial distance at 43° 19′, and you will not go far wrong [Pone diſtantiam æquatoriam 43 19 & non multum aberrabis.].

[58] the altitude at 4^h 0^m and the declination at 4^h 5^m each run over two lines, the value standing on the second; *Inter ☋ & ocul. ♉ per Sext. Trigon.* runs over two lines with a value on each, and *Inter ☋ & cor ♌ per Sext. Trigon.* over three lines, each with its own time and value. The numerals I, II and III are printed before the values.

Time	☽, *west [☽ occ.]*	*The heart of ♌, east [Cor ♌ or.]*	*Difference of ascension [Differ. Aſc.]*
6h 4m 12s [6 4 12″]	*33° 36′*	*6° 30½′*	*40° 6½′*
6h 5½m	*33° 58′*	*6° 9¼′*	*40° 7¼′*
	Set the equatorial difference [Pone differentiam æquator.]		*40° 7′*

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On 7 November, a.m. [DIE 7 NOUEMBRIS A. M.]

At 3^h 26^m 10^s ☽ crossed the meridian, by the revolving quadrant, and had an altitude of 56° 46½′ [H. 3 26′ 10″ Tranſiuit ☽ Merid. per Q. Volub. & habuit Altitud. 56 46½].

Time	Reading	Value	Note
5^h 13^m 58^s [H. 5 13′58″]	The heart of ♌, east [Cor ♌ orient.]	11° 59′	add 15′ [adde 15′] (for all three times)
5^h 15^m 15^s		11° 40′	
5^h 17^m 2^s		11° 11½′	

From this the clock can be verified [Hinc poteſt verificari Horologium,] *which had been corrected at the preceding noon, and that according to the new meridian [quod in Meridie antecedente erat correctum, idque iuxta nouum Meridianum.].*

Time	Reading	Value
5^h 22^m	Distance between ☽ and the heart of ♌ [Diſt. inter ☽ & cor ♌]	39° 6¼′
5^h 27^m	The same by the sextant △, good [Eadem per Sext. △, bona]	39° 6½′
5^h 36½m	*Declination of ☽ with one pinnule [Declin. ☽ vno pin.]*	*22° 39⅔′*
	with the other [altero]	*22° 39⅓′*
	Therefore the true declination of ☽ [Ergo vera declin. ☽]	*22° 39½′*
	Its meridian altitude [Alt. ipſius meridiana]	*56° 46½′*
	Subt. altitude of the equator [Subt. alt. æq.]	*34° 5½′*
	hence the declination [hinc declin.]	*22° 41′*
	Therefore set the declination of ☽ [at] [Pone itaque declin. ☽]	*22° 40′*

For it may be that some slip was made in the meridian altitude [Nam fieri poteſt quod in altitudine Meridiana aliquis lapſus ſit commißus.].

[59] this table stands at the head of the right column and continues 4 November from the foot of the left. The time 5^h $53\frac{2}{8}^m$ is printed with the fraction ⅛. In the last row the label runs across the first three columns; its value stands in the column of the differences of ascension.

Time	*True [verum]*	☿, *west [☿ occ.]*	*The heart of ☋, east [Cor ☋ or.]*	*Equatorial distance [Diſt. æq.]*
$5^h\ 43^m$		35° 49½′	4° 27½′	40° 17′
$5^h\ 45¾^m$		36° 32⅔′	3° 43½′	40° 16⅙′
			The heart of ☋, west [Cor ☋ occ.]	
$6^h\ 56½^m$	$7^h\ 17^m\ 52^s$	55° 17′[3]	15° 0′	40° 17′
$6^h\ 59^m\ 10^s$	$7^h\ 20^m\ 28^s$	55° 56½′	15° 39¼′	40° 17¼′
$7^h\ 1^m\ 20^s$	$7^h\ 22^m\ 44^s$	56° 31½′	16° 13′	

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Note. At this noon the clock, from the preceding [noon], was moving slower than it should by 30^m, because too much had been taken off the weight on the preceding day [Nota. Horologium in hoc meridie a præcedente 30 Minutis tardius iuſto mouebatur, eo quod nimium de pondere præcedente die erat ablatum.].

On 8 November, a.m. [DIE 8 NOUEMBRIS A. M.]

Time	Reading	Value
$3^h\ 19^m\ 25^s$ [3ʰ19′25″]	Meridian altitude of ☿ [Alt. ☿ Merid.]	56° 46¼′
$3^h\ 32^m\ 48^s$ cor. [3 32 48 cor.]	Declination of ☿ by the armillae [Decl. ☿ per Armill.]	22° 40′
	With the other pinnule [Alt. pinnacid.]	22° 40¼′

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[1] Compare below, among the observations of Mercury [Cf. infra inter obſeruationes Mercurii.].

[2] The times have been corrected by Tycho [Tempora a Tychone correcta ſunt.].

[3] Tycho added in writing: *In the corrected Mer. From this it will be possible to verify the clock again* [Adſcripſit Tycho: In correcto Mer. Hinc poterit denuo verificari Horologium.].

Afterwards, to verify the clock, ☿ and the heart of ☋ were observed in equatorial distances [Poſtea pro Horologio verificando obſeruabantur ☿ & cor ☋ in diſtantijs æquatorijs.].

Time	*Corrected [Correct.]*	☿, *west [☿ occid.]*	*The heart of ☋, west [Cor ☋ occ.]*	*Equatorial distance [Diſt. æq.]*
$6^h\ 59^m\ 40^s$	$7^h\ 17^m\ 4^s$	56° 11′	15° 51′	40° 20′
$7^h\ 1^m\ 5^s$	$7^h\ 18^m\ 25^s$	56° 33′	16° 11′	40° 22′

[60] the head *verum* stands in a second line of heads within the table, together with *Cor ☋ occ.*; the rows at $5^h\ 43^m$ and $5^h\ 45¾^m$ carry no value under *verum*, and the row at $7^h\ 1^m\ 20^s$ none in the column of the equatorial distances. The three-part values under *verum* are given in hours, minutes and seconds of time.

[61] the two times stand together as one group against the altitude and the declination; neither time is set against either reading alone.

Time	*Corrected [Correct.]*	*☋, west [☋ occid.]*	*The heart of ☌, west [Cor ☌ occ.]*	*Equatorial distance [Diſt. æq.]*
7h 3m 10s	*7h 20m 30s*	*57° 5⅙′*	*16° 43½′*	*40° 21⅔′*

On 10 November, a.m. [DIE 10 NOUEMBRIS A. M.]

Time	*Corrected [Corr.]*	*☋, west [☋ occid.]*	*The heart of ☌, west [Cor ☌ occ.]*	*Equatorial distance [Diſt. æq.]*
7h 14m 40s	*7h 15m 33s*	*57° 49′ 30″*	*17° 20′*	*40° 29′ 30″*
7h 16m 30s	*7h 17m 20s*	*58° 10′ 40″*	*17° 41′ 45″*	*40° 29′*
7h 17m 30s	*7h 18m 19s*	*58° 28′*	*17° 59′*	*40° 29′*

Time	Reading	Value
	Altitude of ☋ [Alt. ☋]	*36° 11′*
7h 31½m	Declination, north [Declin. Bor.]	*22° 42½′*
7h 32m	The same, repeated [Repetita eadem]	*22° 42½′*
7h 34½m	With the other pinnule [Altero pinnacidio]	*22° 42′*
7h 35m 30s	*☋ was distant from the meridian towards the west [Diſtabat ☋ a mer. verſ. occ.]*	*62° 56′*
		15′
cor. *35m 56s* [cor.35 56]		*63° 11′*
7h 37m 15s	*☋ from the meridian [☋ a mer.]*	*63° 24′*
		15′
cor. *37m 48s* [cor.37 48]		*63° 39′*
7h 38m 0s	*☋ from the meridian [☋ a mer.]*	*63° 35½′*
		15′
cor. *38m 32s* [cor.38 32]		*63° 50′*

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Having found the right ascension of ☋, 106° 6′, from its equatorial distance from the heart of ☌, and the right ascension of the ☉, 234° 29′, being given for its place at noon of 9 November, the preceding times were verified by the observed distance of ☋ from the corrected meridian at 7¼h and 7⅔h. At 7¼h the time [was] also examined by the heart of ☌ [Inuenta Aſcenſione Recta ☋ 106° 6′ ex diſtantia æquatoria eius a corde ☌ et Aſc. R. ☉ 234° 29′ ad locum ſuum in Meridie Diej 9 Nouembris data, Tempora antecedentia ſunt verificata per obſeruatam diſtantiam ☋ a Meridiano correcto ad Horam 7¼ et 7⅔. Ad Horam 7¼ etiam tempus ad cor ☌ examinatum.].

[62] *Alt. ☋ 36 11* stands on a line of its own, set to the right below the table above. In each of the three groups that follow, a brace joins the clock time and the corrected time to the label and to the three values; the corrected time is printed with minutes and seconds only, no hour; a rule stands above each sum. The label *Diſtabat ☋ a mer. verſ. occ.* runs over two lines and is given whole on its first row.

On 11 November, a.m. [DIE 11 NOUEMBRIS A. M.]

At $3\frac{5}{6}^{h}$ the clock was verified at the eye of ♉ and the heart of ♌ [H. $3\frac{5}{6}$ Horologium verificatum eſt ad oculum ♉ & cor ♌.].

Time	Reading	Value
$4^{h}\ 3^{m}$ [$4^{H}3'$]	Declination of ☋, north [Declin. ☋ B.], with one pinnule [vno pin.]	22° 42⅔′
	with the other pinnule [alt. pin.]	22° 42¼′

Time	Eye of ♉, west [Oculus ♉ occ.]	☋, west [☋ occ.]	Equatorial distance [Diſt. æquat.]
$4^{h}\ 10^{m}\ 25^{s}$	55° 38′	12° 42′	42° 56′
$4^{h}\ 12^{m}\ 24^{s}$	56° 10′	13° 13¼′	42° 56¾′
$4^{h}\ 13^{m}\ 48^{s}$	56° 30′	13° 34′	42° 56′
$4^{h}\ 15^{m}\ 35^{s}$	56° 57½′	14° 2′ *	42° 55½′
Set the equatorial distance [Pone diſtantiam æquat.]			42° 56¼′

* Not exact enough on account of the beam [* propter trabem non ſatis exacta.].[63]

Afterwards the observation of ☋ was repeated, and that from the heart of ♌, so that it could be had the other way round, since it was midway between Aldebaran and Regulus [Poſtea repetebatur ☋ obſeruatio idque a corde ♌, vt vice verſa haberi poßit, cum ille inter Aldeboram & Regulum intermedius eßet.].

Time	*The heart of ♌, east [Cor. ♌ or.]*	*☋, west [☋ occ.]*	*Equatorial distance [Diſt. æquat.]*
$4^{h}\ 51\frac{1}{3}^{m}$	*17° 32′*	*22° 56½′*	*40° 28½′*
$4^{h}\ 52\frac{2}{3}^{m}$	*17° 10½′*	*23° 17′*	*40° 27½′*
$4^{h}\ 54\frac{1}{2}^{m}$	*16° 44½′*	*23° 44½′*	*40° 29′*
Set the equatorial distance [Pone diſt. æquatoriam]			*40° 28′*

Then ☋ was observed from the meridian, and that for the verification of the clock [Deinde obſeruabatur ☋ a meridiano idque pro verificatione horologij.].

Time	*Reading*	*Value*
$7^{h}\ 29\frac{1}{2}^{m}$	*☋, west [☋ occid.]*	*62° 49′*
$7^{h}\ 30^{m}\ 40^{s}$		*63° 6′*
$7^{h}\ 32^{m}\ 45^{s}$		*63° 36½′*
$7^{h}\ 33^{m}\ 42^{s}$		*63° 50¼′*

[63] the asterisk note stands between the last row of values and the line *Pone diſtantiam æquat.*, which is given here as the table's closing row.

And from this it will be possible to rectify the error of the clock, if there was any, once the place of ☽ has first been found from the observations given above. These distances from the meridian, moreover, are true and emended, with those 15′ added which were lacking [Atque hinc poterit rectificari error horologij ſi quis fuerit, inuento primum loco ☽ ex obſeruationibus ſupra datis. Sunt autem hæ diſtantiæ a meridiano veræ & emendatæ, adiectis illis 15 ſcrupulis quæ deſiderabantur.].

At noon the clock was running faster by $1^m\ 55^s$, which error is only from the morning hour $3\frac{5}{6}^h$ [Horologium in Meridie celerius ibat M.1 55″, qui error ſaltem eſt ab hora matutina H. $3\frac{5}{6}$.].

On 23 November, a.m. [DIE 23 NOUEMBRIS A. M.]

At $5\frac{1}{6}^h$ the clock was verified at the stars [H. $5\frac{1}{6}$ Horologium verificatum eſt ad ſtellas.].

Time	Reading	Value
$5^h\ 29^m$ [5^H29^M]	Declination of ☽, north [Declin. ☽ B.]	22° 50′

Time	☽, west [☽ occ.]	The heart of ☋, west [Cor ☋ occ.]	Equatorial distance [Diſt. æquat.]
$5^h\ 36^m\ 25^s$ [5 36 25″]	48° 16′	6° 39½′	41° 36½′, doubtful [dubia]
$5^h\ 39^m\ 5^s$	48° 47′	7° 15′	41° 32′
$5^h\ 41^m\ 50^s$	49° 28½′	7° 57′	41° 31½′
$5^h\ 47^m\ 55^s$	51° 0′	9° 27½′	41° 32½′
$5^h\ 49^m\ 20^s$	51° 20¼′	9° 48½′	41° 31¾′
At $5\frac{5}{6}^h$ set [Ad horam $5\frac{5}{6}$ pone]			41° 32′

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Time	Reading	Value
$5^h\ 55\frac{1}{3}^m$	Between ☽ and the heart of ☋ [Inter ☽ & cor ☋]	40° 18½′
$5^h\ 58\frac{1}{2}^m$	by the sextant △ [per Sext. △]	40° 19′
$6^h\ 1^m$	The same, repeated [Repetita eadem]	40° 17′

65

Because of the wind, by which the sextant was being moved, it was not possible to observe this distance exactly [Propter ventum quo Sextans mouebatur exacte obſeruare hanc diſtantiam non licuit.].

[64] *dubia* stands on the line below 41 36½, joined to it by a brace.
[65] *Inter ☽ & cor ☋ per Sext.* △ runs over two lines, with a time and a value on each line.

Time	Reading	Value
$6^h\ 4^m$	Declination of ♃, north, repeated [Repetita declin. ♃ B.]	22° 50′
	With the other pinnule [Alt. pinnac.]	22° 49¾′

(Taking the distance of ♃ from the heart of ♌ as 40° 18′, the angle of the difference of ascension comes out by computation as 41° 34′ 40″.)[1] [(Sumpta diſtantia ♃ a corde ♌ 40° 18′ prouenit per operationem angulus differ. Aſcenſ. 41° 34′ 40″)[1].]

[1] From codex V [E codice V.].

At $5\frac{5}{6}^h$: from the equatorial distance of ♃ from the heart of ♌, 41° 32′, there results the right ascension 105° 3′; declination of ♃, north, 22° 50′. Hence [H. 5⅚ Ex diſtantia æquatoria ♃ a corde ♌ 41° 32′ prouenit Aſc. R. 105° 3′, Decl. ♃ B. 22° 50′. Hinc]

Reading	Value
Longitude of ♃ [Longitudo ♃]	13° 50⅚′ ♋
Latitude of ♃ [Latitudo ♃]	0° 2½′ north [B.]

At $6^h\ 33^m$ I myself, with my Aurifaber Ioannes, observed the place of ♃ by the zodiacal armillae, and found that, with the place of the heart of ♌ set at 24° 7′ ♌ according to our restitution, the place of ♃ [was] 13° 47′ ♋ [H. 6 M. 33 obſeruaui ipſemet cum Aurifabro meo Ioanne locum ♃ per Armillas Zodiacales, & inueni quod poſito loco cordis ♌ in 24 7 ♌ iuxta noſtram reſtitutionem locus ♃ 13 47 ♋.].

At $6^h\ 37^m$ Helias and Aurifaber observed the same and found ♃ at 13° 47¼′ ♋ [H. 6 37′ Helias & Aurifaber idem obſeruarunt inueneruntque ♃ 13 47¼ ♋].

At $6^h\ 42^m$ they observed the same again and found ♃ at 13° 47½′ ♋ [6 42 Rurſus idem obſeruarunt inueneruntque ♃ 13 47½ ♋].

Time	*♃, west [♃ occident.]*	*Spica, east [Spica or.]*	*Equatorial distance [Diſt. æquat.]*
$6^h\ 51^m\ 15^s$	*66° 45′*	*24° 9½′*	*90° 54½′*
$6^h\ 53^m\ 0^s$	*67° 12′*	*23° 42½′*	*90° 54½′*
$7^h\ 3½^m$	*69° 47½′*	*21° 7¾′*	*90° 55¼′*
$7^h\ 7^m$	*70° 42½′*	*20° 13⅙′*	*90° 55⅔′*
$7^h\ 9^m$	*71° 11½′*	*19° 43½′*	*90° 55′*
$7^h\ 11^m$	*71° 36′*	*19° 17¾′*	*90° 54′*
Set the equatorial distance of Spica and ♃ [Pone diſtantiam æquatoriam Spicæ & ♃]			*90° 55′*

Time	*Reading*	*Value*
$6^h\ 55^m$	*Declination of ♃ with both pinnules [Declin. ♃ vtroque pinnac.]*	*22° 50′*
$6^h\ 58^m$	*Declination of Spica ♍, with both pinnules [Decl. Spicæ ♍, vtroque pin.]*	*8° 57′*

66

On 24 November, a.m. [DIE 24 NOUEMBRIS A. M.]

At $7¼^{h}$ the clock, corrected from the nearest noon, was seen from the distance of the heart of ☋ from the meridian to move slower than it should by only 2^{m}; but we allowed it then to remain in its revolution [H. 7¼ Horologium 2 tantum minutis a Meridie proxima correctum iuſto tardius moueri ex diſtantia cordis ☋ a Meridiano viſum eſt, ſed illud tunc permanere in ſua reuolutione permiſimus.].

Time	♃, west [♃ occ.]	The heart of ☋, west [Cor ☋ occ.]	Equatorial distance [Diſt. æquat.]
$7^{h}\ 24^{m}\ 10^{s}$ [7ᴴ24′ 10″]	76° 54½′	35° 13′	41° 41½′
$7^{h}\ 25^{m}$	77° 12′	35° 30′	41° 42′
$7^{h}\ 26^{m}\ 20^{s}$	77° 28¼′	35° 46½′	41° 41¾′
$7^{h}\ 27^{m}\ 45^{s}$	77° 48½′	36° 6½′	41° 42′
$7^{h}\ 29^{m}\ 0^{s}$	78° 5½′	36° 24¼′	41° 41¼′

Time	Reading	Value
$7^{h}\ 34^{m}$	Declination of ♃, north [Declin. ♃ B.], with one pinnule [vno pin.]	22° 51½′
	with the other pinnule [altero pin.]	22° 51¼′

By the zodiacal armillae, with the place of the heart of ☋ set at 24° 7′ ☋, the place of ♃ was observed at $7^{h}\ 43^{m}$ at 13° 40¾′ ♋ [Per Armillas Zodiacales poſito loco cordis ☋ in 24 7 ☋ obſeruabatur Hora 7 M. 43 locus ♃ in 13 40¾ ♋.].

On 2 December[1] [DIE 2 DECEMBRIS[1].]

A.M.: ♃ was observed for the right ascension of ♃ [A. M. obſeruabatur ♃ pro Aſcenſione Recta ♃.].

Time	Reading	Value
$7^{h}\ 25^{m}\ 30^{s}$ [7ᴴ25′ 30″]	Equatorial distance of ♃ and the heart of ☋ [Diſtantia æquatoria ♃ & cordis ☋]	42° 34¼′
$7^{h}\ 30^{m}\ 30^{s}$		42° 35′
$7^{h}\ 34^{m}\ 10^{s}$		42° 35½′
$7^{h}\ 36^{m}\ 25^{s}$		42° 35′
$7^{h}\ 39^{m}\ 20^{s}$		42° 35′
$7^{h}\ 41^{m}\ 25^{s}$		42° 35′

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[66] *Pone diſtantiam æquatoriam Spicæ &* ♃ and *Decl. Spicæ* ♍, *vtroque pin.* each run over two lines, the value standing on the second; each is given whole on one row.

[67] the label *Diſtantia æquatoria* ♃ *& cordis* ☋ runs over the first two lines, broken at *æqua-/toria*, with a time and a value on each line; it is given whole on the first row.

Let the equatorial distance of ☽ from the heart of ☋ at about this time therefore be set at 42° 35′ [Ponatur itaque diſtantia æquatoria ☽ a corde ☋ circa hoc tempus 42 35].

Reading	Value
Right ascension of the heart of ☋ [Aſcenſio R. cordis ☋]	146° 35′
There results the right ascension of ☽ [Prouenit Aſc. R. ☽]	104° 0′

Afterwards ☽ was observed to verify the clock and the time [Poſtea pro horologio & tempore verificando obſeruabatur ☽.].

Time [Tempus]	☽ from the meridian, west, by the armillae [☽ a Merid. occ. per Armill.]	Azimuth of ☽, west, by the revolving quadrant [Azim. ☽ occ. per Q. Volub.]	Altitude of ☽ by the revolving quadrant [Alt. ☽ per Q. Volub.]
$7^h\ 59^m\ 35^s$ [7ʰ66′35″]		108° 20′	15° 37′
$8^h\ 1^m\ 52^s$	96° 39′	108° 38′	15° 19½′
$8^h\ 4^m\ 27^s$	97° 19½′	109° 9′	14° 57′
$8^h\ 6^m\ 42^s$	97° 53½′	109° 35′	14° 40½′
$8^h\ 10^m\ 55^s$	98° 56½′	110° 26′	14° 5′
$8^h\ 12^m\ 23^s$	99° 19½′	110° 45′	13° 55′
$8^h\ 14^m\ 32^s$	99° 47′	111° 9′	13° 36½′

The azimuths are counted from the south towards the west, to the north [Azimutha numerantur a Meridie verſus occaſum ad ſeptentrionem.].

On 15 December, a.m. [DIE 15 DECEMBRIS A. M.]

[At] $5^h\ 8^m$ [5ʰ8′], declination of ☽, north, 23° 7½′; altitude of ☽ 27° 5′ [Declin. ☽ B. 23 7½, Alt. ☽ 27 5].

Time	☽, west [☽ occ.]	The heart of ☋, west [Cor ☋ occ.]	Equatorial distance [Diſt. æq.]	Altitude of ☽ [Alt. ☽]
$5^h\ 18^m\ 27^s$	75° 17′	30° 55′	44° 22′	
$5^h\ 26^m\ 10^s$	77° 16¼′	32° 55¾′	44° 20⅓′	25° 30′
$5^h\ 28^m\ 43^s$	77° 55′	33° 34½′	44° 20½′	25° 20′
$5^h\ 55^m$	*81° 47′*		*44° 20½′*	

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Afterwards I myself, being present, attended to the observation in this way, by both clocks. The greater clock had not yet been corrected well enough [Poſtea ipſemet præſens obſeruationi attendebam in hunc modum per vtrumque horologium. Maius horologium nondum erat ſatis correctum.].

[68] in the row of $5^h\ 26^m\ 10^s$ the printed values 77 16¼ and 32 55¾ differ by 44° 20½′, while the distance is printed 44 20⅓, where the rows above and below agree with their differences; the fractions are confirmed on a native-resolution crop and given as printed, and no correction is made.

By the lesser [clock] [Per min.]	*By the greater [clock] [Per mai.]*	*♃ from the meridian towards the west [♃ a mer. verſ. occ.]*	*Equatorial distance from Spica ♍ [Diſt. æquat. a Spica ♍]*	*Altitude of ♃ [Alt. ♃]*
6^h 8^m 40^s	*6^h 8^m 53^s*	*88° 9½′*	*93° 40¾′*	*20° 0′*
6^h 12^m 8^s	*6^h 12^m 15^s*	*89° 3′*	*93° 41′*	*19° 40′*
6^h 14^m 35^s	*6^h 14^m 45^s*	*89° 39′*	*93° 40¾′*	*19° 25′*
			From the bright star of the neck of ♌ [A lucida ceruicis ♌]	
7^h 7^m 30^s	*7^h 7^m 16^s*	*103° 10¾′*	*47° 1′*	*12°, about [12 quaſi]*

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[1] Compare above, p. 15 ff. [Cf. ſupra p. 15 ſqq.] The same evening [Eadem veſpera]

Time	♃, east [♃ orient.]	Bright star of ♈, west [Lucid. ♈ occ.]	Equatorial distance [Diſt. æquat.]
8^h 15^m 20^s	63° 56⅓′	12° 6⅔′	76° 3′
8^h 23^m 49^s	61° 46½′	14° 16¼′	76° 2¾′
8^h 28^m 20^s	60° 38′	15° 25′	76° 3′
8^h 42^m 55^s	56° 56½′	19° 7′	76° 3½′
8^h 48^m 35^s	55° 30⅙′	20° 33⅓′	76° 3½′

Time	Declination of ♃, north [Declin. ♃ Bor.] — with one pinnule [vno pin.]	— with the other pinnule [alt. pin.]
8^h 31^m 58^s	23° 7½′	23° 7½′
8^h $57⅓^m$	23° 7½′	23° 7⅔′
9^h $29½^m$	23° 7½′	23° 7½′
9^h 36^m	23° 7½′	23° 7⅔′

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On 16 December, in the morning [DIE 16 DECEMBRIS MANE.]

Time	Reading	Value
5^h $41⅓^m$ [5^H41⅓′]	Declination of ♃ by the armillae [Declin. ♃ per Arm.]	23° 7¼′ north [B.]
	with the other pinnule [Alt. pinnac.]	23° 7½′
6^h 17^m 48^s	Distance of Spica from the meridian [Diſt. Spicæ a merid.]	5° 49½′
6^h 20^m 59^s		5° 3′

[69] *A lucida ceruicis* ♌ is printed within the table as a second head over the equatorial-distance column. In the last row 47 and 1 stand in the degrees and minutes positions of that column, and 12 in the degrees position of the altitude column, with *quaſi* set beneath it.

[70] *Declin.* ♃ *Bor.* is printed once, centred over both value columns, with *vno pin.* and *alt. pin.* beneath it.

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For verifying the clock [pro horologio verificando.]
The distance of Spica is eastern [Diſt. Spicæ eſt orientalis.]

On 22 December [DIE 22 DECEMBRIS]

Observation of ♃ near the opposition of the ☉ [Obſeruatio ♃ iuxta ☍ ☉.]

Time	♃, east [♃ or.]	Eye of ♉, west [Oculus ♉ occ.]	Difference of ascension [Differ. Aſc.]
$9^h\ 55^m\ 22^s$ [9ʰ55′ 22″]	35° 10½′	2° 48′	37° 58½′
$9^h\ 58^m\ 3^s$	34° 30¾′	3° 28¼′	37° 59′
$9^h\ 59^m\ 46^s$	34° 4′	3° 53¾′	37° 57¾′
$10^h\ 2^m\ 27^s$	33° 23′	4° 34⅓′	37° 57⅓′

Time	Reading	Value
$10^h\ 5^m\ 28^s$	Declination of ♃ with one pinnule [Declin. ♃ vno pin.]	23° 14½′
	with the other [altero]	23° 14′
$10^h\ 9^m\ 54^s$	Declination of ♃ repeated, with one [Repet. decl. ♃ vno]	23° 14′
	with the other [alt.]	23° 13¾′

Note. This observation of ♃ was made, indeed, at the opposition of the ☉, but it was taken hurriedly between clouds, because in these days no steady clear weather was granted. They are nevertheless moderately good observations, and you can use the equatorial distance of ♃ from the eye of ♉ at about the completed 10th hour from noon, 37° 58′ [p. 37 M. 58], and the northern declination 23° 14′, without any perceptible error; moreover, the ☉ was in the perigee of the eccentric [Nota. Hæc obſeruatio ♃ fiebat in ☍ quidem ☉$^{l;s}$, ſed inter nubes raptim accipiebatur, quia hiſce diebus nulla conſtans ſerenitas concedebatur, ſunt tamen mediocriter bonæ obſeruationes, & potes vti diſtantia æquatoria ♃ ab oculo ♉ circa horam 10 completam a meridie p. 37 M. 58 & declinatione 23 14 borea absque omni ſenſibili errore, erat autem ☉ in perigeo eccentrici.].

On 26 December [DIE 26 DECEMBRIS.]

♃ was observed in the way that follows. Moreover, the star of Jupiter was not far from the opposition of the ☉, and that while the ☉ was in perigee; and this evening it was observed much more exactly than at the preceding evening times, because it was now exceedingly clear, with no clouds hindering nor winds blowing too strongly. Therefore the following observations are rather to be trusted; they can, however, be compared with the earlier [observations] made before the opposition with the Sun, or on the very day of the opposition, so that the true opposition in the mean place of the ☉ can be established more exactly [Obſeruabatur ♃ in hunc qui ſequitur modum. Erat autem

[71] the label *Diſt. Spicæ a merid.* runs over two lines, a time and a value on each; it is given whole on the first row.

Iouis ſtella non longe a ☉ ☍, idque ☉ in Perigæo verſante, & hoc vesperi exactius multo obſeruabatur quam præcedentibus veſpertinis temporibus, eo quod nunc eßet apprime ſerenum, nullis impedientibus nubibus nec ventis nimium flantibus; quare ſequentibus obſeruationibus potius fidendum, quæ tamen cum prioribus ante ☍ cum Sole, vel ipſo die ☍ factis conferri poterint, vt vera ☍ in medio loco ☉ exquiſitius conſtare poßit.].

Moreover, you will be able[1] to compare the following distances, taken the other way round, not only with one another but also with the equatorial distances, and to apply the declination for exactly verifying the place of ♃ near the opposition of the Sun, as I said. The times are to be verified from the transit of the fixed stars [Poteris[1] autem conferre diſtantias ſequentes vice verſa ſumptas non ſolum inter ſe, ſed etiam cum diſtantijs æquatorijs & adhibere declinationem pro loco ♃ exacte verificando iuxta Solis ☍ vt dixi. Tempora ſunt verificanda ex tranſitu ſtellarum fixarum.].

♃ and Aldebaran [♃ & Aldeboram.]

Time	*Reading*	*Value*	*Altitude [Alt.]*
7h 11m [7ʰ11′]	*Between ♃ and Aldebaran, by the sextant [Inter ♃ & Aldeb. per Sext.]*	*36° 0½′*	*32° 40′*
7h 13½m	*Repeated, by the sextant [Repetita per Sext.]*	*36° 0½′*	*32° 50′*
7h 15⅓m		*36° 0⅔′*	*33° 0′*
7h 17m		*36° 0½′*	*33° 5′*
	♃ and the lower head of ♊, the other way round [♃ et inferius caput ♊ viceverſa.]		
7h 22m	*Between ♃ and the lower head of ♊, by the sextant [Inter ♃ et infer. caput ♊ per Sext.]*	*10° 10¼′*	*34°*
7h 26m		*10° 10½′*	*34½°*
7h 28½m		*10° 10½′*	*35° 0′*
7h 47m	*The same, repeated with other pinnules [Eadem alijs pinnac. repetita]*	*10° 11¼′*	*38° 0′*
7h 51m	*The same, with the pinnules changed [Eadem mutatis pinnacid.]*	*10° 11½′*	*38° 20′*

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You can therefore set here the distance by the sextant at 10° 11½′, for the later pinnules correspond to the earlier observations [Potes itaque ponere hic diſt. per Sext. 10 11½, nam poſteriora pinnacidia reſpondent prioribus obſeruationibus.].

Afterwards, for the sake of greater verification, the same ♃ was observed by the equatorial armillae in this way, and first the declination of ♃ was taken [Poſtea maioris verificationis gratia obſeruabatur idem ♃ per Armillas æquatorias in hunc modum, & primum capiebatur declin. ♃.].

[72] *Inter ♃ & Aldeb. / per Sext.* runs over two lines, the time on the first and the values on the second; *Repetita / per / Sext.* runs over three lines and *Inter ♃ et / infer. caput ♊ / per Sext.* over three, a time and values on each; *Eadem alijs / pinnac. repetita* and *Eadem mutatis / pinnacid.* each set the time on the first line and the values on the second. Each label is given whole on its first row. The value column has no printed head; *Alt.* heads the last column. In the rows at $7^h\ 22^m$ and $7^h\ 26^m$, 34 and 34½ stand in the degrees position of the altitude column, with no minutes.

Time	*Reading*	*Value*
$7^h\ 55½^m$	*Declination of ♃ with one pinnule [Decl. ♃ vno pinn.]*	*23° 16′*
$7^h\ 57^m$	*with the other [altero]*	*23° 16⅓′*
	Moreover, the altitude of ♃ was then [Erat autem tunc altit. ♃]	*39° 0′*

Afterwards the equatorial distance of ♃ and Aldebaran was observed in this way, and hence also from the distance of [Poſtea obſeruabatur diſtantia æquatoria ♃ & Aldeboræ in hunc modum, atque hinc etiam e diſtantia Alde-]

[1] What follows was written in the margin [Quæ ſequuntur in margine adſcripta ſunt.]

Aldebaran from the meridian the time of the clock can be verified and applied to the rest [boræ a meridiano poterit verificari tempus horologij & applicari cæteris.].[73]

Time	*♃, east [♃ or.]*	*Aldebaran, east [Aldeb. or.]*	*Equatorial distance [Diſt. æquat.]*	*Altitude of ♃ [Alt. ♃]*
$8^h\ 3^m\ 0^s$ [8^H 3′ 0″]	*52° 40½′*	*15° 15′*	*37° 25½′*	*39¾°*
$8^h\ 4^m\ 52^s$	*52° 12½′*	*14° 47¼′*	*37° 25¼′*	*40°*
$8^h\ 6^m\ 20^s$	*51° 50′*	*14° 25′*	*37° 25′*	*40⅙°*
$8^h\ 9^m\ 7^s$	*51° 9½′*	*13° 43′*	*37° 26½′*	
$8^h\ 15^m\ 15^s$	*49° 32½′*	*12° 8′*	*37° 24½′*	*41⅙°*
$8^h\ 17^m\ 34^s$	*49° 0½′*	*11° 35½′*	*37° 25′*	*41½°*

[74]

Set the equatorial distance at 37° 25′ [Pone diſtantiam æquat. 37 25].

N.B. Afterwards ♃ was observed again near the meridian by the trigonal sextant [N.B. Poſtea denuo obſeruabatur ♃ iuxta Merid. per Sext. trig.].

Time	*Between ♃ and Aldebaran [Inter ♃ & Aldeb.]*	*Eye of ♉, west [Ocul. ♉ occ.]*
$11^h\ 7¾^m$ [$11^H\ 7¾'$]	*36° 0¼′*	*31° 10′*
$11^h\ 10½^m$	*36° 0¼′*	*31° 58′*
$11^h\ 13¼^m$	*36° 0¼′*	*32° 39′*

Afterwards ♃ was observed from the heart of ♌ in the way that follows [Poſtea obſeruabatur ♃ a corde ♌ in hunc qui ſequitur modum.].

Time	*Reading*	*Value*
$11^h\ 16¾^m$	*♃ from the heart of ♌, by the sextant [♃ a corde ♌ per Sext.]*	*44° 27′*
	Altitude of the heart of ♌ [Alt. cordis ♌]	*33° 10′*
	♃ was near the meridian [♃ erat iuxta Meridianum.]	
$11^h\ 19½^m$	*♃ from the heart of ♌, by the sextant [♃ a corde ♌ per Sext.]*	*44° 27′*

[73] the name is broken across the page, *Alde-* at the foot of p. 73 and *boræ* at the head of this page; the sentence runs on from p. 73.

[74] the altitude values stand in the degrees position of their column, with no minutes.

Time	*Reading*	*Value*
	Aldebaran was distant from the meridian, west [Diſtabat Aldeb. a mer. occ.]	*34° 9½′*
11h 21½m	*☋ from the heart of ♌, by the sextant [☋ a corde ♌ per Sext.]*	*44° 27′*
	Aldebaran was distant towards the west [Diſtabat Aldeb. verſ. occ.]	*34° 39′*
11h 27m	*Declination of ☋ by the armillae [Declin. ☋ per Armillas]*	*23° 15¼′*
	with the other pinnule [Alt. pinnac.]	*23° 15½′*
11h 32m 12s [11 32 12″]	*☋ crossed the meridian and had an altitude by the revolving quadrant of [Tranſiuit ☋ meridianum & habuit Alt. per Q. volub.]*	*57° 22½′*[1]

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From this the place of ☋ near the Sun's opposite can be verified exactly enough, by examining the distances the other way round with the declination [Hinc poterit verificari exacte ſatis locus ☋ iuxta Solis oppoſitum, viceverſa diſtantias examinando cum declinatione.].

So that the times may be established more exactly, one distance of Aldebaran from the meridian was observed, and from this the times indicated by the clock in the observations above can be limited [Vt tempora exactius conſtent, obſeruabatur vna diſtantia Aldeboræ a Meridiano, hincque limitari poßunt tempora per horologium indicata in ſuperioribus obſeruationibus.].

But so that both the times of the clock and the place of ☋ itself might be examined more carefully, [it] was also observed by the equatorial armillae in the way that follows [Vt vero tam tempora horologij, quam ipſe locus ☋ diligentius examinetur, obſeruabatur etiam per Armillas æquatorias in hunc qui ſequitur modum.].[76]

Time	*Aldebaran, west [Aldeb. occ.]*	*☋, west [☋ occ.]*	*Equatorial distance [Diſt. æquat.]*
11h 41m 14s	*39° 35¼′*	*2° 12′*	*37° 23¼′*
11h 42m 50s	*40° 2′*	*2° 38¼′*	*37° 23′ 45″*
11h 44m 35s	*40° 27′*	*3° 3⅓′*	*37° 23′ 40″*

Therefore set the equatorial distance at 37° 23½′ [Pone itaque diſtantiam æquatoriam 37 23½].

Afterwards ☋ was observed from the heart of ♌ [Poſtea obſeruabatur ☋ a corde ♌]

Time	*The heart of ♌, east [Cor ♌ or.]*	*☋, west [☋ occ.]*	*Equatorial distance [Diſt. æquat.]*
11h 48m 52s	*41° 53′*	*4° 7′*	*46° 0′*
11h 51m 0s	*41° 23′*	*4° 36¾′*	*45° 59¾′*
11h 53m 10s	*40° 50′*	*5° 10′*	*46° 0′*
11h 54m 57s	*40° 24½′*	*5° 35¾′*	*46° 0¼′*

[75] at 11h 16¾m the label *☋ a corde ♌ / per Sext.* runs over two lines, the time on the first and the value on the second; *Diſtabat Aldeb. / a mer. occ.*, *Diſtabat Aldeb. / verſ. occ.* and *Declin. ☋ / per Armillas* each set the value on the second line; *Tranſiuit ☋ meridianum / & habuit Alt. per Q. volub.* sets the value on a third line. Each label is given whole on one row.

[76] *Ar-* ends the left column and *millas* opens the right column.

Reading	*Value*
Therefore set the ascensional difference at [Pone itaque differentiam aſcenſionalem]	*46° 0′*
Declination of ☽ with one pinnule [Declin. ☽ vno pinnac.]	*23° 16½′*
With the other [Altero]	*23° 16¼′*
Therefore [Ergo]	*23° 16⅓′*

On 27 December [DIE 27 DECEMBRIS.]

Time	Reading	Value
7^h $4⅓^m$ [7^H 4⅓′]	Declination of ☽ with one pinnule [Decl. ☽ vno pin.]	23° 19′
	with the other [altero]	23° 18¾′

Time	☽, east [☽ or.]	Eye of ♉, east [Oculus ♉ or.]	Equatorial distance [Diſt. æquat.]	Altitude [Alt.]
7^h 9^m 58^s	63° 58′	26° 43′	37° 15′	
7^h 12^m 0^s	63° 28′	26° 14′	37° 14′	
7^h 13^m 36^s	63° 1½′	25° 46′	37° 15½′	32° 30′
7^h 15^m 10^s	62° 39′	25° 23′	37° 16′	
7^h 17^m 34^s	62° 2½′	24° 46½′	37° 16′	34° 0′

It was not very clear [Non fuit admodum ſerenum.].

On 31 December [DIE 31 DECEMBRIS.]

Time	*Reading*	*Value*
7^h 30^m 0^s [7^H30′ 0″]	*Between ☽ and Aldebaran, by the sextant [Inter ☽ et Aldeb. per Sext.]*	*35° 23′ twice [bis]*
		35° 24′ once [ſemel]
		35° 23⅙′ good [bona]
7^h 44^m	*Between ☽ and the lower [head of] ♊, by the sextant [Inter ☽ & infer. ♊ per Sext.]*	*10° 46½′*
	repeated [repetita]	*10° 46′*
	a third time [tertio]	*10° 46⅙′*

77

Afterwards by the armillae [Poſtea per Armillas]

[77] *Inter ☽ et / Aldeb. per / Sext.* runs over three lines, a value on each, the time on the first only; *Inter ☽ & infer. ♊ / per Sext.* sets the time on the first line and the value on the second. Each label is given whole on its first row.

Time	*☽, east [☽ or.]*	*Aldebaran, east [Aldeb. or.]*	*Value*
7h 47m	*54° 20½′*	*17° 38′*	*36° 42½′*
7h 49¼m	*53° 47½′*	*17° 6′*	*36° 41½′*
7h 50½m	*53° 27½′*	*16° 47¾′*	*36° 40′2*
7h 52½m	*52° 59½′*	*16° 17⅙′*	*36° 42⅓′*
7h 54⅓m	*52° 31′*	*15° 49¼′*	*36° 41′ 45″*

[1] Afterwards Tycho added in writing: »*Note. The altitude may be 57° 23′, for the following fixed stars show this. Set the declination at 23° 17½′*« [Poſtea adſcripſit Tycho: »Nota. Poterit altit. eße 57ᵍ 23′, nam ſtellæ fixæ hoc docent ſequentes. Pone declin. 23 17½«.]

[2] Struck through with lines. Added in writing: *uncertain* [Lineis inducta. Adſcriptum eſt: incerta.]

Therefore set the equatorial distance from Aldebaran at 36° 42′, and you will err imperceptibly [Pone itaque diſtantiam æquatoriam ab Aldeb. part. 36 M. 42, & inſenſibiliter aberrabis.].

But compare the right ascension from the distances by the sextant written above [Confer autem Aſc. rectam ex diſtantijs per Sextantem ſupraſcriptis.].

The declination of ☽ was taken at about these times by the greater armillae [Declin. ☽ accipiebatur circa hæc tempora per Armillas maiores]:

Reading	*Value*
with one pinnule [vno pinnac.]	*23° 20′*
with the other [altero]	*23° 20½′*

But the altitude of ☽ at about these times, by the least quadrant, was about 40°, and hence it had no perceptible refraction [Fuit autem alt. ☽ circa hæc tempora per Q. minimum circiter 40 gradus, vnde nullam habuit ſenſibilem refractionem.].

Places of Jupiter[1] [LOCA IOVIS[1].]

For the place of ☽ on 25 October, at 5h 0m A. M. [Pro loco ☽is die 25 Octobris H. 5 M. 0 A. M.]

Time	Reading	Value
5h 0m [H. 5 M. 0]	Distance between ☽ and Aldebaran, by the sextant △ [Diſtantia inter ☽ & Aldeb. per Sext. △]	41° 37′
	Declination of ☽ [Decl. ☽]	22° 36′ north [Bor.]
	Declination of Aldebaran [Declin. Aldeb.]	15° 36½′ north [Bor.]
	Side BA [La. BA]	74° 23½′
	Side CA [La. CA]	67° 24′
	Side BC [La. BC]	41° 37′
	Angle CAB [Angulus CAB]; difference of right ascension of ☽ from the eye of ♉ [Differentia Aſc. rect. ☽ ab oculo ♉]	43° 34½′

Time	Reading	Value
	Right ascension of Aldebaran [Aſc. rect. Aldeb.]	63° 6′2
	Right ascension of ♃ [Aſcen. rect. ♃is.]	106° 40⅓′
5h 5m [H. 5 M. 5]	Between ♃ and the heart of ♌, also by the sextant [Inter ♃ & cor ♌ etiam per Sext.]	38° 45½′
	Declination of ♃, as before [Declinatio ♃ ut prius]	22° 36′
	Declination of the heart of ♌ [Declin. cordis ♌]	13° 57½′
	Side FG [Latus FG]	67° 24′
	Side FH [Latus FH]	76° 2½′
	Side GH [Latus GH]	38° 45½′
	Angle HFG [Angulus HFG]; difference of ascension of ♃ from the heart of ♌ [Dria Aſc. ♃ a corde ♌]	39° 55½′
	Right ascension of Regulus [Aſcen. rect. Reguli]	146° 35⅙′
	Right ascension of ♃ [Aſcen. rect. ♃]	106° 39⅔′

[78]

The right ascension of ♃ was therefore taken as 106° 40′ for 5h 0m [Accepta eſt itaque Aſcen. rect. ♃ 106 40 ad H. 5 M. 0].

Reading	Value
Declination [Declinatio]	22° 36′ north [B.]
Corresponding longitude of ♃ [Reſp. Longitudo ♃]	15° 21⅓′ ♋
Latitude [Latitudo]	0° 1¾′ south [M.]

There follow the demonstrations of the computations for the places of ♃ found about its opposition with the simple ☉, namely for the days 15, 22 and 26 of December [Sequuntur Demonſtrationes ſupputationum pro inventis locis ♃ circa ☍ ejus cum ſimplici ☉ videlicet ad Diem 15. 22. & 26. Decembris.].

On 15 December, at 5½h A. M. [Die 15 Decembris H. 5½ A. M.]

Reading	Value
Equatorial distance of ♃ from the heart of ♌ [Diſtantia æquat. ♃ a corde ♌]	44° 20′ 30″
Equatorial distance of ♃ from Spica ♍ [Diſtantia æquat. ♃ a ſpica ♍]	93° 40′ 45″
Right ascension of the heart of ♌ [Aſcenſio recta cordis ♌]	146° 33′ 30″
Right ascension of Spica ♍ [Aſcenſio recta ſpicæ ♍]	195° 53$\frac{1}{12}$′
Right ascension of ♃ from the heart of ♌ [Aſc. rect. ♃ a corde ♌]	102° 13′ 0″

[78] at 5h 0m the label *Diſtantia inter* ♃ *&* ♌ stands on one line, the value 41 37 alone on the next, and *per Sext.* △ alone on a third line beneath the value; at 5h 5m, *etiam per Sext.* stands on the line below *Inter* ♃ *&* ♌ and its value. Each label is given whole on one row. In the rows of angle CAB and angle HFG the value is printed between the two labels, the second label following it on the same line and running on to the next. The values of Aldebaran's right ascension and of ♃'s right ascension at 5h 0m are printed before their labels, with a rule between the two values; a rule also stands between the right ascension of Regulus and that of ♃ at 5h 5m.

Reading	Value
Right ascension of ♃ from Spica ♍ [Aſc. rect. ♃ a ſpica ♍]	102° 12′ 30″
Emended right ascension [Aſc. recta emendata]	102° 12′ 50″[3]
Declination of ♃ [Declinatio ♃]	23° 7½′ north [B.]
It should rather be [Debet potius eße]	8½′
Corresponding longitude [Reſp. Longitudo]	11° 12′ 28″ ♋
Latitude [Latitudo]	0° 4′ 40″ north [B.]
rather [potius]	5′ 40″

79

On 22 December, at 10^h [Die 22 Decembris H. 10.]

Reading	Value
Difference of right ascension between ♃ and Aldebaran [Aſcenſionis rectæ diff. inter ♃ & Ald.]	37° 58′
Right ascension of Aldebaran [Aſcenſio recta Aldeboræ]	63° 4′ 35″
Therefore the right ascension of ♃ [Ergo Aſcenſio recta ♃]	101° 2′ 35″
Declination of ♃, north [Declinatio ♃ B.]	23° 14¼′
Corresponding longitude [Reſp. Longitudo]	10° 8⅙′ ♋
Latitude [Latitudo]	0° 6⅙′ north [B.]

80

N.B. From this I afterwards limited [it] from observations of the fixed stars in declination, taking, namely, [those] of the upper and lower head of ♊ *on 26 December, [N. B. Ego hinc poſtea limitaui ex obſeruationibus fixarum in declinatione accipiens vtpote ſuperioris & inferioris capitis* ♊ *die 26 Decembris,]*[81]

[1] From codex V [E codice V.].

[2] "4⅓ corr." added by a second hand [»4⅓ corr.« add. manus altera.].

[3] In the margin, in a second hand: "Both fixed stars were in the eastern part of the sky, for which reason the differences of right ascension are ambiguous" [In margine altera manu: »Ambæ fixæ ab orientali cœli parte fuerunt, quapropter different. Aſcen. rectæ ambiguæ ſunt«.].

and the declination of each was found to be deficient by about one minute; therefore, and from this, by increasing the declination of ♃ *by nearly one minute, we shall not inappropriately also increase its latitude by nearly one minute, so that it is 0° 7′ at least, without parallax [& inuenta eſt vtriusque declinatio quaſi vno minuto deficiens,*

[79] *8½* stands in the minutes position, under the 7½ of the declination; *5 40* stands in the minutes and seconds positions, under the 4 40 of the latitude. The two equatorial distances each set the label on one line and *a corde* ♌ / *a ſpica* ♍ with the value on the next; each label is given whole.

[80] a rule is printed under the right ascension of Aldebaran, above the value of ♃'s right ascension.

[81] the sentence runs on at the head of the left column of p. 76.

quare & hinc ♃ declinationem vno ferme minuto augendo non inconuenienter eius etiam latitudinem vno ferme ſcrupulo augebimus, vt ſit ea p.o M.7 ad minimum absque parallaxi.].[82]

On 26 December, for the place of ♃, by a threefold demonstration of the calculation, from observations, from distances alone [Die 26 Decembris pro loco ♃ triplici calculi apodixi ex Obſeruationibus ex ſolis diſtantijs.]
I.

Time	Reading	Value
7⅝^{h} [H. 7⅝]	Distance between ♃ and [Diſtantia inter ♃ &]:	
	Aldebaran [Aldeb.]	36° 1′ 0″
	the lower head of ♊ [Inf. cap. ♊]	10° 11½′
	Of Aldebaran [Aldeboræ]:	
	longitude [Long.]	4° 0′ 50″ ♊
	latitude [Lat.]	5° 31′ 0″ south [M.]
	Of the lower head of ♊ [Infer. cap. ♊]:	
	longitude [Long.]	17° 31′ 20″ ♋
	latitude [Lat.]	6° 38′ 0″ north [B.]

[83]

Diagram. A spherical figure in the left column: three curved arcs descend from a common apex A — a left arc to D at the lower left, a middle arc to C, and a right arc to B at the lower right, the right arc continuing a little below B. Near the base, two nearly straight lines run up from the lower left to B, crossing the middle arc above C; towards D their lower ends converge with a third line that runs to C, and they cannot be separated there on the scan; a transverse line runs from the lower part of the left arc, above D, through C to the foot of the right arc. The labels are set in a hand-lettered face.

- A (apex): A
- B (lower right, on the right arc): B
- Cap. ♊ (above B, to its right): Cap. ♊ — "head of ♊"
- ♃ C (lower middle, at the foot of the middle arc): ♃ beside the letter C
- D (lower left, at the foot of the left arc): D
- Ald. (below and to the right of D): Ald. — Aldebaran

I. Triangle DAB [Triangulum DAB.]

Reading	Value
Given [Dantur] DA	95° 31′ 0″

[82] the sentence begins at the foot of the right column of p. 75.

[83] each outer label (*Diſtantia inter ♃ &*, *Aldeboræ*, *Infer. cap.* ♊) is joined by a brace to the two lines that follow it here, and applies to both; *H. 7⅝ Diſtantia / inter ♃ &* runs over the two lines of its members, and *Aldeboræ* and *Infer. cap.* ♊ each stand between their two member lines. The outer label is given on its own row above its members.

Reading	Value
BA	83° 22′ 0″
DAB	43° 30′ 30″
Therefore [Ergo] DB	45° 5½′

II. ADB.

Reading	Value
Given [Dantur] DA	95° 31′ 0″
DB	45° 5′ 30″
BA	83° 22′ 0″
Therefore [Ergo] ADB	74° 55′ 20″

III.

Reading	Value
BD	45° 5′ 30″
DC	36° 1′ 0″
BC	10° 11′ 30″
Therefore [Ergo] DBC	7° 10′ 30″
and [et] ADC	82° 5′ 50″

IV.

Reading	Value
DA	95° 31′ 0″
DC	36° 1′ 0″
ADC	82° 5′ 50″
Therefore [Ergo] CA	89° 50′ 40″
and [et] DAC	35° 37′ 20″

Reading	Value
Therefore, in this way, there becomes evident for ♃ [Patefcit igitur hoc modo ♃]:	
the longitude [Longitudo]	9° 38′ 10″ ♋
the latitude [Latitudo]	0° 9′ 20″ north [B.]

84

II.

[84] *Patefcit igitur / hoc modo* ♃ runs over two lines and is joined by a brace to *Longitudo* and *Latitudo*; it applies to both and is given on its own row above them.

Time	Reading	Value
$8^h\ 7^m$ [H 8 M. 7]	Equatorial distance of ♃ from Aldebaran [Diſtant. æqvat. ♃ ab Ald.]	37° 25½′
	Right ascension of Aldebaran [Aſcenſio recta Aldeboræ]	63° 4′ 35″
	Therefore the right ascension of ♃ [Ergo Aſcenſio recta ♃]	100° 30′ 0″
	Declination, at most, from the meridian altitude, the altitudes of other stars taken with the same instrument having been compared [Declinatio ad ſummum ex altid. Merid. collatis aliarum ſtellarum altitudinibus eodem inſtrumento acceptis]	23° 17′ 30″
	Corresponding longitude [Reſp. Longitudo]	9° 38½′ ♋
	Latitude [Latitudo]	0° 7⅙′ north [B.]

85

III.

♃ the other way round, from Aldebaran and the heart of ♌ [♃ viceverſa ab Ald. & corde ♌.]

Time	Reading	Value
$11⅓^h$ [H. 11⅓]	Distance [Diſtant.]:	
	from Aldebaran [Ald.]	36° 0′ 15″
	from the heart of ♌ [cord. ♌]	44° 27′ 0″
	Right ascension of Aldebaran [Aſcenſio recta Aldeboræ]	63° 4′ 35″
	Right ascension of the heart of ♌ [Aſcenſio recta cordis ♌]	146° 33½′
	Declination [Declinat.]:	
	of Aldebaran [Aldeboræ]	15° 36½′ north [B.]
	of the heart of ♌ [cordis ♌]	13° 57½′
	Declination of ♃, as before [Declinatio ♃ ut prius]	23° 17′ 30″ north [B.]
	Angle of the difference of ascension from Aldebaran [Ang. $d^{ræ}$ Aſc. ab Aldeb.]	37° 25′ 10″
	From this the right ascension of ♃ [Hinc Aſc. recta ♃]	100° 29′ 40″
	Angle of the difference of ascension from the heart of ♌ [Ang. $d^{ræ}$ Aſc. a corde ♌]	46° 4′ 0″
	From this the right ascension of ♃ [Hinc Aſc. recta ♃]	100° 29′ 30″
	Right ascension of ♃, limited [Aſc. Recta ♃ limitata]	100° 29′ 35″
	Corresponding longitude [Reſp. Longitudo]	9° 37′ 50″ ♋
	Latitude [Latitudo]	0° 7′ 10″ north [B.]

86

[85] a rule is printed under the right ascension of Aldebaran. The six-line label of the declination is enclosed by a brace whose point carries the single value 23 17 30.

[86] *H. 11⅓ Diſtant.* stands between the two lines *Ald.* and *cord.* ♌, joined to them by a brace; *Decli- / nat.* is broken over the two lines of its members *Aldeboræ* and *cordis* ♌, joined to them by a brace. Each outer label is given whole on its own row above its members.

For the opposition of ♃ with the simple [motion] of the ☉ [Pro ☍ ♃ cum ſimplici ☉$^{l_i s}$.]

Therefore, for 11⅓^{h}, retaining the same longitude of ♃ which is then found observed the other way round, namely 9° 37′ 50″ ♋ — with which the remaining observations, when account is taken of the interval of time, agree precisely enough — and comparing with this the phenomena [φαινόμενα (phainomena, "appearances")] of ♃ observed on the preceding days, in order to establish its diurnal motion, together with the Tables and Ephem. compiled from Copernicus and the Alphonsines (for, from all these reconciled, we gave ♃ a diurnal motion of 7′ 45″, which we used from this time right up to the opposition), ♃ is found to have been in opposition with the simple ☉ on 21 December at 18^{h} 30^{m} [Ad horam igitur 11⅓ retinendo eandem ♃ Longitudinem quæ viceverſa tunc obſervata reperitur, videlicet 9 37 50 ♋, cui reliquæ obſervationes, habita ratione interſtitij temporis, ſatis præciſe aſtipulantur, et conferendo antecedentium dierum obſervata φαινόμενα ♃ cum hoc, pro motu diurno ejus conſtituendo una cum Tabulis et Ephem. ex Copernico & Alphonſinis concinnatis (dabamus enim ex his omnibus conciliatis ♃^{vi} motum diurnum 7′ 45″, quo ab hoc tempore ad ☍ usque uſi ſumus) invenitur ♃ fuiße in ☍ cum ſimplici ☉ Die 21 Decemb. H. 18 M. 30.].

Reading	Value
Its longitude [Longitudo ejus]	10° 14⅙′ ♋
Latitude [Latitudo]	0° 6′ 0″ north [B.]
....cta, by parallax [....cta parallaxi]	30″

[87]

For the northern intersection of ♃ through the ecliptic [Pro interſectione ♃ Borea per Eclipticam.]

Diagram. Two shallow arcs drawn from the lower left of the column, meeting at A and diverging towards the right: the upper arc passes through B, the lower through C, and a short straight line joins B (above) to C (below). The labels are hand-lettered.

- B (top, above the upper arc): B
- C (below the lower arc, under B): C
- A (lower left, below the meeting of the arcs): A

Reading	Value
BC	0° 6′ 0″
BAC	1° 40′ 0″
ABC	right [rectus]
Therefore [Ergo] BA	3° 26′ 0″

[87] the page prints four points before *-cta*; the beginning of the word is not given. *....cta* and *parallaxi 30″* stand on two lines below the latitude, on the value side.

Reading	Value
♋	10° 15′

Therefore ♃ cuts the ecliptic, ascending in respect of latitude, at 6° 49′ ♋ [Secat igitur ♃ Eclipticam ratione Latitudinis aſcendendo in 6° 49′ ♋.].

If the greatest northern latitude of ♃, 1° 38′, is assumed, the side BA becomes 3° 30′, and therefore the intersection is at 6° 45′ ♋ [Si aßumitur maxima Latitudo ♃ B. 1° 38′, fit latus BA 3° 30′, et propterea interſectio in 6° 45′ ♋.].

On 21 December, at 18^{h} 50^{m} [Die 21 Decemb. H. 18 M. 50.][88] Comparison of the Copernican and Alphonsine calculation for ♃ [Collatio calculi Copernici & Alphonſ. in ♃.]

	Longitude [Long.]	Latitude [Latit.]
Calculation of Copernicus [Calculus Copernici]	9° 50′ ♋	0° 37′ south [M.]
Alphonsine calculation [Calculus Alphonſ.]	9° 59′ ♋	0° 9′ south [M.]
The observation gave [Obſeruatio dedit]	10° 15′ ♋	0° 6′ north [Bor.]

For the latitude of ♃ [Pro latitudine ♃.]

N. B. If we set ☊, the northern node of ♃, at the end of the 7th degree of ♋ for the completed year 1586, we shall err imperceptibly. For when a comparison was made with the observations of the year 1593, where the observed southern latitude of 17½′ required that the southern node be in the middle of the eighth degree of ♌, we shall take from that about half a degree on account of the hindrances of the refractions, and to this we shall add about a ⅙ part of a degree, namely by coming closer to this observation, free from refractions [N. B. Si conſtituerimus ☊ nodum Boreum ♃ in fine 7 gradus ♋ ad annum 1586 completum, inſenſibiliter aberrabimus. Nam collatione facta cum obſeruatis anni 1593, vbi latitudo obſeruata M. 17½ meridionalis requirebat vt nodus auſtrinus eßet in Medietate octaui gradus ♌, detrahemus illi quaſi dimidium gradum propter refractionum impedimenta & huic addemus quaſi ⅙ gradus partem propius videlicet ad hanc obſeruationem liberam a refractionibus accedendo.].

Observations of Mars [OBSERUATIONES MARTIS.]

On 23 September [DIÈ 23 SEPTEMBRIS.]

Time	Reading	Value
5^{h} 12^{m} P. M. N. [5^{H}12^{M} P. M. N.]	Declination of ♂, north [Declin. ♂ B.]	18° 5½′
	With the other pinnule [Alt. pinnac.]	18° 5¼′

[88] the left column gives the time of the opposition as *H. 18 M. 30*; this heading prints *M. 50*.

Time	Lower head of ♊, east [Infer. caput ♊ or.]	♂, toward the east [♂ ad. or.]	Equatorial distance [Diſt. æquat.]
$5^h\ 20^m$	21° 15′	47° 35′	26° 20′
$5^h\ 23^m$	20° 23½′	46° 45′	26° 21½′
$5^h\ 25⅔^m$	19° 50½′	46° 12¼′	26° 21¾′

For the place of ♂ [Pro loco ♂]

Time	Reading	Value
$5⅓^h$ [H. 5⅓]	Difference of right ascension of the lower [head] of ♊ and ♂ [Differ. Aſcenſ. R. inferioris ♊ & ♂]	26° 21′
	Right ascension of the lower head of ♊ [Aſcenſ. R. infer. cap. ♊]	109° 59′
	Right ascension of ♂ [Aſcenſ. Recta ♂]	136° 20′
	Declination of ♂, north, or. [Declin. ♂ B. or.]	18° 5⅓′
	Corresponding longitude of ♂ [Reſp. Longitudo ♂]	13° 27½′ ♌
	Latitude [Latitudo]	1° 18½′ north [B.]

89

Comparison of the place found with the Alphonsine and Copernican calculation [Collatio inuenti loci cum calculo Alphonſino & Coperniano.]

Time	♂	From observation [Ex obſeruatione]	Alphonsine calculation [Calc. Alpho.]	Copernican calculation [Calc. Coper.]
$5⅓^h$ [H. 5⅓]	Longitude [Long.]	13° 27½′ ♌	12° 54′ ♌	13° 56′ ♌
	Latitude [Lat.]	1° 18½′ north [B.]	0° 41½′ north [B.]	0° 35′ north [B.]

On 24 September, A. M. [DIE 24 SEPTEMBRIS A. M.]

Time	Reading	Value
$3^h\ 55^m$ [3^H55^M]	Declination of ♂, north [Declin. ♂ Bor.]	17° 56½′

Time	Lower head of ♊, east [Infer. caput ♊ or.]	♂, east [♂ orient.]	Equatorial distance [Diſt. æquat.]
$3^h\ 59^m$	40° 58½′	67° 54½′	26° 56′
$4^h\ 3½^m$	40° 8½′	67° 4¼′	26° 55¾′
$4^h\ 4^m$	39° 39½′	66° 34¾′	26° 55¼′

The brightness of the Moon hindered us during the observing [☾ ſplendor inter obſeruandum nobis obfuit.].

[89] the value 26 21 stands on its own line below the label of the difference of right ascension.

On 10 October [DIE 10 OCTOBRIS.]

Time	Reading	Value	Remark
1⅝ʰ [H. 1⅝]	Between ♂ and the heart of ♌ [Inter ♂ & cor ♌]	0° 58′	With the Radius, and the altitude of ♂ was then 9° [Per radium, fuitque tunc altit. ♂ G. 9] (for both)
	Repeated [Repetita]	1° 0′	

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At about this time ♂ was, by the ruler, quite exactly on the straight line drawn from the heart of ♌ to the uppermost [star] of the neck of the same; hence it was also not far from conjunction with the heart of ♌, which a straight line drawn from ♂ toward the pole of the zodiac also attested [Circa hoc tempus fuit ♂ in recta linea, quæ ducitur a corde ♌ ad ſupremam ceruicis eiusdem, per lineale ſatis exacte, vnde etiam non multum aberat a coniunctione cum corde ♌, id quod etiam linea recta a ♂ verſus polum Zodiaci ducta teſtabatur.].

By the sextant, however, its distance from the same star of the heart of ♌ was observed at about the second hour P.M.N. as 1° 5′; you can trust this rather than the Radius, and the observation was repeated three times. But that distance was only in respect of latitude, so that ♂ was more northerly than the heart of ♌ by so great an interval; for in longitude, as far as sight goes, they were joined quite exactly. This the following observations will investigate more scrupulously [Per Sextantem vero obſeruabatur eius diſtantia circa horam ſecundam P.M.N. ab eadem ſtella cordis ♌ 1° 5′, cui potius potes fidere quam radio, fuitque ter repetita obſeruatio. Erat autem illa diſtantia ſaltem quo ad latitudinem, ita vt ♂ eßet corde ♌ borealior tanto interuallo, nam in longitudine quoad viſum ſatis exacte iungebantur. Id quod ſequentes obſeruationes ſcrupuloſius inquirent.].

Time	Reading	Value
2ʰ 24ᵐ [2ᴴ24ᴹ]	Distance between ♂ and the lower head of ♊ [Diſtantia inter ♂ & infer. caput ♊]	36° 36⅙′
2ʰ 27ᵐ		36° 36½′
2ʰ 28ᵐ	The same, also [Eadem etiam]	36° 36¼′
2ʰ 30ᵐ	by the sextant △ [per Sext. △]	36° 36¼′
	At about [the time of] these observations the altitude of ♂ was [Fuit circa has obſeruationes alt. ♂]	15° [15 part.]
2ʰ 32ᵐ	Declination of ♂ by the armillae [Declin. ♂ per Armillas]	15° 3¾′ north [B.]
	with the other pinnule [alt. pinnac.]	15° 3½′

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[90] the remark is joined by a brace to both rows.

[91] the label *Diſtantia inter* / ♂ *&* *infer. caput* ♊ runs over the lines of 2ᴴ24ᴹ and 2 27; it is given whole on the first row.

On 22 October [DIE 22 OCTOBRIS.]

Time	Reading	No.	Value
$6^h\ 3^m$ [$6^H\ 3^M$]	Distance between ♂ and the heart of ♌ [Diſt. inter ♂ & cor ♌]	I	6° 10′
$6^h\ 7^m$	By the sextant △ [Per Sext. △]		
	toward dawn [ſub auroram]	II	6° 9′
$6^h\ 10^m$		III	6° 10′
$6^h\ 14^m$	Declination of ♂, north, with one [Declin. ♂ B. vno]		13° 0½′
	with the other pinnule [alt. pinnac.]		13° 0⅔′

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On 24 October [DIE 24 OCTOBRIS.]

Time	Reading	Value
$6^h\ 35^m$ [$6^H35'$]	*Declination of ♂, north [Declin. ♂ B.]*	*12° 39¾′*
$6^h\ 37½^m$	*The same, with the other pinnule [Eadem alt. pinnac.]*	*12° 39½′*

On 25 October, A. M. [DIE 25 OCTOBRIS A. M.]

Time	Reading	Value
$5^h\ 11^m$ [5^H11^M]	*Declination of ♂ [Declinatio ♂]*	*12° 29⅓′*
$5^h\ 12^m$	*Between ♂ and Regulus [Inter ♂ et Regulum]*	*7° 40½′*
$5^h\ 15^m$	*Repeated distance of ♂ and Reg. [Repetita diſt. ♂ & Reg.]*	*7° 40⅓′*
$5^h\ 16^m$	*Repeated declination of ♂ [Repetita Decl. ♂]*	*12° 29⅓′*
$5^h\ 22^m$	*Repeated distance of ♂ and the heart of ♌ [Repet. diſt. ♂ & cord. ♌]*	*7° 41½′*
$5^h\ 24^m$	*The same, repeated [Eadem repetita]*	*7° 42′*
$5^h\ 26^m$	*The same distance [Eadem diſtantia]*	*7° 42′*
$5^h\ 30^m$	*The same distance, repeated [Eadem diſt. repetita]*	*7° 42⅓′*

And you can rather trust these last observations of ♂ from the heart of ♌ (for it was clearer), putting it at 7° 42′ [Atque his vltimis obſeruationibus ♂ a corde ♌ potes potius fidere (erat enim ſerenius) ponendo eam 7^g 42′.].

Time	Reading	Value
$5^h\ 32^m$	*Declination of ♂, as before [Declin. ♂ vt prius]*	*12° 29⅓′*
$5^h\ 42^m\ 45^s$	*Heel of the foot of ♊, west [Calx ped. ♊ occid.]*	*34° 59¾′*
	♂, east [♂ orient.]	*29° 50⅙′*
		64° 50′
$5^h\ 47^m$	*Heel of the foot of ♊, west [Calx pedis ♊ occ.]*	*36° 12¾′*
	♂, east [♂ orient.]	*28° 37½′*

[92] the value II 6 9 stands on the line below *Per Sext.* △, beside *ſub auroram*; that line carries no time.

Time	Reading	Value
	Equatorial difference [Differentia æquat.]	*64° 50¼′*

On 1 November, A. M. [DIE 1 NOUEMBRIS A. M.]

Time	Reading	Value
$5^h\ 6^m$ [$5^H\ 6^M$]	Declination of ♂, north [Declin. ♂ Bor.]	11° 2¾′

On 2 November, A. M. [DIE 2 NOUEMBRIS A. M.]

A little before 4^h, from the distance of the eye of ☉ from the meridian, we detected almost no error in the clock, which had been corrected to the Sun at the preceding noon [Paulo ante horam 4 errorem horologij ad Solem in Meridie antecedente correcti fere nullum ex diſtantia oculi ☉ a Meridiano deprehendimus.].

Time	Reading	No.	Value
$4^h\ 39⅓^m$ [$4^H 39⅓′$]	Between ♂ and the heart of ☋ [Inter ♂ & cor ☋]	I	11° 58½′
$4^h\ 40½^m$	by the sextant △ [per Sext. △]	II	11° 58¾′
$4^h\ 42^m$		III	11° 58½′
$4^h\ 46⅙^m$	Declination of ♂, north [Declin. ♂ Bor.]		11° 3′

At noon the clock was running slower by only $¼^m$, which was imperceptible [Horologium in Meridie ſaltem ¼ Minuti tardius ibat, quod erat inſenſibile.].

On 8 November, A. M. [DIE 8 NOUEMBRIS A. M.]

Time	Reading	Value
$6^h\ 34^m$ [6^H 34′]	*Declination of ♂, north [Declin. ♂ Bor.]*	*10° 4½′*

Time	The heart of ☋, west [Cor ☋ occid.]	♂, east [♂ orient.]	*Equatorial distance [Diſt. æquat.]*
$6^h\ 39^m\ 12^s$ [6 39 12″]	*6° 7½′*	*8° 42′*	*14° 49½′*
$6^h\ 41⅓^m$	*6° 38¼′*	*8° 11′*	*14° 49¼′*
$6^h\ 42^m\ 12^s$	*6° 52¾′*	*7° 57′*	*14° 49¾′*

Set the ascensional distance at 14° 49½′ and the declination at 10° 5′, and you will have the place of ♂ fairly exactly [Pone diſtantiam aſcenſionalem 14 49½ & Declinationem 10 5, & habebis ſatis exacte locum ♂.].

Today, in the equatorial distances, those 15′ by which the Equator does not correspond to the true meridian were not added throughout; therefore, in correcting the clock, this

will have to be guarded against [In diſtantijs æquatorijs hodie non addebantur 15 illa Minuta vbique, quibus Æquator non reſpondet vero meridiano, quare pro emendatione horologij hoc erit cauendum.].

On 10 November, A. M. [DIE 10 NOUEMBRIS A. M.]

Time	The heart of ♌, west [Cor ♌ occ.]	♂, west [♂ occ.]	*Equatorial distance [Diſt. æquat.]*
7^h 19^m 48^s [7^H 19′ 48″]	*18° 24′ 15″*	*2° 34′ 30″*	*15° 49′ 45″*
7^h 21^m 47^s	*18° 55′*	*3° 2′ 15″*	*15° 52′ 45″*
7^h 24^m 2^s	*19° 27′ 30″*	*3° 38′ 45″*	*15° 48′ 45″*

Set the equatorial difference of ♂ from the heart of ♌ at 7^h 20^m at 15° 50′; the declination, north, 9° 32½′ [Pone differentiam æquator. ♂ a corde ♌ H. 7 M. 20 15^g 50′, Declin. Bor. 9 32½.].

Time	Reading	Value
7^h $28½^m$ [7^H 28½]	*Repeated declination of ♂ [Repetita Declin. ♂]*	*9° 33′*

Time	*Azimuth of ♂, west [♂ occid. Azim.]*	*Altitude [Alt.]*
7^h 30^m 25^s	*7° 0′*	*43° 30′*
7^h 33^m 20^s	*8° 0′*	*43° 27½′*
7^h 36^m 16^s	*9° 0′*	*43° 24½′*

N.B.[1] The times written down have been corrected to the true meridian [N. B.[1] Tempora aſcripta ſunt emendata ad verum Meridianum.].

On 11 November, A. M. [DIE 11 NOUEMBRIS A. M.]

Time	Reading	Value
4^h 19^m 50^s [4^H 19′ 50″]	Declination of ♂, north [Declin. ♂ Bor.]	9° 25½′

Time	♂, east [♂ or.]	The heart of ♌, east [Cor ♌ or.]	Equatorial distance [Diſt. æquat.]
4^h 24^m 40^s	40° 26′	24° 13¼′	16° 12¾′
4^h 26^m 30^s	39° 59¼′	23° 46½′	16° 12¾′
4^h 28^m 15^s	39° 35′	23° 21′	16° 14′
5^h 14^m	*28° 7½′*	*11° 51½′*	*16° 16′*
5^h 16^m	*27° 34½′*	*11° 18½′*	*16° 16′*
5^h $20½^m$	*26° 27′*	*10° 11′*	*16° 16′*

It therefore agrees throughout that the equatorial distance of ♂ from the heart of ♌ was 16° 16′ at about this time [Conuenit itaque vbique quod diſtantia æquatoria ♂ a corde ♌ fuerit circa hoc tempus 16^g 16′.].

Afterwards ♂ was observed from Spica ♍ [Poſtea obſeruabatur ♂ a Spica ♍.].

Time	*Spica, east [Spica or.]*	*♂, east [♂ or.]*	*Equatorial distance [Diſt. æquat.]*	*Altitude of Spica [Alt. Spicæ]*
6h 45½m	*38° 16¼′*	*5° 17′*	*32° 59¼′*	*18° [18⁹]*
6h 49m	*37° 22¼′*	*4° 24′*	*32° 58¼′*	*18° 10′*
6h 51m	*36° 54⅔′*	*3° 54¼′*	*33° 0½′*	*18° 16′*
6h 53m	*36° 15′*	*3° 16½′*	*32° 58½′*	*18° 30′*
6h 55m	*35° 50′*	*2° 51′*	*32° 59′*	
6h 56½m	*35° 31′*	*2° 33′*	*32° 58′*	
6h 58⅓m	*35° 7′*	*2° 6½′*	*33° 0½′*	

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This variation comes from the fact that Spica appeared less bright because of the light of dawn, so that for that reason it was necessary to widen the pinnules too much; but let its equatorial distance from Spica at about this time be set at 32° 59′, and one will not go wrong by a single minute [Hæc varietas inde venit, quod Spica minus appareret lucida ob lumen auroræ, vt ob id nimis ampliare pinnacidia fuerit neceſſarium, ſed ponatur circa hoc tempus ipſius diſtantia a Spica æquatoria 32⁹ 59′ & nullo ſcrupulo aberrabitur.].

Afterwards, at 7h 2m, the declination of ♂ was observed near the meridian [Poſtea H. 7 M. 2 obſeruabatur declinatio ♂ prope Meridianum]:

Reading	Value
with one pinnule [vno pinn.]	*9° 24½′* north [Bor.]
with the other pinnule [alt. pinnac.]	*9° 24¾′*

At 7h 6m 45s ♂ crossed the meridian, having a maximum altitude of 43° 30½′ [H. 7 M. 6 45″ tranſiuit ♂ per Meridianum habens Altitudinem max. 43 30½.]. Declination from the altitude [Decl. ex alt.]: *9° 25′ 0″.*

It is therefore evident that the declination from the meridian altitude does not differ from the one that was taken by the armillae, except by an imperceptible ½′ [Patet itaque quod declinatio ex altitudine Meridiana non differat ab ea, quæ per Armillas accipiebatur, niſi ½ ſcrupulo inſenſibili.].

At noon the clock was running faster by 1m 55s, an error which is only from the morning hour, 3⅚h [Horologium in Meridie celerius ibat M. 1 55″, qui error ſaltem eſt ab Hora matutina H. 3⅚.].

On 23 November, A. M. [DIE 23 NOUEMBRIS A. M.]

5⅙h [H. 5⅙]: the clock was verified against the stars [Horologium verificatum eſt ad ſtellas.].

[93] this table stands at the head of the right column and continues the entry of 11 November from the foot of the left column; the altitude of Spica is set on the first four rows only, and its first value carries no minutes.

Time	Reading	Value
$6^h\ 15^m$ [$6^H\ 15'$]	Declination of ♂, north, with one [Declin. ♂ B. vno]	7° 19¾′
	with the other pinnule [alt. pinnac.]	7° 20′
	Meridian altitude of ♂ by the Tychonic quadrant [Alt. meridiana ♂ per Q. Tich.]	
	with the new pinnule [nouo pinn.]	41° 25⅙′
	with the old pinnule [vet. pinn.]	41° 25′

Time	*Spica, east [Spica or.]*	*♂, west [♂ occ.]*	*Equatorial distance [Dist. æquat.]*
$7^h\ 14½^m$	*18° 21′*	*9° 11′*	*27° 32′*
$7^h\ 15½^m$	*18° 5¾′*	*9° 27½′*	*27° 33¼′*
$7^h\ 16⅔^m$	*17° 48½′*	*9° 44′*	*27° 32½′*

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Therefore set the equatorial distance here at 27° 32½′ [Pone itaque hic dist. æquat. 27 32½].

Time	*The heart of ♌, west [Cor ♌ occid.]*		
$7^h\ 19^m$	*32° 8′*	*10° 21½′*	*21° 46½′*
$7^h\ 20⅓^m$	*32° 26′*	*10° 39¾′*	*21° 46¼′*
$7^h\ 21⅓^m$	*32° 43′*	*10° 57′*	*21° 46′*
$7^h\ 22½^m$	*33° 2′*	*11° 15½′*	*21° 46½′*

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[1] From codex V [E codice V.].
Set the equatorial distance at 21° 46¼′ [Pone distantiam æquatoriam 21 46¼].

Time	Reading	Value
$7^h\ 24^m$	*Declination of ♂, north, with one pinnule [Declin. ♂ B. vno pinn.]*	*7° 19⅔′*
	with the other pinnule [altero pinac.]	*7° 19⅚′*

On 1 December [DIE 1 DECEMBRIS.]

Time	The heart of ♌, west [Cor ♌ occid.]	♂, west [♂ occ.]	Equatorial distance [Dist. æquat.]
$7^h\ 24^m\ 50^s$	44° 43¼′	19° 30¾′	25° 12½′
$7^h\ 26^m\ 15^s$	45° 3½′	19° 50¾′	25° 12¾′
$7^h\ 27^m\ 20^s$	45° 20′	20° 8½′	25° 11½′

[94] in 18° 21′ the stem of the second 1 is broken above its foot, so that the figure resembles "2!" on the page.

[95] only the second column of this table carries a head of its own; the third and fourth columns stand under ♂ occ. and Dist. æquat. of the table above.

Time	The heart of ♏, west [Cor ♏ occid.]	♂, west [♂ occ.]	Equatorial distance [Dist. æquat.]
$7^h\ 28^m\ 25^s$	45° 35′	20° 22½′	25° 12½′
$7^h\ 31^m\ 30^s$	46° 22½′	21° 10½′	25° 12′

Set for $7\frac{1}{2}^h$ the equatorial distance of ♂ from the heart of ♏ at 25° 12¼′ [Pone ad H. 7½ Dist. æquat. ♂ a corde ♏ 25 12¼].

Time	Reading	Value
$7^h\ 35\frac{1}{2}^m$	Declination of ♂, north [Declin. ♂ Bor.]	6° 2⅙′
	with the other pinnule [Alt. pinnac.]	6° 2¼′

At noon the clock was running slower by $8^m\ 20^s$ [8′ 20″], an error which belongs to two days [Horologium in Meridie 8′ 20″ tardius ibat, qui error duobus diebus competit.].

On 16 December, in the morning [DIE 16 DECEMBRIS, MANE.]

At $5^h\ 31^m$ the meridian altitude of ♂ by the revolving quadrant [was] 38° 0′, not certain because of clouds [H. 5 M. 31 Alt. ♂ Merid. per Q. Volub. 38 0, non certa propter nubes.].

Time	Reading	Value
$6^h\ 4^m$ [6^H 4′]	Declination of ♂ by the armillae [Decl. ♂ per Armillas]	3° 53½′
	with the other pinnule [alt. pinn.]	3° 54′

Greater clock [Mai. Horol.]	Lesser [clock] [Minori]	♂, west [♂ occ.]	Spica, east [Spica or.]	Equatorial distance [Dist. æquat.]
	$6^h\ 29^m\ 50^s$	15° 37′	2° 50′	18° 27′
$6^h\ 32^m\ 47^s$	$6^h\ 33^m\ 29^s$	16° 30′	1° 59′	18° 29′
$6^h\ 34^m\ 59^s$	$6^h\ 34^m\ 20^s$	17° 0′	1° 25′	18° 25′

Greater clock	Lesser [clock]	Reading	Value
		Set here [Pone hic]	*18° 17′*
$7^h\ 43^m\ 5^s$	*$7^h\ 43^m\ 7^s$*	*Arcturus, west [Arctur. occ.]*	*2° 18′*
		♂, west [♂ occ.]	*34° 3′*
		Equatorial distance [Dist. æquat.]	*31° 45′*

[96] these four rows are printed within the table above: their labels stand across its columns for ♂ and Spica, and their values in its column of the equatorial distance.

On 27 December, A. M. [DIE 27 DECEMBRIS A. M.]

Time	Reading	No.	Value
$3^h\ 44^m\ 5^s$ [3^H 44′ 5″]	Distance between ♂ and the heart of ♌ [Dist. inter ♂ & cor ♌]	I	35° 41′
$3^h\ 46^m\ 33^s$	The same, by the old sextant [Eadem per Sext. vet.]	II	35° 40¼′
$3^h\ 48^m\ 30^s$		III	35° 40½′
$3^h\ 51^m\ 7^s$		IV	35° 40¼′

The altitude of ♂ was 34½° [Fuit Alt. ♂ 34½°].

Time	Reading	No.	Value
$3^h\ 56^m\ 5^s$	Distance between ♂ and Spica ♍ [Dist. inter ♂ & Spicam ♍]	I	18° 58⅙′
$3^h\ 58^m\ 20^s$		II	18° 57½′
$4^h\ 1^m\ 5^s$	Repeated distance [Reiterata dist.]	III	18° 58′

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Altitude of ♂ 35⅓° [Alt. ♂ 35⅓°].

Time	Reading	Value
$4^h\ 8^m$	Declination of ♂, north, with one [Declin. ♂ Bor. vno]	2° 40′
	Altitude of ♂ 35⅚° [Alt. ♂ 35⅚°]; with the other pinnule [alt. pin.]	2° 40′
$7^h\ 2^m\ 50^s$	Declination of Mars, repeated [Declin. Martis repet.]	2° 38¾′

Time	The heart of ♌, west [Cor ♌ occ.]	♂, west [♂ occ.]		Altitude of ♂ [Alt. ♂]
$7^h\ 8^m\ 0^s$	68° 4½′	33° 46½′	34° 18′	33°[1] 14′
$7^h\ 10^m\ 20^s$	68° 35½′	34° 20′	34° 15½′	30° 0′
			uncertain [incerta]	
$7^h\ 12^m\ 35^s$	69° 12′	34° 54½′	34° 17½′	29° 48′
$7^h\ 14^m\ 0^s$	69° 33′	35° 15½′	34° 17½′	29° 37½′
$7^h\ 15^m\ 55^s$	70° 2½′	35° 44½′	34° 18′	29° 29′
$7^h\ 17^m\ 35^s$	70° 27¾′	36° 9¾′	34° 18′	29° 21½′

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Time	♂, west [♂ occid.]	Spica, west [Spica occ.]		
$7^h\ 20^m\ 40^s$	36° 53⅔′	21° 54′	14° 59⅔′	29° 3′

[97] this table stands at the head of the right column and continues the entry of 27 December from the foot of the left column. The label *Dist. inter* ♂ */ & Spicam* ♍ runs over the lines of $3^h\ 56^m\ 5^s$ and $3^h\ 58^m\ 20^s$; it is given whole on the first row.

[98] the fourth column carries no printed head. *incerta* stands on its own line between the rows of $7^h\ 10^m\ 20^s$ and $7^h\ 12^m\ 35^s$, under the fourth and fifth columns.

Time	♂, west [♂ occid.]	Spica, west [Spica occ.]	
$7^{h}\ 23^{m}\ 0^{s}$	37° 29′	22° 29½′	14° 59½′

99

Calculation of the place of ♂ for the day 27 December, in the morning[2] [Calculus loci ♂$^{ti^{s}}$ ad diem 27 Decembris mane[2].]

Time	Reading	Value
$3\frac{5}{6}^{h}$ [H. 3⅝]	Distance of ♂ from the heart of ♌ [Diſtantia ♂$^{ti^{s}}$ a corde ♌]	35° 40½′
	Declination of ♂ [Declinatio ♂$^{ti^{s}}$]	2° 39½′ north [B.]
	Declination of the heart of ♌ [Declinatio cordis ♌]	13° 57½′ north [B.]
	Angle of the ascensional difference [Angulus differentiæ Aſcenſionalis]	34° 16′ 4″
	Right ascension of the heart of ♌ [Aſcenſio recta cordis ♌]	146° 33′ 30″
	Therefore the right ascension of ♂ [Ergo Aſcenſio recta ♂$^{ti^{s}}$]	180° 49′ 34″
$4\frac{1}{2}^{h}$ [H. 4½]	Distance of ♂ from Spica ♍ [Diſtantia ♂$^{ti^{s}}$ a ſpica ♍]	18° 58′
	Declination of Spica ♍ [Declinatio ſpicæ ♍]	8° 56⅔′
	Angle of the difference of ascension [Angulus differentiæ Aſcenſion.]	15° 1′ 50″
	Right ascension of Spica ♍ [Aſcenſio recta Spicæ ♍]	195° 53′ 0″
	Therefore the right ascension of ♂ [Ergo Aſcenſio recta ♂$^{ti^{s}}$]	180° 51′ 10″
$4^{h}\ 0^{m}$ [H. 4. 0]	Right ascension of ♂, limited [Aſcenſio recta ♂$^{ti^{s}}$ limit.]	180° 50½′
	Declination [Declinatio]	2° 39⅔′ north [B.]
	Corresponding longitude [Reſp. Longitudo]	39° 42⅔′ ♍
	Latitude [Latitudo]	2° 46′ 35″ north [B.]

100

[1] The codex has 13, struck through with a line and corrected to 33. It should be 30° [Codex habet 13, linea inducta et in 33 correcta. Debet eße 30°.].

[2] From codex V [E codice V.].

Observations of Venus [OBSERUATIONES VENERIS.]

On 4 November, P. M. [DIE 4 NOUEMBRIS P. M.]

[99] the fourth and fifth columns carry no head of their own here; they stand under the unheaded column and the altitude of ♂ of the table above.

[100] a rule is printed under the right ascension of the heart of ♌ and under that of Spica, above each "Therefore" line. The labels *Angulus differentiæ / Aſcenſionalis* (*Aſcenſion.*) and *Aſcenſio recta / ♂$^{ti^{s}}$ limit.* run over two lines, the value on the second; each is given whole on one row. The *B.* of the latitude is set on the line below its value. The longitude is printed 39° in ♍, more than a sign holds.

Time	Reading	Value
4h 36½m [H. 4 M. 36½]	*Altitude of ♀ [Alt. ♀]*	*6⅓° [6⅓ G.]*
	Declination of ♀ [Declin. ♀]	*25° 47½′ south [M.]*
4h 40¼m	*♀ in the assigned azimuth [♀ in Azim. aßignato]*	*20° 10′ west [occ.]*
	Its altitude by the revolving quadrant [Alt. eius per Q. Volub.]	*6° 6¼′*
	Declination, south [Declin. Merid.]	*25° 48½′*

101

But so that we might be certain of the time and of the azimuths, we at once observed the bright star of the Vulture by the same instrument at a definite azimuth and altitude, as follows [Vt vero de tempore & azimutis certi eßemus, mox lucidam Vulturis obſeruauimus per idem inſtrumentum in certo Azimuto atque altitudine vt ſequitur.].

Time		Azimuth [Azimut]	Altitude [Altitudo]
4h 52m 55s [4H52′ 55″]	*the Vulture [Vultur]*	*12° 0′ west [occ.]*	*41° 26′*
4h 56m 0s		*13° 0′*	*41° 20½′*
4h 59m 5s		*14° 0′*	*41° 14½′*
5h 2m 10s		*15° 0′*	*41° 8¼′*
5h 5m 10s		*16° 0′*	*41° 1′*
5h 8m 15s		*17° 0′*	*40° 55′*

The azimuths are from the new restitution of the meridian made two days before; the clock [was] corrected at noon. But let the refraction of Venus be guarded against [Azimuta ſunt ex noua reſtitutione Meridiani ante biduum facta, Horologium in Meridie correctum. Sed caueatur refractio Veneris.].

Afterwards, to verify the time, the Vulture was observed at an equatorial distance from the meridian [Poſtea pro tempore verificando obſeruabatur Vultur in diſtantia æquatoria a Meridiano.].

Time	Reading	Value
5h 15m 30s [H. 5 M. 15 30″]	*The Vulture, west [Vultur occ.]*	*14° 35′*
5h 16m 55s		*14° 55′*
5h 18m 0s		*15° 11½′*

From these it is gathered — with the right ascension of the bright star of the Vulture set at 292° 41′ and the right ascension of ☉ at 229° 17′, from [our] own restitution of each — that from noon up to now the clock had been advanced faster than it should by about 4½m [4½′]. But it must be noted that the clock had been corrected to the new finding of the meridian, whereas the armillae showed [the time] according to the old

101 the labels ♀ *in Azim. / aßignato* and *Alt. eius / per Q. Volub.* each run over two lines, the value on the second; each is given whole on one row.

one, and therefore exactly 1^{m} more slowly. Therefore in reality nothing is wanting in the clock except the 3½^{m} [3½'] by which it was running fast; and you can rely with fair certainty on these observations, of ♀ as well as of ☾, well limited to this correction of the time. For it was very clear and calm [Ex his colligitur, posita Asc. Recta Lucidæ Vulturis 292 41 & Asc. Recta ☉ 229 17 ex propria restitutione vtriusque, quod Horologium a Meridie hucusque citius iusto promotum fuerit 4½' fere. Verum animadvertendum quod Horologium correctum erat ad nouam Meridiani inuentionem, Armillæ vero ad veterem monstrabant, ideoque vno minuto exacte tardius. Quare non deficiunt re vera in Horologio nisi 3½' quibus citius ibat, atque his obseruationibus tam in ♀ quam ☾ ad hanc temporis correctionem bene limitatis potes satis certo fidere. Erat enim bene serenum & tranquillum].[102]

At the noon immediately following, the transit of the Sun through the meridian showed that the clock had been advanced 7^{m} [7 Minutis] faster than it should from 5¼^{h} in the evening [In Meridie proxime sequenti Horologium 7 Minutis iusto velocius ab H. 5¼ vespertina promotum fuiße, Solis transitus per Meridianum indicauit.].

On 6 November, P. M. [DIE 6 NOUEMBRIS P. M.]

Time	Reading	Value
4^{h} 40^{m} [4^{H}40']	*Between ♀ and the western limb of ☾ [Inter ♀ & occ. limbum ☾]*	*29° 52½'*
4^{h} 41⅔^{m}	*The same distance [Eadem diſtantia]*	*29° 53⅓'*
4^{h} 44¾^{m}	*Repeated, by the sextant [Repetita, per Sext.]*	*29° 54'*

Around these times the altitude of ♀ was 5½° [5½ G.], by the least quadrant [Fuit circa hæc tempora alt. ♀ 5½ G. per Q. minimum.].

Time	Reading	Value
4^{h} 45½^{m}	*The distance of ♀ and ☾, taken as before by the sextant, was again [Fuit rurſus diſt. ♀ & ☾ vt prius accepta per Sext.]*	*29° 55'*
4^{h} 48½^{m}	*Altitude of ♀ 5° 35', azimuth [Alt. ♀ 5 35, Azim.]*	*23° 0'*
4^{h} 49¼^{m}	*Distance of ♀ from ☾, as before [Diſt. ♀ a ☾ vt prius]*	*29° 55½'*
4^{h} 51⅙^{m}	*The same distance repeated [Eadem repet. diſt.]*	*29° 56¼'*
4^{h} 56½^{m}	*Declination of ♀, south [Declin. ♀ M.]*	*25° 40¾'*
	Equatorial distance from the Vulture [Diſt. æquat. a Vulture]	*13° 40'*
4^{h} 57^{m} 2^{s} [4 57 2]	*Altitude of ♀ 5° 5' [5^{9} 5'], azimuth [Alt. ♀ 5^{9} 5', Azim.]*	*25° 0'*
4^{h} 59½^{m}	*Repeated declination of ♀ [Repetita Declin. ♀]*	*25° 40¾'*
	Equatorial distance from the Vulture [Diſt. æquat. a Vulture] as before [vt prius.]	*13° 40'*
5^{h} 4^{m}	*Repeated declination of ♀, south [Repetita Declin. ♀ M.]*	*25° 40⅙'*
	Equatorial distance, as before [Diſt. æquat. vt prius]	*13° 40'*

[102] this passage runs from the foot of the left column (to *potes satis certo*) into the head of the right column (*fidere. Erat enim …*).

103

Around these times the altitude of ♀ was 4⅔[°]. You can rely fairly safely on these observations of ♀ and ☾, provided the times are duly examined[1] [Fuit circa hæc tempora alt. ♀ 4⅔. His obſeruationibus ♀ & ☾ potes ſatis tuto fidere, modo tempora rite examinentur[1].].

On 7 November, P. M. [DIE 7 NOUEMBRIS P. M.]

Time	Between ♀ and the western limb of ☾, by the sextant [Inter ♀ & ☾ limb. occ. per Sext.]	Altitude of ♀, by the lesser quadrant [Alt. ♀ per Q. min.]
$4^h\ 18^m\ 55^s$	[4ʰ18′49″] 55′	7⅙°
$4^h\ 22^m\ 20^s$	40° 56⅔′	6⅚°
$4^h\ 27^m\ 0^s$	40° 58′	6⅔°
$4^h\ 28^m\ 25^s$	40° 59′	6½°
$4^h\ 30^m\ 15^s$	40° 59⅙′	6° 25′
$4^h\ 32^m\ 0^s$	41° 0′	6⅓°

Time	Altitude of ♀ [Altitudo ♀]	Declination of ♀, south [Declin. ♀ Mer.]	Equatorial distance of ♀ and the western limb of ☾ [Diſt. æquat. ♀ & occ. limb. ☾]
$4^h\ 36^m$	40° 17′	25° 39½′	40° 46½′
$4^h\ 38^m$	40° 9′	25° 39½′	40° 46½′
$4^h\ 42^m$	39° 0′	25° 38½′	40° 47⅙′
$4^h\ 44^m$	38° 50′	25° 38′	40° 47½′
$4^h\ 47^m$	39° 40′	25° 37½′	40° 48½′

[1] On the verification of the time see above, p. 36, among the observations of the Moon [De verificatione temporis vide ſupra p. 36, inter obſeruationes lunæ.].

Time	Reading	Value
$5^h\ 11^m$	*♀ from the Vulture, equatorial distance [♀ a Vulture, diſt. æquat.]*	*12° 20′*
	Declination of ♀ 25° 36′ south [Declin. ♀ 25 36 M.], altitude [Altit.]	*4° 20′*
$5^h\ 15⅙^m$	*♀ from the Vulture, equatorial distance [♀ a Vult. diſt. æquat.]*	*12° 19½′*
	Declination of ♀ 25° 35⅔′ south [Declin. ♀ 25 35⅔ M.], altitude [Altit.]	*3° 55′*

After that ♀ could no longer be observed; but use these, with the time and the other things corrected as is proper [Poſtea non poterat ♀ amplius obſeruari, ſed his vtere correcto tempore & cæteris vt decet.].

N. B. Today, in the equatorial distances, those 15′ by which the Equator does not correspond to the true meridian were not added throughout; therefore, in correcting the clock, this will have to be guarded against [N. B. In diſtantijs æquatorijs hodie

[103] the label *Fuit rurſus diſt. ♀ & ☾ vt pri- / us accepta per Sext.* runs over two lines, the value on the second; it is given whole on one row. *vt prius.* stands on a line of its own, centred, under the second equatorial distance from the Vulture, and is kept on its own row.

non addebantur 15 illa minuta vbique, quibus Æquator non reſpondet vero Meridiano, quare pro emendatione Horologij hoc erit cauendum.].

On 10 November [DIE 10 NOUEMBRIS.]

Time	Reading	Value
4^h 26^m 13^s [$4^H26'$ 13″]	♀ was distant from the meridian towards the west [Diſtabat ♀ a Mer. ad occ.]	18° 41′
4^h 27^m 48^s	♀, west [♀ occ.]	19° 15′
	Then the declination of ♀ was, south [Tunc fuit declin. ♀ M.]	25° 24′
4^h 28^m 47^s	♀, west [♀ occ.]	19° 32′
4^h 30^m 35^s	♀, west [♀ occ.]	19° 58′

104

From this the clock can be verified [Hinc poteſt verificari horologium.].

Time	Reading	Value
4^h 38½^m	*Declination of ♀ [Declin. ♀]*	*25° 25½′*
	Altitude of ♀ 6½[°] by the least quadrant [Alt. ♀ 6½ per Q. minimum.]	
4^h 41^m	*Altitude of ♀ 6° 20′, declination [Alt. ♀ 6 20, Declin.]*	*25° 22½′*
4^h 44½^m	*Altitude of ♀ 6⅙[°], declination [Alt. ♀ 6⅙, Declin.]*	*25° 22½′*

Time	*Declination of ♀ [Declin. ♀]*	*Equatorial distance of ♀ from the bright star of ♈ [Diſt. æquat. ♀ a lucida ♈]*	*Altitude of ♀ [Alt. ♀]*
4^h 51^m	*25° 22′ south [M.]*	*101° 57′*	
4^h 53[?]^m	*25° 22′*	*101° 55′*	
4^h 56^m	*25° 21¾′*	*101° 55½′*	*5° 30′*

105

On 11 November, P. M. [DIE 11 NOUEMBRIS P. M.]

Time	Declination of ♀, south [Declin. ♀ Auſt.]	Altitude [Alt.]
4^h 28⅓^m [$4^H28⅓'$]	25° 17½′	7⅓°
4^h 46^m	*25° 16¾′*	*6° 36′*

106

[104] the label *Diſtabat ♀ a Mer. / ad occ.* runs over two lines, the value on the second; it is given whole on one row.

[105] the time of the second row is printed 53 with a fraction whose numerator is 2 and whose denominator reads either 3 or 8 on the scan; it is not settled.

[106] the labels *Declin. ♀ Auſt.* and *Alt.* are printed within the line of $4^H28⅓'$, each before its value; they are given here as column heads. The line of 4 46 prints only its time and two values, set under those of the line above.

Afterwards, since no other stars appeared from which ♀ could conveniently be taken, its place [was taken] from the planet ♄ in this manner [Poſtea, quia nullæ aliæ ſtellæ apparebant, e quibus ♀ commode accipi poßet, e planeta ♄no eius locus in hunc modum.].

Time	*Altitude of ♄ [Alt. ♄]*	*Altitude of ♀ [Alt. ♀]*	*Declination of ♀ [Declin. ♀]*	*Equatorial distance of ♄ and ♀ [Diſt. æquat. ♄ & ♀]*
$4^h\ 52^m$	*14° 12′*	*6° 15′*	*25° 16½′*	*100° 34′*
	Afterwards a little more accurately [Poſtea paulo accuratius]			
$4^h\ 55½^m$	*14° 30′*	*6° 10′*	*25° 16′*	*100° 33¼′*
$4^h\ 58⅔^m$	*14° 57′*	*5° 50′*	*25° 15⅔′*	*100° 33½′*
$5^h\ 2⅓^m$	*15° 27′*	*5° 40′*	*25° 15¼′*	*100° 32¾′*

107

From this the place of ♀ will be able to be verified, once the place of ♄ has first been restored from the following observations, where the observation of ♄ is recorded [Hinc poterit verificari locus ♀ reſtituto prius loco ♄ e ſequentibus obſeruationibus, vbi ♄ obſeruatio annotatur.].[108]

Afterwards ♀ was observed from the bright star of ♈ in this manner [Poſtea obſeruabatur ♀ a lucida ♈ in hunc modum.].

Time	*Altitude of the bright star of ♈ [Alt. luc. ♈]*	*Altitude of ♀ [Alt. ♀]*	*Declination of ♀ [Declin. ♀]*	*Equatorial distance of ♀ from the bright star of ♈ [Diſt. æq. ♀ a luc. ♈]*
$5^h\ 5^m$	*26° 11′*	*5° 30′*	*25° 15′*	*100° 40½′*
$5^h\ 8⅔^m$	*26° 52′*	*5° 20′*	*25° 14¾′*	*100° 40′*
$5^h\ 12^m$	*27° 21′*	*5° 5′*	*25° 14½′*	*100° 39½′*
$5^h\ 16^m$	*28° 0′*	*4° 50′*	*25° 14′*	*100° 38⅙′*
$5^h\ 20^m$	*28° 55′*	*4° 30′*	*25° 13⅓′*	*100° 37′*

From this the place of ♀ will be able to be verified, yet on this condition: that account be taken both of the refraction in so low a position and also of the parallax. But it must be considered that the refraction in ♀ at so great a declination behaves otherwise than if it were near the equator; a test of this matter will have to be made[1] *[Hinc poterit verificari locus ♀, ea tamen ratione, vt habeatur reſpectus tum refractionis in tam decliui ſitu, tum etiam parallaxeos. Conſiderandum vero, quod refractio in ♀ in tanta declinatione aliter ſe habeat, quam ſi iuxta æquatorem foret, cuius rei faciendum erit periculum*[1]*.].*

On 13 November, P. M. [DIE 13 NOUEMBRIS P. M.]

[At] $4^h\ 50⅙^m$ [$4^H 50⅙'$], the declination of ♀, south, 25° 1′; altitude 6⅔[°] [Declin. ♀ Auſtr. 25 1, Alt. 6⅔.].

[107] *Poſtea paulo accuratius* is printed centred on its own line within the table, between the rows of 4 52 and 4 55½.

[108] this sentence runs from the foot of the left column (*obſer-*) into the head of the right (*uationibus*).

Time	Azimuth of ☿ from the meridian towards the west [Azim. ☿ a merid. ad occ.]	Altitude of ☿ [Alt. ☿]
$4^h\ 58^m\ 14^s$ [4 58 14″]	23° 0′	6° 17½′
$5^h\ 0^m\ 30^s$	23° 30′	6° 10′
$5^h\ 2^m\ 56^s$	24° 0′	6° 1¾′
$5^h\ 5^m\ 28^s$	24° 30′	5° 54′

Time	Altitude of ☿ [Alt. ☿]	Declination of ☿ [Decl. ☿]	Equatorial distance of ☿ from the bright star of ♈ [Dist. æquat. ☿ a lucida ♈]
$5^h\ 10^m$	5° 30′	25° 0′	98° 9⅚′
$5^h\ 13⅓^m$	5° 20′	24° 59½′	98° 8′
$5^h\ 18^m$	5° 0′	24° 58½′	98° 7′
$5^h\ 21⅓^m$	4° 50′	24° 58¼′	98° 6½′

Time	Reading	Value
$5^h\ 24^m\ 46^s$	The bright star of the Vulture, west [Luc. Vult. occ]	27° 3½′
$5^h\ 25^m\ 19^s$		27° 9¾′
$5^h\ 26^m\ 0^s$		27° 20′

109

From this the clock can be verified [Hinc potest horologium verificari.].

On 16 November, P. M. [DIE 16 NOVEMBRIS P. M.]

Time	Reading	Value
$4^h\ 4^m\ 39^s$ [4^H 4′ 39″]	☿ was distant from the meridian towards the west [Distabat ☿ a mer. ad occ.]	13° 46½′
$4^h\ 6^m\ 17^s$	☿, western [☿ occidentalis]	14° 15′

110

From this the clock can be corrected [Hinc potest horologium emendari.].

[1] On the verification of the clock cf. above, p. 38 sq. [De verificatione Horologii cf. supra p. 38 sq.]

Time	Azimuth from the meridian towards the west [Azim. a mer. ad occ.]	Altitude of ☿ [Altit. ☿]	Declination of ☿ [Declin. ☿]
$4^h\ 10^m\ 35^s$	14° 30′	8° 25′	24° 34½′

[109] these three rows are printed within the table above: the label stands across its columns for the altitude and declination of ☿, and the values in its column of the equatorial distance.

[110] the label *Distabat ☿ a mer. / ad occ.* runs over two lines, the value on the second; it is given whole on one row.

Time	Azimuth from the meridian towards the west [Azim. a mer. ad occ.]	Altitude of ♀ [Altit. ♀]	Declination of ♀ [Declin. ♀]
$4^h\ 12^m\ 51^s$	15° 0′	8° 20⅓′	
$4^h\ 15^m\ 9^s$	15° 30′	8° 15¼′	24° 34⅓′
$4^h\ 17^m\ 23^s$	16° 0′	8° 11′	
$4^h\ 19^m\ 48^s$	16° 30′	8° 5½′	24° 34′
$4^h\ 21^m\ 57^s$	17° 0′	8° 0′	
$4^h\ 24^m\ 13^s$	17° 30′	7° 54½′	24° 33¾′
$4^h\ 26^m\ 15^s$	The Vulture, west [Vultur occ.]		18° 33′
$4^h\ 27^m\ 23^s$			18° 50′
$4^h\ 28^m\ 19^s$			19° 3′
$4^h\ 29^m\ 5^s$			19° 14¼′

111

From this you will be able to verify the clock exactly [Hinc poteris Horologium exacte verificare.].

Time	Altitude of ♀ [Altit. ♀]	Declination of ♀ [Declin. ♀]	Equatorial distance of ♀ from the bright star of ♈ [Dist. æquat. ♀ a Luc. ♈]
$4^h\ 36^m\ 20^s$		24° 33′	94° 27½′
$4^h\ 40^m\ 0^s$		24° 33¼′	94° 28′
$4^h\ 43^m\ 16^s$	17° 10′	24° 33′	94° 27½′
$4^h\ 46^m\ 56^s$	16° 50′	24° 32¾′	94° 27¾′
$4^h\ 50^m\ 26^s$	16° 40′	24° 32½′	94° 27¾′
$4^h\ 54^m\ 26^s$	16° 30′	24° 32½′	94° 26¾′
$4^h\ 56^m\ 56^s$	16° 18′	24° 32⅙′	94° 27′
$4^h\ 59^m\ 48^s$	16° 10′	24° 32⅙′	94° 27′
$5^h\ 2^m\ 45^s$	16° 0′	24° 32′	94° 26½′
	For rectifying the clock [Pro Horologio rectificando]		
$5^h\ 6^m\ 0^s$	The bright star of ♈, east [Lucida ♈ or.]		64° 50′
$5^h\ 7^m\ 19^s$			64° 30⅙′
$5^h\ 8^m\ 19^s$			64° 15¼′

112

On 17 November, P. M. [DIE 17 NOUEMBRIS P. M.]

[111] the label *Vultur occ.* stands across the columns of the azimuth and the altitude; its four values stand in the column headed *Declin.* ♀.

[112] *Pro Horologio rectificando* is printed centred on its own line within the table. The label *Lucida* ♈ *or.* stands across the columns of the altitude and the declination; its three values stand in the column of the equatorial distance.

Time	Reading	Value
$5^h\ 3^m\ 54^s$	Distance of the bright star of the Vulture from the meridian, west [Dift. luc. Vult. a Meridie occ.]	25° 12½′
$5^h\ 5^m\ 0^s$		25° 31′
$5^h\ 5^m\ 34^s$		25° 40′

113

From this you will be able to verify the clock [Hinc poteris Horologium verificare.].

Time, corr. [Tempus corr.]	Altitude of ☿ [Altitudo ☿]	Declination of ☿ [Declinatio ☿]	Equatorial distance from the bright star of ♈ [Dift. æquat. a luc. ♈]
$5^h\ 8^m\ 2^s$	6° 25′	24° 20¾′ [24 20⅜]	93° 13′
$5^h\ 12^m\ 11^s$	6° 10′	24° 20′	93° 13′
$5^h\ 14^m\ 50^s$	6° 0′	24° 20′	93° 13′
$5^h\ 19^m\ 41^s$	5° 40′	24° 19½′	93° 12½′
$5^h\ 22^m\ 30^s$	5° 25′	24° 19′	93° 12½′

114

On 23 November, P. M. [DIE 23 NOUEMBRIS P. M.]

Time [Tempus]	Altitude of ☿ [Altitudo ☿]	Declination of ☿, south [Declinatio ☿ Mer.]	Equatorial distance from the bright star of ♈ [Dift. æquat. a luc. ♈]
$4^h\ 42^m$	9° 5′	23° 5⅔′	86° 1′
$4^h\ 49^m$	8° 40′	23° 5¾′	86° 1′
$4^h\ 54^m$	8° 20′	23° 5¾′	86° 2′, doubtful [dubia]
$5^h\ 0^m$	8° 10′	23° 5⅔′	86° 0½′
$5^h\ 5^m$	8° 0′	23° 5½′	86° 1′
$5^h\ 10^m$	7° 50′	23° 5′	86° 0½′
$5^h\ 13½^m$	7° 40′	23° 4¾′	86° 0′

115

On 25 November [DIE 25 NOUEMBRIS]

In the evening [Ad Veſperas.]

[113] the label *Dift. luc. Vult. / a Meridie occ.* runs over two lines, the second on the line of 5 5 0; it is given whole on the first row.

[114] the declination of the first row is printed 20 with a fraction whose denominator is 4 and whose numerator is printed as an 8 (8/4), confirmed on a native-resolution crop; 8/4 is not a meaningful fraction here, and it is given as ¾.

[115] this table runs from the foot of the left column (4 42, 4 49) to the head of the right (4 54 to 5 13½), without repeating its heads.

H. M.	Altitude of ♀ [Alt. ♀]	Declination of ♀, south [Decl. ♀ Au.]	Equatorial distance of ♀ from the bright star of ♈ [Diſt. æquat. ♀ a luc. ♈]
$4^h\ 43^m$	9° 13′	22° 35⅔′	83° 41½′
$4^h\ 48^m$	8° 56′	22° 35½′	83° 41′
$4^h\ 52^m$	8° 48′	22° 35′	83° 40′
$4^h\ 54½^m$	8° 39′	22° 35′	83° 39¾′

On 28 November, P. M. [DIE 28 NOUEMBRIS P. M.]

Time [Tempus]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀, west [Azim. ♀ occ.]
$4^h\ 4^m\ 23^s$	11° 45′	10° 30′
$4^h\ 10^m\ 42^s$	11° 34½′	12° 0′
$4^h\ 14^m\ 56^s$	11° 27′	13° 0′
$4^h\ 19^m\ 10^s$	11° 18′	14° 0′
$4^h\ 23^m\ 22^s$	11° 10′	15° 0′
$4^h\ 27^m\ 33^s$	11° 0½′	16° 0′
$4^h\ 31^m\ 39^s$	10° 50½′	17° 0′
$4^h\ 36^m\ 0^s$	10° 40′	18° 0′
$4^h\ 40^m\ 12^s$	10° 28½′	19° 0′
$4^h\ 44^m\ 25^s$	10° 16⅓′	20° 0′
$4^h\ 51^m\ 40^s$	*Declination of ♀, south [Decl. ♀ Mer.]*	*21° 36¼′*
	Equatorial distance from the bright star of ♈ [Diſt. æquat. a luc. ♈]	*80° 11½′*

116

But the instrument was loose, so this observation was not sufficiently certain [Sed erat ſolutum inſtrumentum, vnde non erat ſatis certa hæc obſeruatio.].

[At] $5^h\ 30^m\ 30^s$ [5ʰ30′ 30″], for rectifying the clock, the bright star of ♈ was observed at a distance from the meridian of 47° 14′ [Pro rectificando horologio obſeruabatur lucida ♈ diſtans a meridiano 47 14.].

On 29 November [DIE 29 NOUEMBRIS]

In the evening [Ad Veſperas.]

Time	Azimuth of ♀, west [Azim. ♀ occid.]	Altitude [Alti-tudo]
$5^h\ 12^m\ 16^s$ [5ʰ12′16″]		9° 10′
	At the same moment the bright star of ♈ was distant from the meridian towards the east 51° 21′ [Diſtabat eodem momento lucida ♈ a meridiano ad ortum 51 21]	
$5^h\ 14^m\ 30^s$	26° 30′	9° 2¼′
$5^h\ 16^m\ 45^s$	27° 0′	8° 52′

[116] the last two lines are printed in italic; their labels stand in the column of the altitude and their values in the column of the azimuth.

Time	Azimuth of ♀, west [Azim. ♀ occid.]	Altitude [Alti-tudo]
	Then the bright star of ♈ was distant, as before, 50° 15¼′ [Diſtabat tunc lucida ♈ vt ante 50 15¼]	

117

On 1 December, P. M. [DIE 1 DECEMBRIS P. M.]

With one pinnule of the armillae placed fixed at 20° 0′, ♀ was observed from the meridian in equatorial distance, by means of the loose instrument [Poſito vno Armillarum pinnacidio in 20° 0′ fixo, obſeruabatur ♀ a Meridiano in diſtantia æquatoria per inſtrumentum ſolutum.].

Time	Reading	Value
$3^h\ 52^m\ 20^s$ [$3^H52'20''$]	♀, west [♀ occid.]	7° 5′
$3^h\ 54^m\ 8^s$		7° 30¼′
$3^h\ 55^m\ 20^s$		7° 48½′
$3^h\ 55^m\ 50^s$		7° 57′
$3^h\ 56^m\ 45^s$		8° 10½′
$3^h\ 58^m\ 30^s$		8° 36¼′
$4^h\ 0^m\ 30^s$		9° 6′

From this the clock can be verified [Hinc poteſt Horologium verificari.].

Time [Tempus]	Azimuth of ♀, west [Azim. ♀ occ.]	Altitude of ♀ [Altit. ♀]	Declination of ♀, south [Declin. ♀ M.]
$4^h\ 21^m\ 55^s$	14° 0′	12° 13½′	20° 53′
$4^h\ 24^m\ 3^s$	14° 30′	12° 9½′	
$4^h\ 26^m\ 4^s$	15° 0′	12° 5′	
$4^h\ 28^m\ 10^s$	15° 30′	12° 0⅙′	20° 52½′
$4^h\ 30^m\ 25^s$	16° 0′	11° 55¼′	20° 52⅓′
$4^h\ 32^m\ 29^s$	16° 30′	11° 50½′	
$4^h\ 34^m\ 35^s$	17° 0′	11° 45¾′	
$4^h\ 36^m\ 40^s$	17° 30′	11° 41′	
$4^h\ 38^m\ 40^s$	18° 0′	11° 35¼′	
$4^h\ 41^m\ 9^s$	18° 30′	11° 29¼′	

To verify the place of ♀, however, its place was observed by the zodiacal armillae from the bright star of ♈, as follows [Pro verificando autem loco ♀ obſeruabatur eius locus per Armillas Zodiacales a lucida ♈ vt ſequitur.].

At $5^h\ 7^m$ [H.5 M.7], with the place of the bright star of ♈ set at 1° 55′ ♉, ♀ was seen in 6° 25′ ♒. The altitude of ♀ was then 9° 0′ [Poſito loco lucidæ ♈ in 1^g 55′ ♉ videbatur ♀ in 6^g 25′ ♒. Fuit tunc Alt. ♀ 9^g 0′.].

[117] the two lines on the bright star of ♈ are printed across the full width of the column, within the table.

At 5^h 10^m, ♀ from the bright star of ♈, as before, in 6° 25′ ♒; altitude of ♀ 8° 45′ [♀ a lucida ♈ vt prius in 6 25 ♒ Alt. ♀ 8 45.].

At 5^h $12½^m$, ♀ from the bright star of ♈, as before, 6° 25⅙′ ♒; altitude of ♀ 8° 30′ [♀ a lucida ♈ vt prius 6 25⅙ ♒ Alt. ♀ 8 30.].

Afterwards the declination of ♀ was taken again, and it was found at 5^h 15^m to be 20° 51¼′ south [Poſtea reiterabatur declin. ♀ & inveniebatur ea H.5 M.15 part.20 M.51¼ Merid.]. Afterwards, to examine the armillae, some fixed star was observed in a similar position, so that the certainty of the preceding observations can be tested[1] [Poſtea pro Armillis examinandis obſeruabatur aliqua ſtella fixa in conſimili ſitu, vt præcedentium obſeruationum certitudo explorari queat[1].].

On 2 December, P. M. [DIE 2 DECEMBRIS P. M.]

For verifying the clock [Pro Horologio verificando]

Time [Tempus]	Equatorial distance of ♀ from the meridian, west [♀ difŧ. æquat. a Mer. occ.]	Azimuth of ♀, west [Azim. ♀ occ.]	Altitude of ♀ [Altit. ♀]
Mai. 3^h 54^m 44^s	5° 48′ (for both times)	5° 41′	13° 22′
Min. 3^h 40^m 42^s			
Mai. 4^h 0^m 0^s	7° 2¼′ (for both times)	7° 0′	13° 5′
Min. 3^h 45^m 32^s			
Mai. 4^h 3^m 56^s	7° 57⅓′ (for both times)	7° 49′	12° 49′
Min. 3^h 49^m 5^s			
Mai. 4^h 6^m 21^s	8° 30⅓′ (for both times)	8° 24′	12° 40′
Min. 3^h 51^m 27^s			
Mai. 4^h 8^m 36^s	9° 5′ (for both times)	8° 55′	12° 28′
Min. 3^h 53^m 41^s			
Mai. 4^h 11^m 19^s	9° 45′ (for both times)	9° 35′	12° 20′
Min. 3^h 56^m 18^s			
Mai. 4^h 14^m 5^s	10° 24½′ (for both times)	10° 10′	12° 15′
Min. 3^h 58^m 55^s			
Mai. 4^h 20^m 58^s	11° 59′ (for both times)	11° 39′	12° 0½′
Mai. 4^h 5^m 5^s			
Mai. 4^h 26^m 36^s	13° 16¾′ (for both times)	12° 55′	11° 52′

Time [Tempus]	Equatorial distance of ♀ from the meridian, west [♀ dist. æquat. a Mer. occ.]	Azimuth of ♀, west [Azim. ♀ occ.]	Altitude of ♀ [Altit. ♀]
Mai. $4^h\ 10^m\ 23^s$			
Mai. $4^h\ 29^m\ 38^s$	14° 3′ (for both times)	13° 38′	11° 42′
Min. $4^h\ 13^m\ 25^s$			
Mai. $4^h\ 32^m\ 56^s$	14° 50¼′ (for both times)	14° 26′	11° 36′
Min. $4^h\ 16^m\ 32^s$			

118

Meanwhile, while the equatorial distance of ♀ from the meridian was being observed, its equatorial distance from ♄ was taken at the same time, as follows. The time was recorded by the lesser clock [Interea cum distantia ♀ æquatoria a Meridie obseruaretur, accepta est simul eius distantia æquatoria a ♄ vt sequitur. Tempus per Horologium minus est annotatum.].

Time	Reading	Value
$4^h\ 5^m\ 5^s$ [4^H 5′ 5″]	Difference of right ascension of ♀ and ♄ [Diff. Asc. R. ♀ & ♄]	I 74° 40½′
$4^h\ 10^m\ 23^s$		II 74° 40′
$4^h\ 13^m\ 25^s$		III 74° 39⅔′
$4^h\ 16^m\ 32^s$		IV 74° 39¾′

119

For the right ascension of ♀ [Pro Ascens. R. ♀]

Time	Reading	Value
$4½^h$ [H. 4½]	Right ascension of ♄ [Ascens. R. ♄]	24° 57′
$4⅙^h$ [H. 4⅙]	Difference of right ascension of ♀ and ♄ [Differ. Ascens. R. ♀ & ♄]	74° 40′
	Right ascension of ♀ [Ascens. R. ♀]	310° 17′

[118] each pair of times is joined by a brace, and the three values of the pair are printed once against it; they are given on the first row of each pair and hold for both times. The second time of the eighth and ninth pairs (4 5 5 and 4 10 23) is printed with *Mai.*, like the first; every other second time is printed with *Min.* The times of the table of differences of right ascension below, which the page says were recorded by the lesser clock, are the same figures as the second times of the eighth to eleventh pairs, including the two printed with *Mai.*

[119] the label *Diff. Asc. R.* / ♀ & ♄ runs over two lines, the second on the line of 4 10 23; it is given whole on the first row. The numerals I–IV are printed before the values.

On 7 December [DIE 7 DECEMBRIS.]

Afterwards[2], to verify the place of ♀, *it was observed from the bright star of* ♈, *which was then first appearing on account of the twilight, and that in this manner [Poſtea[2] pro verificando loco* ♀ *obſeruabatur ea a lucida* ♈ *quæ tunc primum ob crepuſculum apparebat, idque in hunc modum.].*

[1] So in the manuscript, where, however, no observation of any fixed star is found [Sic in codice, ubi tamen nulla obſeruatio alicujus ſtellæ fixæ reperitur.]

[2] That is, after the observations of the moon [Scilicet poſt obſervationes lunæ.]

Time	♀ west, from the meridian [♀ occid. a Mer.]	Equatorial distance in ♀ and the bright star of ♈ [Diſt. æquat. in ♀ &luc.♈]	Altitude of ♀ [Altit. ♀]
$4^h\ 14^m$	35♓14° 26′	70° 19½′	13° 50′
$4^h\ 18^m$	28♓5° 28′	70° 20½′	13° 45′
$4^h\ 23^m$	5♉[in the] middle [Medio]	70° 20′	13° 35′

120

From this it will be possible to verify the place of ♀ *and, together with it, to correct the clock; the declination of* ♀, *however, was afterwards observed in this manner [Hinc poterit locus* ♀ *verificari & vna corrigi horologium, fuit autem poſtea obſeruata declinatio* ♀ *in hunc modum.].*

[At] $4^h\ 25^m$, *declination of* ♀ *with one pinnule, 18° 52¾′ [H.4 M.25 Declin.* ♀ *vno pinn. 18 52¾]*

with the other, 18° 52½′ [altero 18 52½]

The declination of ♀, *however, was southern. The altitude of* ♀, *moreover, was then nearly 13½[°] [Erat autem declin.* ♀ *auſtrina. Fuit autem tunc alt.* ♀ *13½ fere.].*

On 15 December [DIE 15 DECEMBRIS.]

♀ *was observed approaching the greatest distance from* ☉, *in this manner. Note: near the perigee of the* eccentric. *All the azimuths of* ♀ *are* west. [Obſeruabatur ♀ appropinquans maximæ remotioni a ☉ in hunc modum. Nota, iuxta perigæum eccentrici. Omnia Azimuta ♀ ſunt occ.]

In the evening [Veſperi]	Azimuth of ♀, west [♀ Azim. occ.]	Altitude [Altitudo]
$4^h\ 35^m\ 57^s$	[$4^H35'57''$]	19° 52′	16° 23½′
$4^h\ 40^m\ 43^s$		20° 30½′	16° 15½′
$4^h\ 42^m\ 53^s$		21° 1′	16° 9⅔′

For the verification, however, of the time that passed in these observations, and for verifying the azimuths, a fixed star was soon observed in this manner [Pro verificatione

[120] this table stands at the head of the page without a date heading; it gives the observations announced at the end of the entry of 7 December. *Medio* is printed in the column of ♀ west from the meridian, in place of a value.

vero temporis præteriti in his obſeruationibus & Azimutis verificandis obſeruabatur mox ſtella fixa in hunc modum.].

Time	Reading	Azimuth	Altitude
$4^h\ 47^m\ 27^s$	The bright star of ♈, azimuth east [Luc.♈ Az. or.]	57° 23′	44° 30⅓′
$4^h\ 52^m\ 10^s$		55° 57′	45° 6½′
$4^h\ 53^m\ 52^s$		55° 37′	45° 18¼′

121

N.B. You can make use of these three preceding observations of the bright star of ♈ in verifying the time, so that as little as possible is wanting in these [N.B. Ex his antecedentibus tribus obſeruationibus lucidæ ♈ potes vti in verificando tempore ita vt quamminimum in his deſideretur.].

[At] $4^h\ 46^m\ 45^s$, declination of ♀ 15° 49½′ [4^H46′45″ Declin. ♀ 15 49½].

Time	♀, west [♀ occ.]	The bright star of ♈, east [Lucida ♈ or.]	Equatorial distance [Diſt. æquat.]	Altitude of ♀ [Alt. ♀]
$4^h\ 53^m\ 52^s$	23° 41′	38° 33′	62° 14′	
$4^h\ 58^m\ 31^s$	24° 52′	37° 23′	62° 15′	15⅙°
$5^h\ 1^m\ 12^s$	25° 30′			15°
$5^h\ 2^m$ corr. [5 2 corr.]		36° 41½′	62° 11½′	doubtful [dubia]
$5^h\ 4^m\ 22^s$	26° 19⅙′	35° 54′	62° 13⅙′	14° 50′
$5^h\ 7^m\ 16^s$	27° 4′	35° 9¼′	62° 13¼′	14⅔°
$5^h\ 9½^m$	Declination of ♀ 15° 49′, with one pinnule [Declin. ♀ 15 49 vno pinnacid.]			

122

Take, at about the 5th hour, the equatorial distance of the bright star of ♈ and ♀ [to be] 62° 14′, and the declination of ♀ 15° 49′, and you will err imperceptibly [Pone circa Horam 5^{tam} diſtantiam æquatoriam Luc. ♈ & ♀ 62 14 & declinationem ♀ 15 49 & inſenſibiliter aberrabis.].

On 16 December [DIE 16 DECEMBRIS.]

[121] the label *Luc.♈ / Az. or.* runs over two lines, the second on the line of 4 52 10; it is given whole on the first row. The values stand under the azimuth and altitude columns of the table above (♀ Azim. occ., Altitudo); the heads "Time", "Reading", "Azimuth" and "Altitude" are this edition's.

[122] this table stands at the head of the right-hand column and follows the entry of 15 December by time. The time column is unheaded ("Time" is this edition's). The words of the last row run across the columns. *dubia* stands in the altitude column.

By Mai. [Per Mai.]	By Min. [Per Min.]	Azimuth of ♀, west [Az. ♀ occ.]	Altitude of ♀ [Alt. ♀]	Declination of ♀ [Decl. ♀]
$3^h\ 33^m\ 55^s$	$3^h\ 19^m\ 33^s$	1° 57½′	18° 38½′	
$3^h\ 40^m\ 0^s$	$3^h\ 24^m\ 20^s$	3° 23′	18° 36′	
$3^h\ 42^m\ 16^s$	$3^h\ 27^m\ 20^s$	3° 54′	18° 34⅔′	
$3^h\ 49^m\ 33^s$	$3^h\ 34^m\ 12^s$	5° 38′	18° 30′	15° 25′
$3^h\ 54^m\ 10^s$	$3^h\ 38^m\ 30^s$	6° 47½′	18° 26′	
$3^h\ 58^m\ 43^s$	$3^h\ 34^m\ 20^s$	8° 0′	18° 20′	
$4^h\ 0^m\ 35^s$	$3^h\ 45^m\ 15^s$	8° 30′	18° 18½′	
$4^h\ 2^m\ 44^s$	$3^h\ 47^m\ 10^s$	9° 0′	18° 15½′	
$4^h\ 6^m\ 36^s$	$3^h\ 51^m\ 3^s$	10° 0′	18° 10½′	15° 26′
$4^h\ 9½^m$ (for both)			18°.. (for both)	15° 25⅙′
				15° 26′
$4^h\ 13^m\ 31^s$	$3^h\ 58^m\ 0^s$	11° 22½′		
$4^h\ 15^m\ 40^s$	$4^h\ 0^m\ 8^s$	11° 58¾′		
$4^h\ 16^m\ 59^s$	$4^h\ 1^m\ 27^s$	12° 18⅙′		
$4^h\ 18^m\ 8^s$	$4^h\ 2^m\ 31^s$	12° 35′		
$4^h\ 19^m\ 23^s$	$4^h\ 3^m\ 42^s$	12° 54′		

123

Afterwards we took ♀ in equatorial distance from ♄ and the bright star of ♈, partly for its place and right ascension, partly for verifying the time [Poſtea ♀ accepimus in diſtantia æquatoria a ♄ & lucida ♈ partim pro loco & Aſc. R. ipſius, partim pro tempore verificando.].

By Mai. [Per Mai.]	By Min. [Per Min.]	♄, east [♄ orient.]	♀, west [♀ occ.]	Equatorial distance [Diſt. æquat.]	Altitude of ♀ [Alt. ♀]
$4^h\ 32^m\ 48^s$	$4^h\ 16^m\ 2^s$	43° 56½′	16° 5⅙′	60° 1⅔′	17°
$4^h\ 36^m\ 40^s$	$4^h\ 19^m\ 24^s$	43° 5′	16° 57′	60° 2′	
$4^h\ 39^m\ 36^s$	$4^h\ 22^m\ 1^s$	42° 25′	17° 35⅔′	60° 0⅔′	
$4^h\ 43^m\ 13^s$	$4^h\ 25^m\ 22^s$	41° 34¾′	18° 26⅙′	60° 1′	

124

Take, therefore, the equatorial distance between ♄ and ♀ at $4⅓^h$ [to be] 60° 1½′, and you will err imperceptibly [Pone itaque diſt. æquat. inter ♄ & ♀ ad horam 4⅓ 60 1½ & inſenſibiliter aberrabis.].

[123] at 4 9½ the time and the altitude *18..* (the two points as printed) stand once, against a brace that joins the two declinations 15 25⅙ and 15 26; the altitude holds for both declinations. From 4 9½ to the end the rows are printed in italic, and in the last five the third value stands under the azimuth column. In the row of $3^h\ 58^m\ 43^s$ the time *Per Min.* is printed 3 34 20, below the 3 38 30 of the row above, so that the two times of that row differ by $24^m\ 23^s$ where every other row gives 14^m to 16^m; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

[124] this table and the paragraph that follows are printed across the full width of the page, below both columns.

By Mai. [Per Mai.]	By Min. [Per Min.]	The bright star of ♈, east [Luc. ♈ or.]	♀, west [♀ occ.]	Equatorial distance [Diſt. æquat.]	Altitude of ♀ [Alt. ♀]
$4^h\ 47^m\ 58^s$	$4^h\ 29^m\ 55^s$	41° 40′	19° 33½′	61° 13½′	16⅔°
$4^h\ 50^m\ 47^s$	$4^h\ 32^m\ 37^s$	41° 2½′	20° 12¼′	61° 14¾′	16½°
$4^h\ 53^m\ 48^s$	$4^h\ 35^m\ 27^s$	40° 19⅔′	20° 57¼′	uncertain [incerta]	16°
$4^h\ 57^m\ 0^s$	$4^h\ 39^m\ 0^s$	39° 24¼′	21° 51′	61° 15¼′	16°
$5^h\ 1^m\ 7^s$	$4^h\ 43^m\ 22^s$	38° 20⅔′	22° 57′	61° 17′	
$5^h\ 5^m\ 28^s$	$4^h\ 47^m\ 33^s$	37° 16¾′	24° 1¼′	61° 18′	
$5^h\ 8^m\ 1^s$	$4^h\ 50^m\ 10^s$	36° 38¾′	24° 39′ 5[″]	61° 17⅚′	15½°
$5^h\ 10^m\ 53^s$	$4^h\ 53^m\ 10^s$	35° 51½′	25° 27¾′	61° 19¼′	15⅓°
$5^h\ 14^m\ 4^s$	$4^h\ 56^m\ 15^s$	35° 4′	26° 13′	61° 17′	15°

125

Take the equatorial distance of ♀ from the bright star of ♈, at about 5^h p.m., [to be] 61° 17′, and you will err imperceptibly [Pone diſtantiam æquatoriam ♀ iuxta horam 5 p.m. a lucida ♈ 61ᵍ 17′ & inſenſibiliter aberrabis.].

[At] 5^h 1½^m by the lesser [clock], the declination of ♀ was 15° 23½′; with the other pinnule, 15° 23⅔′. The declination was being diminished on account of refraction [5^h 1½′ per Minus fuit declin. ♀ 15 23½, alt. pinn. 15 23⅔. Declinatio ob refractionem minorabatur.].

On 22 December, P. M. [DIE 22 DECEMBRIS P. M.]

At $5^h\ 24^m\ 30^s$ [H.5 24′30″], ♄ [was] 27° 2′ from the meridian towards the east, by the equatorial armillae [a Meridiano ad ortum 27° 2′ per Armillas æquatorias.]. From this let the clock be verified [Hinc verificetur horol.].

Observation of ♀ by the revolving [quadrant] [Obſeruatio ♀ per Volub.]

Time	Azimuth of ♀, west [Azim. ♀ occ.]	Altitude of ♀ [Alt. ♀]
$5^h\ 25^m\ 3^s$ [5^H25′ 3]	28° 21′	17° 24½′
$5^h\ 28^m\ 55^s$	29° 5′	17° 12⅓′
$5^h\ 34^m\ 24^s$	30° 35′	16° 47′
$5^h\ 39^m\ 29^s$	♄, east [♄ or.] 23° 18½′	for the clock [pro horologio]
$5^h\ 45^m\ 40^s$	♄, east [♄ or.] 21° 49′	

126

Note. For the place of ♄ you can take that place which results from the last observation of the preceding days, for it was stationary [Nota. Pro loco ♄ potes

[125] this table stands at the head of the page without a date heading and follows the entry of 16 December on p. 85. In the row of 5 8 1 a 5 is printed after 24 39, standing between the ♀ and equatorial-distance columns; it is given in the ♀ cell as seconds, the reading under which the row's sum closes (36° 38¾′ + 24° 39′ 5″ = 61° 17⅚′); the page does not mark the unit. In the first row the fraction after the altitude 16 has numerator 2 and a denominator that the scan does not settle between 3 and 5.

[126] *pro horo- / logio* runs over the last two rows in the altitude column; it is given whole on the first of them. ♄ *or.* is printed on each of the two rows, between the time and the value.

aßumere eum locum qui prouenit ex obſeruatione vltima præcedentium dierum, erat enim ſtationarius.].

Time	Azimuth	Altitude
$5^h\ 47^m\ 28^s$	33° 47′	15° 49¼′
$5^h\ 48^m\ 58^s$	34° 9½′	15° 41¼′
$5^h\ 50^m\ 0^s$	34° 25′	15° 37′
$5^h\ 51^m\ 50^s$	34° 54′	15° 27¾′
$5^h\ 53^m\ 15^s$	The bright star of ♈, east [Lucida ♈ or.]	21° 5½′

127

From this the clock can be verified again, and these observations are sufficiently certain in Venus, provided the clock is duly examined and the times are exactly verified. It was, however, about the limits of greatest distance from the mean place of ☉, yet so that (if the ephemerides are to be believed) it was already two or three days past [Hinc rurſus poteſt verificari Horologium, atque hæ obſeruationes ſunt ſatis certæ in Venere, modo Horologium rite examinetur & tempora exacte verificentur; erat autem circa limites maximæ remotionis a medio loco ☉, ita tamen (ſi Ephemeridibus credendum) vt iam per biduum vel triduum antelapſum.].

Afterwards, when the clouds were being dispersed a little better, Venus was observed in equatorial distance from the bright star of ♈ [Poſtea cum paulo melius diſcuterentur nubes obſeruabatur Venus in diſtantia æquatoria a lucida ♈.].

[At] $6^h\ 5^m\ 7^s$ [H.6 5′ 7″] ♀ was distant from the meridian towards the east, by the equatorial armillae, 37° 31′ [♀ diſtabat a Meridiano verſus ortum per Armill. æquator. 37 31].

Time	Reading	Value
	Equatorial distance from the bright star of ♈ [Diſt. æquator. a luc. ♈]	55° 45½′
$6^h\ 9^m\ 40^s$	♀, west [♀ occident.]	38° 49′
	The bright star of ♈, east [Lucida ♈ or.]	16° 55⅙′
	Altitude of ♀ 14° 5′ [Alt. ♀ 14 5]	55° 44⅙′
$6^h\ 14^m\ 12^s$	♀, west [♀ occidentalis]	39° 56′
	The bright star of ♈, east [Lucida ♈ or.]	15° 47½′
	Altitude of ♀ 13¾° [Alt. ♀ 13¾]	55° 43½′

128

This variation, however, could creep in on account of the refraction that was occurring with Venus already inclining towards setting. If, therefore, you put the equatorial distance at about 6^h [as] 55° 46′, taking account of the refraction, you

[127] this table has no printed heads; its values stand under the azimuth and altitude columns of the table above (*Azim.* ♀ *occ.*, *Alt.* ♀), and "Time", "Azimuth" and "Altitude" are this edition's. In the last row the words stand in the azimuth column.

[128] the lines are printed in the column without heads; "Time", "Reading" and "Value" are this edition's. In each group of three the third value (55 44⅙, 55 43½) stands on the line that begins with the altitude of ♀, with no label of its own.

will err imperceptibly; but compare [it] with the earlier observations of azimuth and altitude, and afterwards conclude something certain, taking account of the parallax and refraction in ♀ [Hæc autem varietas poterat ſe ingerere propter refractionem quæ contingebat Venere iam ad occaſum ſeſe inclinante, ſi itaque poſueris iuxta Horam 6 diſtantiam æquatoriam 55 46 habita ratione refractionis, inſenſibiliter aberrabis, ſed confer cum prioribus obſeruationibus Azimuti & Altitudinis & poſtea aliquid certi conclude habita ratione parallaxeos & refractionis in ♀.].

Time	Reading	Value
$6^h\ 27^m\ 20^s$ [H.6 27′ 20″]	♀, west [♀ occident.]	43° 13¾′
	The bright star of ♈, east [Lucida ♈ or.]	12° 28½′
	Altitude of ♀ about 12°. Equatorial distance [Alt. ♀ circiter 12g. Diſt. æquat.]	55° 42¼′

It is clear, therefore, that this variation, in that the equatorial distance is always diminished, comes about by reason of the refraction and to some extent also of the setting of ♀ through [its] proper motion; so it must be guarded against [Patet itaque quod hæc varietas in eo quod diſtantia æquatoria ſemper minoratur, fit ratione refractionis & nonnihil etiam occaſus ♀ per motum proprium, quare cauenda venit.].

Note. The clock was being corrected ἐν πλάτει [Greek: ἐν πλάτει (en platei, "in breadth")] *at about noon, so it must be examined [Nota. Horol.* ἐν πλάτει *corrigebatur iuxta Meridiem, quare examinandum.].*

On 23 December, P. M. [DIE 23 DECEMBRIS P. M.]

Time	Azimuth of ♀, west [Azim. ♀ occ.]	Altitude of ♀ [Altit. ♀]
$4^h\ 35^m\ 50^s$ [$4^H35'50''$]	17° 33′	20° 7¼′
$4^h\ 45^m\ 45^s$	20° 7′	19° 42¾′
$4^h\ 47^m\ 25^s$	20° 32½′	19° 37½′
$5^h\ 35^m\ 15^s$	32° 29′	16° 38½′
$5^h\ 37^m\ 0^s$	32° 57′	16° 31′
$5^h\ 38^m\ 50^s$	33° 22′	16° 20⅔′
$5^h\ 40^m\ 38^s$	33° 50′	16° 12¼′
$5^h\ 42^m\ 20^s$	34° 17′	16° 5′
$5^h\ 44^m\ 15^s$	34° 43½′	15° 55½′
$5^h\ 45^m\ 40^s$	35° 3′	15° 50¼′
$5^h\ 48^m\ 52^s$	35° 48′	15° 34′

129

But all these observations, like the following [ones] also, were made among clouds, with Venus hiding in them somewhat, sometimes more, sometimes less [Sed omnes hæ obſeruationes velut & ſequentes inter nubes factæ ſunt, Venere in ipſis aliquantulum ſubinde plus, ſubinde minus deliteſcente.].

[129]the time column has no printed head; "Time" is this edition's.

During the observing, the earlier equatorial distance of ♀ from the bright star of ♈ and ♄ was also taken, in this way [Accipiebatur etiam inter obſeruandum prior diſtantia æquatoria ♀ a lucida ♈ & ♄ⁿᵒ in hunc modum.]:

Time	Reading	Value
5ʰ 40ᵐ 58ˢ [5ᴴ40′ 58″]	*♀, west [♀ occ.]*	*33° 7′*
	The bright star of ♈, east [Lucida ♈ or.]	*21° 42′*
	Equatorial distance [Diſt. æquatoria]	*54° 49′*

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Time	♀, west [♀ occ.]	♄, east [♄ or.]	Equatorial distance [*Diſt. æquat.*]	
5ʰ 47ᵐ 15ˢ	*34° 40′*	*18° 51½′*	*53° 31½′*	*uncertain [incerta]*
5ʰ 49ᵐ 50ˢ	*35° 23¼′*	*18° 12′*	*53° 35¼′*	*Altitude of ♀ [Alt. ♀]*
5ʰ 54ᵐ 35ˢ	*36° 34′*	*17° 1¾′*	*53° 35¾′*	*15⅙°*

131

[At] exactly the sixth hour [Hora exacte ſexta]:
Declination of ♀, south [Auſt.], 12° 27¼′ south [Mer.].
Altitude of ♀ 14½° [Alt. ♀ 14½.]. With the other pinnule [Alt. pinn.], 12° 28′.
Set [Pone] 12° 27¼′.[132]

You can therefore, around this time, put the equatorial distance of ♄ and ♀ [as] 53° 35′, and compare [it] with that which was taken between the bright star of ♈ and ♀, which was reckoned [as] 54° 49′. If, however, the place of ♄ cannot be had this evening because of clouds, it can be taken from the earlier observations by applying the diurnal motion from the ephemerides, which would be nearest at about these days, because ♄ was near the second station [Potes itaque circa hoc tempus ponere diſtantiam æquatoriam ♄ & ♀ 53 35 & conferre cum ea, quæ inter Lucidam ♈ & ♀ accipiebatur, quæ erat numerata 54 49. Locus autem ♄ⁿⁱ ſi hoc veſperi propter nubes haberi nequeat, poteſt deſumi ex prioribus obſeruationibus adhibito motu diurno ex Ephemeridibus, qui iuxta hoſce dies proximus eßet, eo quod ♄ prope ſtationem ſecundam verſaretur.].

You can also compare the azimuths and altitudes, especially near the first observations, but correct the times from the transit and the distance of the bright star of ♈ and of ♄ from the meridian, observed afterwards [Potes etiam conferre Azimuta & altitudines præſertim iuxta primas obſeruationes, tempora autem emendare ex tranſitu & diſtantia Lucidæ ♈ & ♄ⁿⁱ a Meridiano poſtea obſeruatis.].[133]

[130] these three lines are printed in the column without heads; "Time", "Reading" and "Value" are this edition's.

[131] the time column and the last column have no printed head; "Time" is this edition's. In the first row *incerta* follows the equatorial distance without a space, standing in the last column. In the second row *Alt.* ♀ stands in the last column as a head, and the altitude 15⅙ stands under it in the third row.

[132] *Alt. ♀ 14½.* stands at the left of the column, on the line of *Alt. pinn. 12 28*; *Pone* stands under *Alt. pinn.*

[133] this sentence ends the left column and is completed by the first word of the right column.

Although this reckoning will hardly be exact, for the clock had not been corrected from the preceding noon until now, and at the preceding noon [it had been] corrected only ἐν πλάτει [Greek: ἐν πλάτει (en platei, "in breadth")] *by the Sun, which was not well seen. These observations are therefore middling, and compared with one another, and with the preceding and following [ones] [Quamvis hæc ratio vix erit exacta, nam Horologium non erat emendatum a Meridie antecedente hucusque & in Meridie præcedente tantum* ἐν πλάτει *ad Solem, qui non bene cernebatur, emendatum. Sunt itaque hæ obſeruationes mediocres & collatæ invicem, & cum antecedentibus & ſequentibus.].*

I could present the place of Venus near [its] greatest evening distance from the Sun, with the Sun in the perigee of Venus, sufficiently scrupulously, provided [they] are well limited and account is taken both of the refraction and of the parallax of Venus [Veneris locum iuxta maximam remotionem a Sole veſpertinam, Sole in Perigæo Veneris verſante, exhibere ſatis ſcrupuloſe poteram, modo bene limitentur & habeatur ratio tum refractionis tum parallaxeos Veneris.].

On 26 December [DIE 26 DECEMBRIS.]

Observations of ♀ *with the Sun still shining. The clock was being corrected by the Sun at* $12^h\ 40^m$*, exactly [Obſeruationes* ♀ *Sole adhuc lucente. Horologium corrigebatur ad Solem H. 12 40′ exacte.].*

Lesser [clock] [Minus]	*Azimuth of* ♀*, east [Azim.* ♀ *or.]*	*Altitude of* ♀ *[Alt.* ♀*]*
$2^h\ 51^m\ 48^s$ [2ʰ51′ 48″]	4° 15′	22° 43¼′
$2^h\ 54^m\ 20^s$	3° 34′	22° 45′
$2^h\ 55^m\ 50^s$	3° 9½′	22° 46′

Afterwards ♀ *was observed in distance from the Sun by the sextant, as follows. In the following, it was observed only by the lesser clock [Poſtea obſeruabatur* ♀ *a Sole in diſtantia per Sextantem vt ſequitur. In ſequentibus ſaltem per minus Horologium obſeruabatur.].*

Time	*Distance of* ♀ *and* ⊙ by the sextant [*Diſt.* ♀ *&* ⊙ per Sext.]	Altitude of ⊙ [Alt. ⊙]
$3^h\ 0^m\ 40^s$	46° 33¼′	2° 50′
$3^h\ 4^m\ 30^s$	46° 30′	2° 30′
$3^h\ 6^m\ 40^s$	46° 29′	2° 0′

134

It is necessary, however, to consider that ⊙ *was very much declining, and to put the distance [as] 46° 30′ imperceptibly [Oportet autem conſiderare quod* ⊙ *erat admodum decliuis & ponere diſtantiam 46 30 inſenſibiliter.].*

Transit of ♀ *through the meridian [Tranſitus* ♀ *per Meridianum.]*

[134] the time column has no printed head; "Time" is this edition's. The distance head is printed over two lines.

At 3^h 7^m 35^s ♀ passed the meridian and had altitude 22° 49½′ [H. 3 7′ 35″ tranſiuit ♀ Merid. & habuit Altitud. 22 49½].

Time	*Distance of* ♀ *and* ☉ by the trigonal sextant [*Diſt.* ♀ & ☉ per Sext. Trig.]	Altitude of ☉ [Alt. ☉]
3^h 11^m 20^s	46° 29′	1° 45′
3^h 13^m 20^s	46° 30′	1° 30′
3^h 16^m 30^s	46° 29½′	1° 10′

135

These observations were made with the Sun very much declining, so account must be taken of the solar refraction and in part also of [that of] Venus; otherwise it will not agree [Hæ obſeruationes Sole admodum decliui factæ ſunt, vnde habenda ratio refractionis Solaris & pro parte etiam Veneris, alias non conueniet.].

Meridian altitude of ♀ by the Tychonic quadrant [Alt. ♀ Merid. per Q. Tich.]:

22° 50⅔′ with the new pinnule [nouo pinn.]

22° 50¾′ with the other pinnule [alt. pinn.]

Time	Azimuth of ♀, west [Azim. ♀ occ.]	Altitude of ♀ [Alt. ♀]	Declination of ♀ [Declin. ♀]
3^h 33^m 22^s [$3^H33'22''$]	7° 3′	22° 36⅓′	11° 14½′ south [M.]
3^h 36^m 35^s	7° 54′	22° 33⅓′	
3^h 40^m 15^s	8° 51′	22° 29¾′	
3^h 42^m 32^s	9° 30′	22° 26′	11° 14⅙′
3^h 44^m 18^s	10° 0′	22° 23¾′	
3^h 46^m 15^s	10° 30′	22° 21½′	11° 14′
3^h 48^m 9^s	11° 0′	22° 18½′	11° 14½′
3^h 50^m 10^s	11° 30′	22° 15⅓′	11° 14⅙′
3^h 51^m 56^s	12° 0′	22° 12⅔′	

136

Note. These observations are ſufficiently certain, for the sky was exceptionally clear and the instruments well corrected; except that, if there was any error in the time of the clock, which had been corrected at about noon ſrom the Sun at 12^h 40^m by the equatorial armillae, that will have to be limited, as the stars will show afterwards [Nota. Hæ obſeruationes ſunt ſatis certæ, nam cœlum erat apprime ſerenum & bene correcta inſtrumenta, niſi quod ſi quid erroris fuerit in tempore horologij, quod iuxta Meridiem erat correctum ex Sole H. 12 M. 40 per Armillas æquatorias, illud erit limitandum, prout ſtellæ poſtea manifeſtabunt.].

Afterwards the distance of ♀ and ♄ was observed, both by the sextant and the equatorial [one] by the armillae, in the manner which follows [Poſtea obſeruabatur

[135] the time column has no printed head; "Time" is this edition's. The distance head is printed over two lines.

[136] the time column has no printed head; "Time" is this edition's.

diſtantia ♀ & ♄ tam per Sextantem quam æquatoria per Armillas in hunc qui ſequitur modum.].

At 4^h 5^m, between ♀ and ♄, by the sextant, 54° 17⅔′ [H. 4 5′ Inter ♀ & ♄ per Sext. 54 17⅔].

Afterwards more exactly, in both ways [Poſtea exactius vtroque modo.].

Observations of ♀ follow [Sequuntur obſeruationes ♀.]	Reading	Value	*By the sextant [Per Sextantem.]*
4^h 7^m 20^s [4ʰ7′ 20″]	♄, *east [♄ or.]*	*36° 4½′*	*Distance of ♀ and ♄ [Diſt. ♀ & ♄]*
	♀, *west [♀ occ.]*	*15° 2¾′*	*54° 17¼′*
	Equatorial distance [Diſt. æquat.]	*51° 7′ 15″*	*Altitude of ♀ 21° 40′ [Alt. ♀ 21 40]*
4^h 10^m 35^s	♄, *east [♄ or.]*	*35° 18′*	*Distance by the sextant [Diſt. per Sext.]*
	♀, *west [♀ occ.]*	*15° 52′*	*54° 16⅚′*
	Equatorial distance [Diſt. æquat.]	*51° 10′*	*Altitude of ♀ 21½° [Alt. ♀ 21½]*

137

But because the preceding equatorial distances do not agree sufficiently, [the distance] was therefore repeated, and the pinnules narrowed, so that they may be had more exactly [Quia vero præcedentes diſtantiæ æquatoriæ non ſatis conueniunt, ideo repetita eſt & pinnacidia anguſtata vt exactius haberi poßint.].

Time	Reading	Value	By the sextant
4^h 15^m 12^s	♄, *east [♄ or.]*	*34° 7½′*	*Distance by the sextant [Diſt. per Sext.]*
	♀, *west [♀ occ.]*	*16° 59⅓′*	*54° 16⅓′*
		51° 6′ 50″	*Altitude of ♀ 21¼° [Alt. ♀ 21¼]*
4^h 19^m 28^s	♄, *east [♄ or.]*	*33° 5′*	*Distance by the sextant [Diſt. per Sext.]*
	♀, *west [♀ occ.]*	*18° 1¾′*	*54° 16¼′*
		51° 6¾′	*Altitude of ♀ 21° [Alt. ♀ 21]*
4^h 22^m 35^s	♄, *east [♄ or.]*	*32° 17′*	*Distance of ♄ and ♀ [Diſt. ♄ & ♀]*
	♀, *west [♀ occ.]*	*18° 49′*	*54° 16$^1/_{12}$′*
		51° 6′	*Altitude of ♀ 20⅚° [Alt. ♀ 20⅚]*

138

These observations were sufficiently certain, and will be able to be confirmed and examined both by the equatorial armillae and by the sextant. If, therefore, you take, at

[137] *Sequuntur obſeruationes ♀.* and *Per Sextantem.* are printed as heads over the left and right sides of the block; the first column carries the times under the left head, and "Reading" and "Value" are this edition's. In 51 7 15 the third figure is given as seconds; the page marks no unit.

[138] these groups continue the block above, without heads of their own; "Time", "Reading", "Value" and "By the sextant" are this edition's. The third line of each group prints the value (the equatorial distance) without a label. In 51 6 50 the third figure is given as seconds; the page marks no unit.

about 4⅙ʰ, the equatorial distance from ♄ [as] 51° 7′ [P. 51 M. 7] and the true distance by the sextant [as] 54° 17′, you will err imperceptibly [Hæ obſeruationes erant ſatis certæ, & tam Armillis æquatorijs quam Sextante comprobari poterint examinarique, ſi itaque aßumpſeris, iuxta horam 4⅙ diſtantiam æquatoriam a ♄ P. 51 M. 7 & diſtantiam veram per Sextantem 54 17 inſenſibiliter aberrabis.].

Afterwards ♀ was observed from the bright star of ♈ in this way [Poſtea obſeruabatur ♀ a Lucida ♈ in hunc modum.]:

Time	*The bright star of ♈, east [Lucida ♈ or.]*	♀, west [♀ occ.]	*Equatorial distance [Diſt. æquat.]*	*Altitude of ♀ [Alt. ♀]*
4ʰ 27ᵐ 0ˢ	*[4ʰ 27′ 0ˢ] 25′*	*19° 56′*	*52° 21′*	*20½°*

139

Afterwards it was taken for the declination of ♀ [Poſtea pro declinatione ♀ accipiebatur.]:

Time	Reading	Value
4ʰ 31ᵐ 50ˢ	*Declination of ♀ with one pinnule [Declin. ♀ vno pinn.]*	*11° 14′*
	With the other pinnule [Alt. pinn.]	*11° 14⅙′*

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Time	*The bright star of ♈, east [Luc. ♈ or.]*	♀, west [♀ occ.]	*Equatorial distance [Diſt. æquat.]*	*Altitude of ♀ [Alt. ♀]*
4ʰ 42ᵐ 25ˢ	*28° 35′*	*23° 46¾′*	*52° 21¾′*	*19° 50′*
4ʰ 45ᵐ 30ˢ	*27° 47¾′*	*24° 34½′*	*52° 22¼′*	*19° 40′*
4ʰ 47ᵐ 55ˢ	*27° 12½′*	*25° 8′*	*52° 20½′*	*19⅓°*
4ʰ 50ᵐ 20ˢ	*26° 36⅓′*	*25° 44½′*	*52° 20′ 50″*	*19⅙°*
4ʰ 52ᵐ 42ˢ	*26° 0¾′*	*26° 19¾′*	*52° 20½′*	*19°*

141

Having compared the individual [observations], put at 4½ʰ the equatorial distance of ♀ and the bright star of ♈ [as] 52° 22′, taking account of the refraction; the declination, 11° 14½′ south [Collatis ſingulis pone hora 4½ diſtantiam æquatoriam ♀ & lucidæ ♈ 52 22 habita ratione refractionis, Declinationem 11 14½ Meridionalem.].

At 4ʰ 55ᵐ the declination of ♀ seen [was] 11° 12½′, but refraction does this [H. 4 55′ Declinatio viſa ♀ 11 12½, ſed refractio facit hoc.].

Having compared with one another all the preceding observations of ♀, by the quadrant as well as by the sextant and armillae, you can ground yourself sufficiently safely in restoring and examining the motion of ♀ near [its] greatest evening digression

[139] the time column has no printed head; "Time" is this edition's.
[140] these two lines are printed without heads; "Time", "Reading" and "Value" are this edition's.
[141] the time column has no printed head; "Time" is this edition's. In 52 20 50 the third figure is given as seconds; the page marks no unit.

from ☉, with the Sun in the perigee of ☿; and these observations are much more exact than the preceding ones, because this evening was exceptionally clear, which did not happen on several preceding [evenings]. The times can be corrected from the distance of the stars from the meridian [Omnibus præcedentibus obſeruationibus ☿ tam per Quadrantem quam per Sextantem & Armillas inuicem collatis ſatis tuto potes te fundare in reſtituendo & examinando motu ☿ iuxta maximam digreßionem a ☉ veſpertinam, Sole in Perigæo ☿ exiſtente, & ſunt hæ obſeruationes multo exactiores præcedentibus, eo quod hoc veſperi erat apprime ſerenum, quod præcedentibus aliquot non contigit. Tempora poßunt corrigi ex diſtantia ſtellarum a Meridie.].

On 27 December, P. M. [DIE 27 DECEMBRIS P. M.]

Time	Reading	Value
$2^h\ 42^m\ 55^s$ [$2^H 42' 55''$]	Distance between the centre of ☉ and ☿ [Diſt. inter centrum ☉ & ☿]	46° 23′
	Then the altitude of ☉ was [Tunc fuit Alt. ☉]	3° 45′
$2^h\ 47\frac{5}{6}^m$ [2 47⅚]	Repeated distance of ☉ and ☿ [Repetita diſt. ☉ & ☿]	46° 22⅓′
	Altitude of ☉ [Alt. ☉]	3° 30′

142

Time	Reading	Value
$2^h\ 50\frac{1}{6}^m$ [2 50⅙]	Repeated distance [Repetita diſtantia]	46° 22′
$2^h\ 51\frac{5}{6}^m$ [2 51⅚]	The same distance [Eadem diſtantia]	46° 21¼′
	Altitude of ☉ [Alt. ☉]	3° 5′

143

Note. From this the place of ☉ will be able to be investigated and examined, taking account of the refraction [Nota. Hinc poterit locus ☉ indagari & examinari habita ratione refractionis.].

In these observations ☉ was in scattered clouds arising from the west, so that its shadow was not obtained exactly [In hiſce obſeruationibus ☉ fuit in raris nubibus ab occaſu oriundis, vt eius vmbra exquiſite non haberetur.].

Time	Clock	Reading	Value
$2^h\ 55^m\ 29^s$ [$2^H 55' 29''$]		Azimuth of ☿ before the meridian [Azim. ☿ ante Merid.]	2° 10½′
		By the revolving quadrant, altitude of ☿ [per Q. Volub. Alt. ☿]	23° 15½′

[142] these lines are printed in the column without heads; "Time", "Reading" and "Value" are this edition's. The value 46 23 stands on its own line under the words ☉ & ☿; *Tunc fuit Alt. ☉ 3 45* stands on one line. The time 2 47⅚ is printed without unit marks and is given as hours and minutes, following the time above it.

[143] these lines continue the entry of 27 December and are printed without heads; "Time", "Reading" and "Value" are this edition's. The times are printed without unit marks and are given as hours and minutes, following the times above them.

Time	Clock	Reading	Value
$2^h\ 57^m\ 31^s$	by the lesser [clock] [per minus]	Azimuth of ♀, east [Azim. ♀ or.]	1° 38′
$2^h\ 45^m\ 8^s$	by the greater [clock] [per maius]	Altitude [Alt.]	23° 14⅔′
$2^h\ 59^m\ 38^s$	by the lesser [clock] [per minus]	Azimuth, east [Azim. or.]	1° 7′
$2^h\ 47^m\ 4^s$	by the greater [clock] [per maius]	Altitude [Alt.]	23° 15½′

144

[At] $3^h\ 3^m\ 45^s$ by the lesser [clock], ♀ passed through the meridian, having an altitude by the revolving quadrant of 23° 15½′ [3 3 45 per minus, ♀ tranſiuit per Merid. habens Altitudinem per Q. Volubilem 23 15½].

Meridian altitude of ♀ by the Tychonic quadrant [Alt. Merid. ♀ per Q. Tich.]: 23° 16¾′.

Time	Clock	Reading	Value
$3^h\ 15^m\ 40^s$	by the lesser [clock] [per minus]	Azimuth of ♀, west [Az. ♀ occ.]	2° 15′ uncertain [incerta]
$3^h\ 1^m\ 41^s$	by the greater [clock] [per maius]	Altitude [Alt.]	23° 12¾′
$3^h\ 17^m\ 26^s$	by the lesser [clock] [per minus]	Azimuth of ♀, west [Az. ♀ occ.]	3° 43′
$3^h\ 3^m\ 20^s$	by the greater [clock] [per maius]	Altitude of ♀ [Alt. ♀]	23° 12½′
$3^h\ 19^m\ 30^s$	by the lesser [clock] [per minus]	Azimuth of ♀, west [Az. ♀ occ.]	4° 16′
$3^h\ 5^m\ 11^s$	by the greater [clock] [per maius]	Altitude of ♀ [Alt. ♀]	23° 11½′
$3^h\ 21^m\ 39^s$	by the lesser [clock] [per minus]	Azimuth of ♀, west [Az. ♀ occ.]	4° 51′
$3^h\ 7^m\ 16^s$	by the greater [clock] [per maius]	Altitude of ♀ [Alt. ♀]	23° 10′

145

By the lesser [clock] [Per minus]	By the greater [clock] [Per maius]	♀, west [♀ occ.]
$4^h\ 2^m\ 28^s$	$3^h\ 45^m\ 45^s$	14° 38¾′
$4^h\ 4^m\ 14^s$	$3^h\ 47^m\ 31^s$	15° 7′
$4^h\ 5^m\ 45^s$	$3^h\ 48^m\ 45^s$	15° 28½′
$4^h\ 8^m\ 0^s$	$3^h\ 51^m\ 1^s$	15° 55′
$4^h\ 9^m\ 55^s$	$3^h\ 52^m\ 48^s$	16° 34¼′
$4^h\ 12^m\ 16^s$	$3^h\ 54^m\ 58^s$	17° 8¾′
$4^h\ 13^m\ 15^s$	$3^h\ 55^m\ 50^s$	17° 24′
$4^h\ 14^m\ 15^s$	$3^h\ 56^m\ 45^s$	17° 38′

[144] these lines are printed without heads; ”Time”, ”Clock”, ”Reading” and ”Value” are this edition's. In each of the last two pairs the two lines are joined by a single brace standing between the clock words and the labels; each line carries its own value.

[145] these lines are printed without heads; ”Time”, ”Clock”, ”Reading” and ”Value” are this edition's. Each pair of lines is joined by a single brace standing between the clock words and the labels; each line carries its own value. *incerta* stands on a line of its own, under the value 2 15 of the first pair and inside its brace.

By the lesser [clock] [Per minus]	By the greater [clock] [Per maius]	♀, west [♀ occ.]
$4^h\ 15^m\ 30^s$	$3^h\ 57^m\ 53^s$	17° 58′
$4^h\ 16^m\ 20^s$	$3^h\ 58^m\ 38^s$	18° 10′
$4^h\ 17^m\ 3^s$	$3^h\ 59^m\ 17^s$	18° 21′

In the following [observations] the time was taken only by the lesser clock [In ſequentibus per minus horologium ſolummodo tempus acceptum eſt.].

Time	Reading	Value
$4^h\ 29^m\ 29^s$	Declination of ♀, south [Declin. ♀ auſt.]	10° 47½′
	With the other pinnule [alt. pinn.]	10° 47½′
	Then the altitude of ♀ was [Tunc fuit Alt. ♀]	20° 35′

146

Time	The bright star of ♈, east [Lucida ♈ or.]	♀, west [♀ occid.]	Equatorial distance [Diſt. æq.]	Altitude of ♀ [Alt. ♀]
$4^h\ 44^m\ 23^s$	26° 14′	25° 19¼′	51° 33¼′	20°
$4^h\ 47^m\ 45^s$	25° 23′	26° 10⅙′	51° 33′	19° 40′
$4^h\ 50^m\ 5^s$	24° 47¾′	26° 44⅝′	51° 32½′	19° 30′
$4^h\ 53^m\ 10^s$	24° 1′	27° 32¾′	51° 33¾′	19° 20′
$4^h\ 54^m\ 50^s$	23° 39′	27° 56′	51° 35′	

147

148

Keep 51° 34′; it was not sufficiently clear[1] [Retine 51 34, non fuit ſatis ſerenum[1].].

On 30 December, P. M. [DIE 30 DECEMBRIS P. M.]

Lesser [clock] [Minus]	*Greater [clock] [Maius]*	*Azimuth of ♀ [Azim. ♀]*	*Altitude of ♀ [Alt. ♀]*
$3^h\ 19^m\ 5^s$ [3ʰ19′ 5″]	*$3^h\ 16^m\ 23^s$ [3ʰ16′23″]*	*2° 58′*	*24° 32′*
	$3^h\ 25^m\ 47^s$	*4° 44′*	*24° 28½′*
$3^h\ 27^m\ 47^s$		*5° 15′*	*24° 26½′*
$3^h\ 29^m\ 50^s$		*5° 50′*	*24° 25½′*
$3^h\ 31^m\ 34^s$		*6° 19′*	*24° 23½′*
$3^h\ 33^m\ 10^s$		*6° 44′*	*24° 21′*

[146] these lines stand at the head of the right column and continue the entry of 27 December; they are printed without heads, and "Time", "Reading" and "Value" are this edition's.

[147] the time column has no printed head; "Time" is this edition's. In the first row the altitude is printed as 20 alone, in the degree position.

[148] Rows 2 and 3 do not close exactly against the two values before them: 25° 23′ and 26° 10⅙′ give 51° 33′ 10″, where the page prints 51° 33′; 24° 47¾′ and 26° 44⅝′ give 51° 32′ 35″, where the page prints 51° 32½′. Rows 1, 4 and 5 close. No figure has been changed.

Lesser [clock] [Minus]	*Greater [clock] [Maius]*	*Azimuth of ♀ [Azim. ♀]*	*Altitude of ♀ [Alt. ♀]*
3^{h} 35^{m} 50^{s}	*3^{h} 33^{m} 18^{s}*	*7° 26′*	*24° 19¾′*
3^{h} 38^{m} 35^{s}	*3^{h} 36^{m} 13^{s}*	*8° 11′*	*24° 16¾′*
3^{h} 40^{m} 48^{s}	3^{h} 38^{m} 30^{s}	8° 46′	24° 12⅔′
3^{h} 42^{m} 27^{s}	3^{h} 40^{m} 13^{s}	9° 13′	24° 11⅓′
3^{h} 58^{m} 16^{s}	3^{h} 57^{m} 0^{s}	13° 30′	24° 46¼′
			among clouds [inter nubes.]

149

On 31 December [DIE 31 DECEMBRIS.]

12^{h} 9^{m} 17^{s} by the lesser [clock]. ⊙ passed [12 9 17 per Minus. Tranſiuit ⊙] through the meridian [per merid.].

On the same day, P. M. [Eodem die P. M.]	Reading	Azimuth of ♀, west [Azim. ♀ occ.]	Altitude of ♀ [Alt. ♀]
3^{h} 18^{m} 10^{s}		1° 1′	25° 0¾′
3^{h} 20^{m} 6^{s}		1° 31½′	25° 0′
3^{h} 21^{m} 40^{s}		1° 59½′	24° 59′
3^{h} 23^{m} 28^{s}		2° 26½′	24° 58½′
3^{h} 25^{m} 14^{s}		2° 55′	24° 58′
3^{h} 26^{m} 50^{s}		3° 20′	24° 52⅔′
3^{h} 38^{m} 55^{s}	Distance between the centre of ⊙ and ♀ [Diſtantia inter centrum ⊙ & ♀]		I 45° 45½′
			II 45° 43′
			III 45° 42½′

150

The altitude of ⊙ was then 1½°. But it was not sufficiently clear [Tunc Alt. ⊙ erat 1½°. Sed non ſatis fuit ſerenum.].

Time	Reading	Value
3^{h} 45^{m} 0^{s}	Declination of ♀, south, with one [Decl. ♀ Auſt. vno]	9° 4½′
	with the other pinnule [altero pinn.]	9° 4′

151

[1] Added afterwards in another hand [Poſtea alia manu adſcriptum.]

[149] the time 3 25 47 in the second row is printed in the *Maius* column, with the *Minus* column empty; in the third to sixth rows the *Maius* column is empty. *inter nubes.* stands on a line of its own after the last row, under the azimuth and altitude columns.

[150] *Eodem die P. M.* heads the time column; the "Reading" column is this edition's. The label *Diſtantia inter centrum* ⊙ & ♀ is printed over two lines, beside the values I and II; it is given whole on the first row. The three distances I–III stand at the right, in the altitude column.

[151] these two lines are printed without heads; "Time", "Reading" and "Value" are this edition's.

Distance of ♀ from the meridian, west, by the armillae [Diſtantia ♀ a merid. occ. per Armillas]:

Time	Value
$3^h\ 52^m\ 27^s$ [3ᴴ52′27″]	9° 18¾′
$3^h\ 54^m\ 0^s$	9° 42¼′
$3^h\ 54^m\ 50^s$	9° 52′
$3^h\ 55^m\ 35^s$	10° 4½′
$3^h\ 56^m\ 28^s$	10° 17¼′
$3^h\ 57^m\ 44^s$	10° 37′
$3^h\ 58^m\ 35^s$	10° 49¾′
$3^h\ 59^m\ 45^s$	11° 8½′
$4^h\ 0^m\ 35^s$	11° 21¼′

152

[At] $5^h\ 3^m$, between ♄ and ♀ by the sextant [5 3 inter ♄ & ♀ per Sext.]: 49° 58′.[153]

Time	♀, west [♀ occ.]	♄, east [♄ or.]	Equatorial distance [Diſt. æq.]	Altitude of ♀ [Alt. ♀]
$5^h\ 3\frac{5}{6}^m$ [5 3⅚]	27° 3⅔′	20° 9⅔′	47° 13⅓′	21° 0′

154

Time	Reading	Value
$5^h\ 6^m$	Between ♄ and ♀ by the sextant [Inter ♄ & ♀ per Sext.]	49° 57⅚′
$5^h\ 9^m\ 53^s$ [5 9 53″]		49° 58′

155

From this the time of the clock will be able to be corrected from the place of ♄*, but from the following observations the place of* ♄ *[Hinc ex loco* $♄^{ni}$ *poterit tempus horologij corrigi, e ſequentibus vero obſeruationibus* $♄^{ni}$ *locus.]*

[152] the line *Diſtantia* ♀ *a merid. occ. per Armillas* stands as a heading over the times and values; the column heads "Time" and "Value" are this edition's.

[153] the time 5 3 is printed without unit marks and is given as hours and minutes.

[154] the time column has no printed head; "Time" is this edition's. The time 5 3⅚ is printed without unit marks and is given as hours and minutes.

[155] these two lines are printed directly under the row above, within the same table; the English breaks them out of it. Their values stand in the position of the *Alt.* ♀ column, and they are not altitudes. "Time", "Reading" and "Value" are this edition's. The second time prints a seconds mark after 53 and no other unit marks. The first time, 5 6, is printed without unit marks and is given as hours and minutes.

Time	♀, west [♀ occ.]	♄, east [♄ or.]	*Equatorial distance [Diſt. æquat.]*	*Altitude of ♀ [Alt. ♀]*
5h 32m 50s	*34° 20′*	*12° 52½′*	*47° 12½′*	
5h 34⅚m [5 34⅚]	*34° 48′*	*12° 24′*	*47° 12′*	
5h 37m [5 37]	*35° 22¾′*	*11° 50¼′*	*47° 13′*	*18⅓°*

156

Therefore put the equatorial distance of ♀ and ♄ at about this time [as] 47° 12½′ [Pone itaque diſt. æquat. ♀ & ♄ni circa hoc tempus 47 12½.].

Time	*♀, west [♀ occ.]*	*The bright star of ♈, east [Luc. ♈ or.]*	*Equatorial distance [Diſt. æquat.]*	*Altitude of ♀ [Alt. ♀]*
5h 39m 40s	*36° 6′*	*12° 19½′*	*48° 25½′*	*18⅙°*
5h 44m 20s	*37° 11′*	*11° 12′*	*48° 23′*	*17⅚°*
5h 46m 35s	*37° 44¾′*	*10° 38¾′*	*48° 23½′*	
5h 52m 25s	*39° 15′*	*9° 9¼′*	*48° 24¼′*	*17° 20′*
5h 54m 55s	*39° 51′*	*8° 33½′*	*48° 24½′*	*16° 50′*

157

Therefore put, at about the sixth hour from noon, the equatorial distance of ♀ and the bright star of ♈ [as] 48° 24′ [Pone itaque iuxta horam ſextam a meridie diſtantiam æquatoriam ♀ & luc. ♈ 48 24.].

Time	Reading	Value
6h [6H]	*Declination of ♀ with one pinnule [Decl. ♀ vno pinn.]*	*9° 1′*
	with the other [altero]	*9° 0¾′*

158

The altitude of ♀ was then 16° 10′ [Alt. ♀ tunc erat 16 10.].

From this the longitude and latitude of ♀ will be able to be verified, taking account, however, of the refraction and parallax [Hinc poterit verificari longitudo & latitudo ♀, habita tamen ratione refractionis & parallaxeos.].

For the place of ♀ on 15 December[1] [Pro loco ♀ Die 15 Decembris[1].]:

[156] the time column has no printed head; "Time" is this edition's. The second and third times are printed without unit marks and are given as hours and minutes. The altitude 18⅓ is printed as a lone figure under the head of its column and is not aligned with the degree position (on native-resolution crops it stands between the degree and minute positions); it is given in degrees by construal, the altitudes of ♀ on this page being 21° 0′, 17° 20′, 16° 50′ and 16° 10′.

[157] this table stands at the head of the right column; the time column has no printed head, and "Time" is this edition's. The altitudes 18⅙ and 17⅚ are printed as a single figure with a fraction and are given as degrees.

[158] these two lines are printed without heads; "Time", "Reading" and "Value" are this edition's.

Time	Reading	Value
5^h 0^m [H.5 0′]	Equatorial distance of ♀ and the bright star of ♈ [Diſt. æquat. ♀ & luc. ♈]	62° 14′
	Right ascension of the bright star [Aſc. Recta lucidæ]	26° 1′ 10″
	Therefore the right ascension of ♀ [Ergo Aſc. R. ♀]	323° 47⅙′
	Longitude [Longit.]	20° 56½′ ♒
	Latitude [Latit.]	1° 19⅙′ south [M.]

159

From this, however, the declination of ♀ [is] 15° 49′ south, at an altitude of about 15° [Hinc autem ♀ Declin. 15 49 M. in altit. quaſi 15 G.].

Corresponding parallax of altitude 3′ 50″, Refr. 3′ 0″ [Reſp. Parall. altit. 3′ 50″, Refr. 3′ 0″.].

Corresponding in longitude 0′ 27″ add., in latitude 42″ add. [Reſp. in Long. 0′ 27″ add., in Lat. 42″ add.].

Observations of Mercury [OBSERUATIONES MERCURIJ.]

On 21 January [DIE 21 JANUARIJ.]

At 5^h 40^m we observed the difference of right ascension between ☿ and Aldebaran [as] 91° 35′, the declination of ☿ 11° 50′ south; but ☿ was very much declining, raised scarcely one and a half degrees above the horizon, so it introduced a quite perceptible refraction. This observation [is] not sufficiently certain [H.5 40′ Obſeruauimus differentiam Aſc. R. inter ☿ & Aldeb. 91 35, Declin. ☿ 11 50 Merid. ſed erat ☿ valde decliuis vix ſesquialtero gradu eleuatus ſupra Horizontem, vnde refractionem admodum ſenſibilem ingerebat. Obſeruatio hæc non ſatis certa.].

The clock was corrected at 6^h, and the time ascribed to the observation of ☿ is in good order [Horologium H. 6 correctum eſt, & tempus obſeruationi ☿ aſcriptum bene ſe habet.].

At 7^h 15⅓^m the eye of ♉ [passed] through the meridian [H.7 15⅓′ Oculus ♉ per Meridianum.].

On 22 January [DIE 22 JANUARIJ.]

We observed ☿, a star appearing sufficiently well, like a star of almost the second magnitude, in this manner [Obſeruauimus ☿ ſtellam ſatis bene apparentem inſtar ſtellæ ferme ſecundæ magnitudinis in hunc modum.].

At 5^h 12^m its declination by the greater subterranean armillae was 11° 24′ [H.5 M.12 Fuit ipſius declin. per Armillas ſubterraneas maiores 11 24].

At 5^h 18^m, between ☿ and the head of ♈, the equatorial distance [was] 53° 38′ [H.5 18′ Inter ☿ & caput ♈ diſt. æquat. 53 38].

[159] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. In 26 1 10 the third figure is given as seconds; the page marks no unit.

Declination of ☿ by the same armillae: 11° 22½′ [Declin. ☿ per easdem Armillas 11 22½].

The altitude was then 5½°, but afterwards it appeared more clearly [Alt. tunc erat P. 5½, ſed poſtea clarius apparuit.].

[1] From codex V. [E codice V.]

Time	*The same equatorial distance [Eadem diſt. æquat.]*	*Declination [Declin.]*	*Altitude [Alt.]*
$5^h\ 22^m$	53° 41′		
$5^h\ 26\frac{2}{3}^m$	53° 40′	11° 21′	4½°
$5^h\ 30^m$	53° 40′	11° 20½′	4° 0′
$5^h\ 33\frac{1}{2}^m$	53° 37′	11° 19½′	3½°
$5^h\ 38\frac{2}{3}^m$	53° 35′	11° 17¾′	3° 0′
$5^h\ 41^m$	53° 33½′		2⅔°
$5^h\ 43^m$	53° 32′	11° 16¼′	2° 0′

160

Afterwards it was no longer possible to see it, as clouds came in near the horizon. But when it was observed yesterday evening, it was still somewhat more declining than in this last observation, at an altitude of two degrees, so it introduced a somewhat greater variation of refraction from the true position. For that, in the interval of these observations, its equatorial distance and declination became so dissimilar and successively smaller was brought about by a wavering neither in the motion nor in the observation, but [by the fact] that, by reason of refraction, the nearer it came to the horizon, the higher it was seen raised than it really was. You can therefore, without any perceptible error, taking account of the refractions, use at about the 5th hour its equatorial distance from the head of ♈, 53° 50′, and its declination, 11° 30′ south [Poſtea non amplius ipſum videre licuit interuenientibus prope Horizontem nubibus. Sed cum heri veſperi obſeruaretur, paulo adhuc erat decliuior quam in hac vltima obſeruatione in altitudine duorum graduum, vnde paulo maiorem ingerebat refractionis varietatem a vero ſitu. Nam quod interuallo harum obſeruationum ipſius diſtantia æquatoria & declinatio tam diſsimilis & ſucceſsive minor facta ſit, effecit nec in motu, nec in obſeruatione vacillatio, ſed quod ratione refractionis, quo propior fiebat Horizonti altior eleuatus conſpiceretur, quam revera extitit. Potes itaque absque omni ſenſibili errore habita ratione refractionum circa Horam 5ᵃᵐ vti ipſius diſtantia æquatoria a capite ♈ 53 50 & declinatione 11 30 M.].

[160] this table stands at the head of the left column; the time column has no printed head, and "Time" is this edition's. The times are printed without unit marks and are given as hours and minutes; the altitudes 4½, 3½ and 2⅔ are printed as a single figure with a fraction and are given as degrees. In the fifth time the fraction after 38 is ⅔: its denominator, which looks closed at low magnification, is read as 3 on a native-resolution crop, open on the left between its bowls like the ⅔ of 5 26⅔.

On 23 January [DIE 23 JANUARIJ.]

This evening we observed ☿ again in this manner, although some clouds now and then ran across [Hoc veſperi denuo ☿ obſeruauimus in hunc modum quamuis aliquæ interdum nubes intercurrebant.].

Time	Reading	Value
4^h 57^m [H. 4 M. 57]	*its declination was [ſuit ipſius declin.]*	*10° 42½′*
	Equatorial distance from ♃ [Diſt. æquat. a ♃]	*85° 56′*
	Altitude [Altitudo]	*8° [part. 8]*
5^h 8^m [H. 5 8]	*The same declination [Eadem declin.]*	*10° 41′*
	Equatorial distance from ♄ [Diſt. æquat. a ♄]	*40° 40′*
	Altitude of ☿ [Alt. ☿]	*7° 30′ [part. 7 30]*

161

Both these observations are in moderate order, and although, because of the twilight and the clouds running across, it could not be taken sufficiently exactly, yet in either case the error will scarcely be able to be 2′ at most [Hæ ambæ obſeruationes mediocriter ſe habent, & quamvis ob crepuſculum & intercurrentes nubes non ſatis exacte capi potuerit, tamen vix vtrobique 2 ſcrupulorum error ad ſummum eße poterit.].

Then ☿ was observed again from the head of ♈, as yesterday evening, in this manner [Deinde a capite ♈ denuo obſeruabatur ☿, prout heri veſperi in hunc modum.].

Time	*Equatorial distance of ☿ from the head of ♈ [Diſt. æquat. ☿ a capite ♈]*	*Declination [Declin.]*	*Altitude [Alt.]*
5^h 20^m [5^H20′]	*52° 29′*		
5^h 21^m	*52° 29′*	*10° 39¼′*	*5½°*
5^h 23^m	*52° 29½′*		*5¼°*
5^h $25½^m$	*52° 28′*	*10° 38′*	*5°*
5^h 30^m	*52° 27′*	*10° 37½′*	*4⅓°*

Time	*Between ☿ and Aldebaran, equatorial distance [Inter ☿ & Aldeb. diſt. æq.]*	*Declination [Declin.]*	*Altitude [Alt.]*
5^h 32^m	*89° 29½′*	*10° 35′*	*4°*
5^h 36^m	*89° 26′*	*10° 34′*	*3⅔°*

162

[161] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. *part.* (partes) before the altitudes is given as degrees.

[162] this table stands at the head of the right column; the time column has no printed head, and "Time" is this edition's. The line *Inter ☿ & Aldeb. diſt. æq.* is printed as a sub-head over the value column of the last two rows, within the same table; the English sets those rows as a second table under it, repeating the heads *Declin.* and *Alt.*, which the page prints once. Times after the first are printed without unit marks and are given as hours and minutes; the altitudes, printed as a single figure (with or without a fraction), are given as degrees.

Especially towards the end there were at times clouds running across, but when ☿ was free between two clouds, exposed to a clearer sky, it was observed sufficiently accurately in this preceding manner. According to Copernicus, however, it was around the limits of greatest elongation from the Sun [Fuerunt præſertim circa finem intercurrentes aliquando nubes, ſed quando ☿ liber erat inter binas nubes cœlo ſereniori expoſitus, in hunc antecedentem modum ſatis accurate obſeruatus eſt. Fuit autem iuxta Copernicum circa limites maximæ elongationis a Sole.].

To verify the place of ♄ that we used in observing ☿, we saw once, at 5^h 44^m, its declination 3° 30½′ north [Pro verificando loco $♄^{ni}$ quo vſi ſumus in ☿ obſeruando ſemel vidimus H.5 M.44 ipſius declinationem 3 30½ B].

Time	Reading	Value
5^h 53^m [5 53]	*♄, west [♄ occident.]*	*30° 39′*
	Aldebaran, east [Aldeb. orient.]	*18° 7¾′*
	Therefore the equatorial distance [Ergo diſt. æquat.]	*48° 46¾′*

163

Altitude of ♄ 32⅙° [Alt. ♄ 32⅙.].[164]

But this observation was made quickly among recurring clouds, for afterwards the sky was so overcast that it could not be repeated; therefore this is not to be relied on too scrupulously until it is possible to have more exact [observations] [Sed hæc obſeruatio fuit ſubito facta inter recurrentes nubes, nam poſtea cœlum ita eſt obductum, vt reiterari non potuerit, quare non nimium ſcrupuloſe huic erit fidendum, donec exactiores habere licuerit.].

At 5^h 53^m the eye of ♉ from the meridian towards the east 18° 8′; corresponds to 5^h $54½^m$ [H.5 M.53 Oculus ♉ a merid. ad ortum 18ᵍ 8′, Reſpondet H. 5 54½].

The clock gave 5^h 53^m [Horologium dedit 5 53].

The clock [was] slower than it should by $1½^m$, *and that from noon* [Horologium iuſto tardius M. 1½ *idque a Meridie*.].[165]

Time	Reading	Value
On the 21st, at $5⅔^h$ [Die 21, H. 5⅔]	Right ascension of ☿ [Aſc. R. ☿]	331° 30′
	Declination [Declinatio]	11° 50′ south [M.]
	Altitude [Altitudo]	1½°

Reading	From the observation [Ex obſeruatione]	Calc. Prut.
Longitude [Long.]	29° 20′ ♒	29° 33′ ♒
Latitude [Lat.]	0° 6′ south [M.]	0° 18′ south [M.]

[163] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's.
[164] the altitude is printed as a single figure with a fraction and is given as degrees.
[165] a rule is printed under *Horologium dedit 5 53*, below the figure 5 53, over the difference on the next line.

Time	Reading	Value
On the 22nd, at 5½[h] [Die 22 H. 5½]	Right ascension [Afc. R.]	332° 23′
	Declination [Declinatio]	11° 21′
	Altitude [Altitudo]	4°

Reading	From the observation	Calc. Prut.
Longitude [Long.]	0° 19′ ♓	0° 40′ ♓
Latitude [Lat.]	0° 3′ north [B.]	0° 5′ south [M.]

166

Time	Reading	Value
On the 23rd, at 5½[h] [Die 23, H. 5½]	Right ascension [Afc. R.]	333° 33½′
	Declination, south [Decl. Mer.]	10° 38′

Reading	Value	Reading	Value
Longitude [Long.]	1° 39′ ♓	Calc. Prut.	1° 44′ ♓
Latitude [Lat.]	0° 18½′ north [B.]		0° 10′ north [B.]

167

On 1 February [DIE 1 FEBRUARIJ.]

We could not see Mercury that evening, although it was sufficiently clear in the west. There were, however, some clouds at an altitude of 3 or 4° [in Altitudine 3 vel 4 partium], near the horizon, which perhaps were hindering the sight of it [Mercurium eo veſperi videre non potuimus, etiamſi fuerit ſatis ſerenum in occaſu. Erant tamen aliquæ nubes in Altitudine 3 vel 4 partium, iuxta Horizontem, quæ forſan eius aſpectum impediebant.].

[166] these lines stand as one block on the page; the English breaks it into four tables. The heads *Ex obſeruatione* and *Calc. Prut.* are printed once, between the altitude of the 21st and the longitude, over two value positions; the longitudes and latitudes of both days stand in those two positions, and the heads of the fourth table are repeated here from them. The right ascension, declination and altitude of each day stand at the right, in the position of the *Calc. Prut.* column, above (21st) or below (22nd) the head line. "Time", "Reading" and "Value", and "Reading" in the second and fourth tables, are this edition's. The altitudes 1½ and 4 are printed as a single figure and are given as degrees; the time H. 5⅔ and H. 5½ as hours.

[167] these lines stand at the head of the left column and are printed without heads, except *Calc. Prut.*, which stands on the longitude line before the second value; "Time", "Reading" and "Value" are this edition's. The time H. 5½ is given as hours.

On 25 October, A. M. [DIE 25 OCTOBRIS A. M.]

At 6^h 7^m we saw ☿, and its distance from the tail of ☊ was observed [as] 37° 39′ [H. 6 M. 7 Vidimus ☿ & obſeruabatur ipſius diſtantia a cauda ☊ 37 39].

Its declination, however, was then 6° 37′ south [Erat autem eius declin. tunc 6 37 M.].

At 6^h 10^m the repeated distance of ☿ and the tail of ☊: 37° 39¾′ [H. 6 M. 10 Repetita diſtantia ☿ & caudæ ☊ 37 39¾].

The altitude of ☿, however, was then about 6°, and it was sufficiently large and bright, larger than Spica ♍ itself [Fuit autem altitudo ☿ tunc quaſi 6 graduum, eratque ſatis magnus ac lucidus, maior ipſa Spica ♍.].

Afterwards we again observed ☿ in this manner by the equatorial armillae [Poſtea denuo obſeruauimus ☿ in hunc modum per armillas æquatorias.].

Time	Reading	Value
6^h 30^m [H.6 30′]	*Declination of ☿ 6° 39′, altitude of ☿ [Declin. ☿ 6 39, Alt. ☿]*	8⅙°
	Equatorial distance from the heart of ☊ [Diſt. æquat. a corde ☊]	*55° 13′*
6^h 32^m	*The repeated equatorial distance of the heart of ☊ and ☿ [Repetita diſtantia æquatoria cordis ☊ & ☿]*	*55° 14½′*
	and its declination [& declin. ipſius]	*6° 39½′*
6^h 36^m	*The altitude was, by the revolving quadrant [Fuit Alt. p. Q. Volub.]*	*8° 50′*

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Then we observed ☿ from ♃ in this manner [Deinde obſeruauimus ☿ a ♃ in hunc modum.].

Time	Reading	Value
6^h $40½^m$	*Equatorial distance of ☿ from ♃ [Diſt. æquat. ☿ a ♃]*	*95° 6′*
	Declination [Declin.]	*6° 40′ south [M.]*
6^h $40¾^m$	*Altitude of ☿ [Altitudo ☿]*	*8° 57⅓′*
6^h 42^m	*The repeated equatorial distance of ♃ and ☿ [Repetita diſtantia æquatoria ♃ & ☿]*	*95° 6¼′*
6^h $46½^m$	*Declination of ☿ [Declin. ☿]*	*6° 40⅔′*

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At this time ☿ was sufficiently apparent, and seemed larger than ♂ itself and the stars of the first rank. Its light was whitish and clear [☿ fuit hoc tempore ſatis apparens

[168] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. In the first line the declination 6 39 stands in the text and only the altitude 8⅙ at the right; 8⅙ is printed as a single figure with a fraction and is given as degrees. The value 55 13 is printed directly after the words, not at the right. The label of the 6^h 32^m line runs over two printed lines, the value on the second. Times after the first are printed without unit marks and are given as hours and minutes.

[169] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The times are printed without unit marks and are given as hours and minutes. The label of the 6^h 42^m line runs over two printed lines, the value on the second.

& maior videbatur ipſo ♂ & ſtellis primi honoris. Lumen ipſius erat albicans & ſerenum.].

That its declination in the first observation was 4′[1] smaller came about because of the refraction that it had at so declining an altitude. But in these last observations too it had some refraction, which has to be guarded against. You can therefore put its equatorial distance from ♃ [as] 95° 8′, and so you will err imperceptibly, and its declination [as] 6° 43′ [Quod declinatio ipſius in prima obſeruatione fuerit 4[1] ſcrupulis minor, factum eſt propter refractionem quam habuit in tam decliui Altitudine. Sed et in his vltimis obſeruationibus aliquam habuit refractionem, quæ præcauenda venit. Potes itaque ponere ipſius diſtantiam æquatoriam a ♃ 95ᵍ 8′ ſicque inſenſibiliter aberrabis, & declinationem 6 43.].

At 7ʰ 0ᵐ the declination of ☿ was seen [as] 6° 41′, but it was scarcely visible because of the dawn. The altitude of ☿ was then about 10½° [H.7 M.0 Viſa eſt declinatio ☿ 6 41 ſed vix apparebat propter auroram. Alt. ☿ tunc fuit quaſi 10½.].[170]

On 29 October [DIE 29 OCTOBRIS.]

At 5ʰ 14½ᵐ [Hora 5 14½] the clock was verified by the eye of ♉, which was going only 1½ᵐ slower, and this defect was beyond two days since it was corrected [Hora 5 14½ verificabatur Horologium ad oculum ♉ quod ſaltem 1½ Minuto tardius ibat, isque defectus erat vltra bidui quo corrigebatur.].

Afterwards we observed Spica for the sake of ☿ [Poſtea obſeruauimus Spicam propter ☿.].

Time	Reading	Value
5ʰ 58ᵐ [5ʰ58′]	*Declination of Spica ♍ [Declinatio Spicæ ♍]*	*8° 52¾′*
	The altitude of Spica was then [Fuit tunc Alt. Spicæ]	*7° 4′*
6ʰ 1ᵐ	*The same declination of Spica [Eadem Declin. Spicæ]*	*8° 53′*
6ʰ 3¾ᵐ	*Altitude of Spica [Alt. Spicæ]*	*7° 50′*
6ʰ 5ᵐ	*Between Spica ♍ and the heart of ♌ by the sextant △ [Inter Spicam ♍ & cor ♌ per Sext. △]*	*54° 0′*
	The altitude of Spica was then [Fuit tunc Alt. Spicæ]	*8° 30′*

[171]

Time	*Distance of ☿ from the tail of ♌ [Diſt. ☿ a cauda ♌]*	*Declination of ☿ [Declin. ☿]*	*Altitude of ☿ [Alt. ☿]*
6ʰ 9½ᵐ	*41° 24½′*		*4° 27′*
6ʰ 11½ᵐ	*41° 24¼′*		
6ʰ 12ᵐ		*8° 8½′ south [M.]*	
6ʰ 13ᵐ	*41° 24⅓′*		*5° 2½′*

[170] the altitude 10½ is printed as a single figure with a fraction and is given as degrees.

[171] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. Times after the first are printed without unit marks and are given as hours and minutes. The label of the 6ʰ 5ᵐ line runs over two printed lines, *Inter Spicam* ♍ *& cor* ♌ on the first and *per Sext.* △ on the second, with the value on the second.

Time	*Distance of ☿ from the tail of ☋ [Diſt. ☿ a cauda ☋]*	*Declination of ☿ [Declin. ☿]*	*Altitude of ☿ [Alt. ☿]*
6h 14¾m		*8° 3½′*	*5¼°*
6h 16m		*8° 3¾′*	*5½°*
6h 18m	*41° 25¾′*		*5° 40¾′*
6h 20½m	*41° 25½′*		*6° 0′*
		truer than the previous [ones] [verior prioribus]	
6h 21½m		*8° 4′*	
6h 23m		*8° 4′*	*5° 55′*
		this is the true [one] [hæc eſt vera]	
6h 26½m	*41° 26½′*		*6° 23′*
6h 30½m	*41° 26′*		*6° 50′*
6h 31½m		*8° 5′*	*7° 2½′*
6h 32⅔m		*8° 5⅙′*	*7° 10′*

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And at this altitude Spica was observed earlier, when 4′ were lacking from its declination through refraction, and 2′ from the distance from the heart of ☋. Therefore just as much is to be limited here in ☿, so that its true and unrefracted place may be had [Atque in hac altitudine obſeruabatur prius Spica, quando ipſius declinationi defuerunt per refractionem 4 minuta, & diſtantiæ a corde ☋ 2 minuta. Ergo tantundem hic in ☿ limitandum, vt locus eius verus & irrefractus habeatur.].

[1] 6 in manuscript C [6 in codice C.]

Time	Reading	Value
6h 36m	*The repeated distance of ☿ from the tail of ☋ [Repetita diſtantia ☿ a cauda ☋]*	*41° 28′*
	At the same time the altitude [Eodem tempore altit.]	*7° 33′*
6h 39m	*Repeated distance [Repet. diſt.]*	*41° 30′*

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But these two distances are scarcely to be relied on, because it was not sufficiently clear [Sed his duabus diſtantijs vix fidendum, quia non erat ſatis ſerenum.].

Time	Reading	Value
6h 40¼m	*Repeated declination of ☿ [Repet. decl. ☿]*	*8° 6½′,*

[172] the time column has no printed head; "Time" is this edition's. The times are printed without unit marks and are given as hours and minutes. The altitudes 5¼ and 5½ are printed as a single figure with a fraction and are given as degrees. *verior prioribus* and *hæc eſt vera* each stand on a line of their own between rows, spanning the declination and altitude columns; they are set here in the declination column.

[173] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The times are printed without unit marks and are given as hours and minutes. The label of the 6h 36m line runs over two printed lines, the value on the second; the altitude 7 33 stands directly after *altit.*

Time	Reading	Value
	Altitude [Alt.]	*8° 10′*
6h 41m	*The same declination [Eadem declin.]*	*8° 6¾′*
6h 46½m	*Equatorial distance of ☿ from the heart of ☋ [Diſt. ☿ æquat. a corde ☋]*	*59° 0½′*
	The declination of ☿ was then [Declin. ☿ tunc erat]	*8° 7′ south [M.]*
	Altitude [Alt.]	*8° 53′*
7h 2m	*The repeated equatorial distance of ☿ from the heart of ☋ [Repetita Diſt. æquatoria ☿ a corde ☋]*	*59° 0¾′*
	Declination [Declinatio]	*8° 8½′*
	The altitude of ☿ was then [Alt. ☿ tunc erat]	*10¾°*
7h 6m	*Equatorial distance between ♃ and ☿ by the armillae [Diſt. æquatoria inter ♃ & ☿ per Armillas]*	*98° 57½′*
	Declination of ☿, south, good [Declin. ☿ M., bona]	*8° 7½′*
	The altitude of ☿ then [Alt. ☿ tunc]	*about 11° [quaſi 11 part.]*

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At 7h 9m [H. 7 9′] ☿ could no longer be seen, because of the dawn, in such a way as to be observable. For its equatorial distance was being detected by noticing [it] once and again [H. 7 9′ non poterat amplius videri ☿ propter auroram, ita vt eßet obſeruabilis. Nam ſemel atque iterum animaduertendo deprehendebatur ipſius diſtantia æquatoria.].

For the motion of ☿ on the 25th and 29th day of October, A. M., according to the observations noted above [Pro motu ☿ ad Diem 25 & 29 Octobris A. M. iuxta obſeruationes ſuperius annotatas.].

On 25 October, A. M., at 6h 40m [Die 25 Octobris A. M. H. 6 M. 40.].

Reading	Value
Equatorial distance of ♃ and ☿ [Diſtantia æquatoria ♃ & ☿]	95° 8′
Right ascension of ♃ [Aſcenſio R. ♃]	106° 40′
Right ascension of ☿ [Aſcenſio R. ☿]	201° 48′
Its declination [Declin. eius]	6° 43′ south [M.]

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Corresponding: the time reduced to both ephemerides, 6h 10m A. M. [Reſp. Tempus reductum ad vtrasque Ephemerides H. 6 M. 10 A. M.].

174 these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The times are printed without unit marks and are given as hours and minutes. The value 8 6½ of the 6h 40¼m line stands after the label and is followed by a comma; *Alt. 8 10* stands on the next line at the right. The values of the 6h 41m line and of the altitude 8 53 stand directly after their labels, not at the right; the labels of the 6h 46½m, 7h 2m and 7h 6m lines run over two printed lines, the value on the second. The altitude 10¾ is printed as a single figure with a fraction and is given as degrees; *part.* (degrees) in the last line is given as °.

175 these lines are printed without heads; "Reading" and "Value" are this edition's.

	From observation [Ex obſeruatione]	Alphonsine [Alphonſ.], Cyprian's [Cypr.]	Prutenic [Prut.], Mästlin's [Mæſtl.]
Longitude of ☿ [Long. ☿]	22° 39′	25° 37⅙′ ♌	24° 29½′ ♌
Latitude [Latit.]	2° 17⅓′	1° 44′ north [S.]	0° 49′ north [B.]

Reading	Value
Alphonsine calculation [Calculus Alphonſ.]	
in longitude exceeds [in Long. excedit]	2° 58′
in latitude falls short [in Latit. deficit]	0° 33⅓′
Prutenic [calculation], Mästlin's [Prutenicus Mæſtl.]	
in longitude exceeds [in Long. excedit]	1° 50½′
in latitude falls short [in Latit. deficit]	1° 28⅓′

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On 29 October, A. M. [DIE 29 OCTOBRIS A. M.]

Let the distance of ☿ from the tail of ☋ at 6^h 30^m A. M. be set at 41° 28′, so that the refraction may be corrected, and the declination at 8° 9′ south, also corrected through the refraction [Ponatur H. 6 M. 30 A. M. Diſt. ☿ a cauda ☋ 41° 28′ vt emendetur refractio & Declin. 8° 9′ Mer. etiam emendata per refractionem.].

Then at 7^h 2^m [H. 7 2′] [let] the equatorial distance of ☿ from the heart of ☋ [be taken as] 59° 2′, and let its declination at that time be taken [as] 8° 10′ south [Deinde H. 7 2′ Diſt. æquat. ☿ a corde ☋ 59 2 & Declin. eius tunc aßumatur 8 10 M.].

Again at 7^h 6^m [H.7 6′] [let] the equatorial distance of ♃ from ☿ [be taken as] 98° 59′, and the declination of ☿ itself 8° 10′ south [Rurſus H.7 6′ Diſt.æq. ♃ a ☿ 98 59 & Declin. ipſius ☿ 8 10 M.].

For these three times the right ascension of ☿ was sought, and afterwards its place relative to the ecliptic, as follows [Ad hæc tria tempora Aſcenſio Recta ☿ inquiſita eſt, & poſtea locus eius ad Eclipticam vt ſequitur.].

I. Time 6^h 30^m. A the pole, B the tail of ☋, C ☿ [I. Tempus H. 6 30′. A polus, B. cauda ☋, C ☿.].

Reading	Value	Remark
Side CA [Latus CA]	98° 9′	from the southern declination of ☿, to 90 add. [ex decl. Mer. ☿ ad 90 add.]
BA	73° 6′	compl. of the declination of the tail of ☋ [compl. declin. caudæ ☋]

[176] the first column of the comparison carries no head on the page; the heads of the second table, "Reading" and "Value", are this edition's. No sign is printed after the observed longitude 22 39, and no letter after the observed latitude 2 17⅓; none is supplied.

Reading	Value	Remark
BC	41° 28′	distance of both [Diſtantia vtriusque]
Angle CAB [Angulus CAB]	33° 25⅙′	difference of right ascension [Differ. Aſc. R.]
Right ascension of the tail of ☋ [Aſc. R. caudæ ☋]	171° 59½′	
Right ascension of ☿ [Aſcenſ. R. ☿]	205° 25′	

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This, compared with the following, seems smaller than correct [Hæc collata cum ſequentibus videtur iuſto minor.].

II. Time 7^h 2^m [II. Tempus H. 7 M. 2.].

Reading	Value
Equatorial distance of ☿ from the heart of ☋ [Diſt. æquat. ☿ a corde ☋]	59° 2′
Right ascension of the heart of ☋ [Aſcenſio Recta cordis ☋]	146° 35⅙′
Right ascension of ☿ [Aſcenſ. R. ☿]	205° 37′
Declination, south [Declin. M.]	8° 10′
Corresponding longitude of ☿ [Reſp. Longitudo ☿]	26° 42½′ ♎
Latitude [Latitudo]	2° 19′ north [Sept.]

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III. Time 7^h 6^m [III. Tempus H. 7 M. 6.].

Here, because ☿ was observed from ♃, we shall first seek the right ascension of ♃ from its observation made a little before [Hic quia ☿ a ♃ obſeruabatur, prius Aſcenſionem R. ♃ inquiremus ex obſeruatione eius paulo ante facta.].

Time	Reading	Value
$5½^h$ [H. 5½]	Distance of ♃ from the heart of ☋ [Diſt. ♃ a corde ☋]	38° 50′
	Declination of ♃, north [Declinatio ♃ B]	22° 37¼′
	BA	67° 22′ 45″
	CA	76° 2′ 30″
	BC	38° 50′ 0″
	Difference of right ascension of ♃ from the heart of ☋, CAB [Diff. Aſc. R. ♃ a corde ☋, CAB]	40° 0′ 21″
	Right ascension of Regulus [Aſc. R. Reguli]	146° 35′ 10″
	Right ascension of ♃ [Aſc. R. ♃]	106° 35′
	Equatorial distance of ☿ from ♃ [Diſt. æquat. ☿ a ♃]	98° 59′

[177] these lines are printed without heads; "Reading", "Value" and "Remark" are this edition's. The words after the values of CA, BA and BC stand after the figures on the page (those of CA and BA running on to a second line), and *Differ. Aſc. R.* stands between *Angulus CAB* and its value; they are given in the Remark column.

[178] these lines are printed without heads; "Reading" and "Value" are this edition's. *Sept.* stands on the line below the latitude, at the right.

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Right ascension of ☿ 205° 34′, declination 8° 10′ south, for time III [Aſc. R. ☿ 205 34, Decl. 8 10 M. ad III tempus.]. For the hour 7^h 0^m, therefore, there was taken [Ad Horam itaque H. 7 M. 0 accepta eſt]: right ascension of ☿ 205° 35½′, declination 8° 10′ south [Aſc. R. ☿ 205 35½, Declin. 8 10 M.].

	From observation [Ex obſeruatione]	Alphonsine [Alphonſ.], Cyprian's [Cypr.]	Prutenic [Prut.], Mästlin's [Mæſtl.]
Longitude of ☿ [Long. ☿]	26° 41′ ♎	27° 39′ ♎	28° 15′ ♎
Latitude [Lat.]	2° 18⅔′ north [B.]	1° 46′ north [B.]	1° 6½′ north [B.]

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Reading	Value
Alphonsine, Cyprian's: exceeds in longitude [Alphonſ. Cypr. excedit in Long.]	0° 58′
falls short in latitude [deficit in Lat.]	0° 32⅔′
Prutenic, Mästlin's: exceeds in longitude [Pruten. Mæſtl. excedit in Long.]	1° 34′
falls short in latitude [deficit in Lat.]	1° 12′

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D	H	M	Observed [Obſeruat.]	Alphonsine [Alphonſ.]	Prutenic [Pruten.]
28	19	0	26° 41′ ♎	27° 39′ ♎	28° 15′ ♎
24	18	40	22° 39′ ♎	25° 37′ ♎	24° 30′ ♎
Motion of ☿ [Motus ☿] in the space of 4 days [ſpacio dierum 4]			4° 2′	2° 2′	3° 45′

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Note. On these observations of ☿ you can base yourself sufficiently safely in restoring its motion, putting its place rather, on the 29th at $6½^h$ in the morning [die 29 Hora 6½ Matutina], at 26° 42′ ♎ with north latitude 2° 19′, because that observation made relative to Regulus had been repeated and [was] more certain; that relative to ♃ [was] obtained only once, in the dawn. But the one relative to the tail of ☋ — that distance will be judged less reliable, both because of the force of the winds and also

[179] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The time H. 5½ is given as hours. BA, CA and BC stand at the right, in the value area, each with three figures, given as degrees, minutes and seconds; *CAB* stands after the words of its line, before the value.

[180] the first column carries no head on the page. The heads *Alphonſ.* / *Cypr.* and *Prut.* / *Mæſtl.* are each set on two lines.

[181] these lines are printed without heads; "Reading" and "Value" are this edition's.

[182] the label *Motus* ☿ stands at the left of the last value line and *ſpacio dierum 4* on the line below it; the label is given whole on the one row. The heads D, H, M are kept as printed; the longitudes and motions are given as degrees and minutes.

because it did not fall along the course of the ecliptic [Nota. His obſeruationibus ☿ potes ſatis tuto te fundare in reſtituendo ipſius motu, ponendo potius eius locum die 29 Hora 6½ Matutina in 26ᵍ 42′ ♎ cum Latitud. Bor. 2ᵍ 19′, eo quod ea obſeruatio ad Regulum facta erat reiterata & certior, quæ ad ☋ tantum ſemel habita in aurora. Quæ vero ad caudam ☊ tum propter ventorum impetum, tum etiam quod non iuxta ductum Eclipticæ caderet, ea diſtantia minus rata cenſebitur.].

On this day, however, ☿ was around the limits of its greatest remoteness from the Sun, and after this it is compelled to approach it [Fuit autem hoc die ☿ circa maximæ remotionis a Sole limites, & poſthac illi approximari cogitur.].

On 31 October, A. M. [DIE 31 OCTOBRIS A. M.]

At 4⅙ʰ [H. 4⅙] the clock was verified by the eye of ☉, which, in the space of two days after it was most recently corrected, was going 3½ᵐ slower [H. 4⅙ verificabatur Horologium ad oculum ☉ quod 3½ M. ſpatio duorum dierum, poſtquam corrigebatur proxime, tardius ibat.].

N. B. The distance of the eye of ☉ from the meridian was taken only once. Consult, therefore, the following observations of the fixed [stars] from the meridian, and you will not be in doubt about the time [N. B. Diſtantia oculi ☉ a Meridiano ſemel tantum accipiebatur. Conſule igitur ſequentes fixarum obſeruationes a Meridie, & de tempore non dubitabis.].

Afterwards we observed Spica by the equatorial armillae for the sake of ☿ [Poſtea Spicam obſeruauimus per Armillas æquatorias propter ☿.].

Time	*Declination of Spica, south [Declin. Spicæ Merid.]*	*Equatorial distance from the heart of ☊ [Diſt. æquat. a corde ☊]*	*Altitude of Spica by the revolving quadrant [Alt. Spicæ per Q. Volub.]*
5ʰ 44ᵐ	*[8° 44½′]¼′*	*49° 23½′*	*6° 42½′*
	But afterwards it was observed more exactly [Sed poſtea exactius obſeruabatur.]		
5ʰ 48ᵐ	*8° 52½′*	*49° 19½′*	*7° 11′*
5ʰ 51½ᵐ	*8° 52⅔′*	*49° 19′*	*7° 36¼′*
5ʰ 54¾ᵐ	*8° 53′*	*49° 19′*	*8° 2½′*
6ʰ 0ᵐ	*8° 53½′*	*49° 19½′*	*8° 40′*

[183]

At 6ʰ 12ᵐ the declination of ☿ [was] 8° 59′ south [Decl. ☿ 8 59 Auſtr.]. The altitude of ☿ was then 4⅓° [Greek: ἐν πλάτει (en platei, "in breadth")] [Fuit tunc Alt. ☿ 4⅓ ἐν πλάτει.].[184]

[183] the time column has no printed head; "Time" is this edition's. Times after the first are printed without unit marks and are given as hours and minutes. *Sed poſtea exactius obſeruabatur.* stands on a line of its own across the table between the first and second rows; it is set here in the second column. The altitude 8 2½ prints 2½ in the minutes position.

[184] these two lines stand below the table, 6 12 in its time column, and are broken out of it here. The time is printed without unit marks and is given as hours and minutes; the altitude 4⅓ is printed as a single figure with a fraction and is given as degrees.

Afterwards clouds intervened, so that it was not possible to observe ☿ any further. But from this declination, first limited because of refraction, and from its latitude, to be transferred here proportionally from the earlier observations, its longitude and latitude will be able to be investigated — although not in a sufficiently exact manner, because of the latitude, perhaps not known sufficiently scrupulously, as is needed in this place; it will nevertheless be a moderately good reckoning. Its latitude, however, will be able to be taken [as] 2° 19′ north, and the declination verified because of refract. by adding 7′, so that the true declination is 9° 6′ [Poſtea interuenerunt nubes, vt amplius ☿ obſeruare non licuerit, ſed ex hac declinatione prius ob refractionem limitata & latitudine ipſius ex prioribus obſeruationibus huc proportionaliter transferenda poterit ipſius Longitudo & Latitudo indagari, etſi non ſatis exacto modo, ob Latitudinem forte non ſatis ſcrupuloſe atque hoc loco opus eſt cognitam, erit tamen mediocriter bona ratiocinatio. Latitudo autem ipſius aßumi poterit 2♑ 19′ Bor. & declinatio verificata ob refract. addendo Minuta 7, vt ſit declinatio vera 9♑ 6′.].

Time	Reading	Value
	Azimuth of ☋ from the meridian towards the west [Azim. ☋ a Meridie ad occ.]	53° 24½′
6ʰ 54⅓ᵐ [H. 6 54⅓′]	*Altitude of ☋ in the assigned azimuth [Alt. ☋ in aßignato Azim.]*	*44° 8′*
	☋ was then distant from the meridian towards the setting [Diſtabat tunc ☋ a Merid. verſus occaſ.]	*43° 7′*
	and that for the verification of the clock [idque pro verificatione Horologij.]	
7ʰ 3ᵐ 25ˢ [7 3′ 25″]	*Azimuth of ☋, west [Azim. ☋ occid.]*	*55° 47½′*
	Altitude of ☋ [Alt. ☋]	*43° 3′*
	Distance at the same moment from the meridian [Diſt. eodem momento a Merid.]	*45° 22′*
7ʰ 7ᵐ 32ˢ	*Again ☋ in azimuth [Rurſus ☋ in Azim.]*	*56° 53′*
	Altitude of ☋ [Alt. ☋]	*42° 30′*
	Distance from the meridian [Diſt. a Meridiano]	*46° 22½′*

185

And from these the clock will be able to be verified [Atque ex his poterit verificari Horologium.].

On 1 November, A. M. [DIE 1 NOUEMBRIS A. M.]

At 4½ʰ A. M. [H. 4½ A. M.] the clock was verified, which, in the space of one day, was going nearly 2ᵐ faster than it should. This correction of the clock was moderate [H. 4½ A. M. Horologium verificatum eſt, quod vnius diej ſpacio Minutis 2 fere iuſto citius ibat. Hæc correctio Horologij mediocris erat.].

[185] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The azimuth line is printed in roman above the italic lines, with no time. The labels of the 6ʰ 54⅓ᵐ line, of *Diſtabat tunc …* and of *Diſt. eodem momento …* run over two printed lines, the value on the second. The distances from the meridian (43 7, 45 22, 46 22½) are printed without unit marks and are given as degrees and minutes; the time 7 7 32 is printed without unit marks and is given as hours, minutes and seconds. *occid.* is printed with a dotless i.

Then we observed Spica in order to investigate its refraction and consequently [that of] ☿ [Deinde Spicam obſeruauimus ob refractionem eius & per conſequens ☿ inueſtigandam.].

Time	*Altitude of Spica ♍ [Alt. Spicæ ♍]*	*Declination of Spica ♍ [Decl.Spicæ ♍]*	*Spica, several times, in the ascensional difference from the heart of ♌ [Spica aliquoties in differentia aſcenſionali a corde ♌]*
5h 20m	*[5°42′]*	*8° 49½′*	
5h 23m	*4° 32′*	*8° 49⅔′*	
5h 27m	*5° 2½′*	*8° 50′*	*49° 17′*
5h 30m	*5° 18′*	*8° 50¼′*	*49° 17′*
5h 33½m	*5° 51½′*	*8° 50½′*	*49° 16½′*
5h 37½m	*6° 22′*	*8° 50¾′*	*49° 17′*

186

The true declination of Spica [is] 8° 57½′ [Vera Spicæ Decl. 8 57½.]. It is therefore evident that [Patet itaque quod]:

Reading	Value
at altitude 4¼ it had refract. [in Alt. 4¼ habuerit refract.]	*8′*
at altitude 4½ it had refract. [in Alt. 4½ habuerit refract.]	*7⅚′*
at altitude 5° refract. [in Alt. 5 part. refract.]	*7½′*
at altitude 6° refract. [in Alt. 6 part. refract.]	*7′ 0″*

187

Time	Reading	Value
5h 42m [5°42′]	*Spica was distant from the heart of ♌ [Diſtabat Spica a corde ♌]*	*53° 57′*
	The altitude of Spica was then [Fuit tunc Altit. Spicæ]	*6° 42½′*
5h 45m	*Again, distance from the heart of ♌ [Rurſus diſt. a corde ♌]*	*53° 57′*
	Altitude of Spica then [Altit. Spicæ tunc]	*7° 16½′*
5h 48m	*Repeated distance [Repetita diſt.]*	*53° 57½′*
	The altitude of Spica was then [Fuit tunc Alt. Spicæ]	*7° 40′*

[186] the time column has no printed head; "Time" is this edition's. Times after the first are printed without unit marks and are given as hours and minutes. The head of the fourth column runs over seven short lines, its last two level with the rows $5^h\ 20^m$ and $5^h\ 23^m$, so that those two rows carry no value in that column. The altitude 5 2½ prints 2½ in the minutes position.

[187] these lines continue the sentence *Patet itaque quod …* and are printed without heads; "Reading" and "Value" are this edition's. Only the first value carries a unit mark (8′); 7⅚ and 7½ are printed without unit marks and are given as minutes, and 7 0 as minutes and seconds. The altitudes 4¼ and 4½ are printed without unit marks; the next two lines print *part.* (degrees) after 5 and 6.

188

Then we again observed Spica in equatorial distance from the heart of ♌ and in declination and altitude, for the refraction to be examined further [Deinde rurſus obſeruauimus Spicam in diſtantia æquatoria a corde ♌ & declinatione & altitudine pro refractione vlterius perſcrutanda.].

Time [Tempus]	*Altitude of Spica [Alt. Spicæ]*	*Declination [Declin.]*	*Difference of right ascension from the heart of ♌ [Diff. Aſc. R. a corde ♌]*
5^h 52½^m	8° 11¼′	8° 53½′	49° 17¾′
5^h 56^m	8° 35′	8° 53′	49° 18¼′
5^h 58¾^m	8° 55′	8° 53½′ good [bona]	49° 19′ not safe [non tuta]
6^h 2¼^m	9° 13⅓′	8° 53⅚′	49° 18¾′

189

Then we observed ☿ in this way [Deinde ☿ obſeruauimus in hunc modum.].

Time [Tempus]	*Altitude of ☿ [Alt. ☿]*	*Declination, south [Declin. M.]*	*Equatorial distance from the heart of ♌ [Diſt. æquat. a corde ♌]*
6^h 7½^m	3° 10¾′	9° 26½′	62° 22½′
6^h 9¾^m	3° 42½′	9° 27½′	62° 23½′
6^h 13¼^m	4° 0⅓′	9° 28⅙′	62° 25′
6^h 17½^m	4° 15′	9° 28½′	62° 25¾′ med.
6^h 19½^m	4° 30′	9° 30′	62° 26½′ incert.
6^h 22½^m	4° 53½′	9° 30′	62° 26′ good [bona]
6^h 27^m	5° 23¼′	9° 30′	62° 27′ clear [clara]
6^h 31^m	6° 0′	9° 31′	62° 27½′
6^h 34½^m	6° 18½′	9° 31′	62° 27¾′
6^h 39^m	6° 55′	9° 31′	☿ *was distant from Spica [diſtabat ☿ a Spica]* 13° 1¾′

190

[188] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The times after the first are printed without unit marks and are given as hours and minutes; the values are printed without unit marks and are given as degrees and minutes.

[189] the times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes. In the 5^h 58¾^m row, *bona* stands on the line below 8 53½ and *non tuta* on the line below 49 19, each joined to its value by a brace. In the 6^h 2¼^m row the fraction after 9 13 is ⅓: its denominator, whose top meets the fraction rule, is read as 3 on a native-resolution crop.

[190] the times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes. In the 6^h 39^m row *diſtabat* stands in the fourth column and ☿ *a Spica 13 1¾* on the line below, 13 1¾ in the degree and minute positions of the fourth column; the label is given whole on the one row. *med.* and *incert.* are kept abbreviated as printed.

Time	Reading	Value
$6^h\ 40^m$	*Repet., the same distance [Repet.eadem diſt.]*	*13° 1¼′*
$6^h\ 45^m$	*Declination of Spica [Declinatio Spicæ]*	*8° 56′*
$6^h\ 50^m$	*Repeated declination [Repetita Decl.]*	*8° 54′*
	Equatorial distance of Spica from the heart of ♌ [Diſt. æquat. Spicæ a corde ♌]	*49° 20′*

191

But these observations relative to Spica were only [Greek: ἐν πλάτει (en platei, "in breadth")] because of the daylight [Sed hæ obſeruationes ad Spicam fuere ſaltem ἐν πλάτει *propter lucem diej.].*

At $5^h\ 57^m$ the equatorial distance between ♃ and ☿ [was] 112° 31½′, the declination 9° 34′; the altitude of ☿ was then 8½° [H. 5 M. 57 Inter ♃ & ☿ diſtantia æquatoria 112 31½, Declin. 9 34, fuit tunc Alt. ☿ 8½.].[192]

Then, for verifying the time [Deinde pro verificando tempore.]:

Time	Reading	Value
$7^h\ 4¼^m$ [$7^H\ 4¼^M$]	♃ *from the meridian towards the setting [♃ a Meridie verſus occaſum]*	*46° 35½′*
$7^h\ 5⅓^m$		*46° 50′*
$7^h\ 6^m$		*47° 0′*
$7^h\ 8^m$	*The declination of ♃ with one pinnule was [Fuit Decl. ♃ vno pin.]*	*22° 37′*
	with the other pinnule [Alt. pinnacid.]	*22° 37′*
	But the altitude of ♃ was then [Fuit autem tunc Alt. ♃]	*41° 47′*

193

Put, at $6½^h$, the declination of ☿ [as] 9° 37½′ and the equatorial distance from Regulus [as] 62° 30′, and you will err by no minute [Pone Hora 6½ declinationem ☿ 9 37½ & diſtantiam æquatoriam a Regulo 62 30 & in nullo Minuto aberrabis.]. For I have limited its refraction as Spica shows [Limitaui enim ipſius refractionem quemadmodum Spica oſtendit.]. From this seek its place, and compare [it] with the distance from Spica at $6^h\ 40^m$, which, taken twice, was 13° 1½′ [Hinc locum ipſius inquire & cum diſtantia a Spica H. 6 M 40 quæ erat bis ſumpta 13 1½ confer.]. Let the same be done with the place of ♃ at $6^h\ 57^m$, putting there the declination of ☿ [as] 9° 38′ and the equatorial distance from ♃ [as] 102° 33′, its refractions having been restored here too, in both places [Idem fiat cum loco ♃ ad Horam 6 M. 57 ponendo

[191] these lines stand in the same table as the rows above, their values in the degree and minute positions of its fourth column, and are broken out of it here; "Time", "Reading" and "Value" are this edition's. The label *Diſt. æquat. Spicæ / a corde* ♌ runs over two printed lines, the value on the second.

[192] the distance and declination are printed without unit marks and are given as degrees and minutes; the altitude 8½ is printed as a single figure with a fraction and is given as degrees.

[193] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The label ♃ *a Meridie / verſus occaſum* runs over the first two value lines ($7^H\ 4¼^M$ and 7 5⅓) and is given whole on the first row. The times after the first are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

illic declinationem ☿ 9 38 & diſtantiam æquatoriam a ♃ 102 33 reſtitutis & hic ipſius vtrobique refractionibus.]. The place of ♃, however, can be found from its distance from the heart of ♌, taken at 6¼ʰ, 38° 53′, and from the declination 22° 37′, and compared with the preceding day [Locus autem ♃ inquiri poteſt ex diſtantia ipſius a corde ♌, accepta H. 6¼ 38 53 & declinatione 22 37 & conferri cum antecedente die.].[194]

At noon the clock was running 4ᵐ slower, and that since 4½ʰ in the morning, when it was moderately corrected [In Meridie Horologium 4 Minutis tardius mouebatur idque ab Hora 4½ Matutina, quando mediocriter corrigebatur.].

On 2 November, A. M. [DIE 2 NOUEMBRIS A. M.]

A little before 4ʰ in the morning we detected, from the distance of the eye of ♉ from the meridian, almost no error of the clock (corrected by the Sun at the preceding noon) [Paulo ante Horam 4 matutinam errorem horologij ad Solem in Meridie antecedente correcti fere nullum ex diſtantia oculi ♉ a Meridiano deprehendimus.].

Observation of Spica ♍ for the sake of ☿, so that the refraction may be obtained from it [Obſeruatio Spicæ ♍ propter ☿ vt refractio inde habeatur.].

Time [Tempus]	*Altitude [Alt.]*	*Declination [Declin.]*	*Equatorial distance from the heart of ♌ [Diſt. æquat. a corde ♌]*
5ʰ 3½ᵐ [5ᴴ 3½′]	*2° 8¼′*	*8° 42′*	*It was not observed [Non obſeruabatur]*
5ʰ 12ᵐ	*3° 14′*	*8° 46′*	*49° 15′*
5ʰ 16ᵐ	*3° 42′*	*8° 47½′*	*49° 15′*
5ʰ 18½ᵐ	*4° 5⅔′*	*8° 48′*	*49° 15′*
5ʰ 21ᵐ	*4° 20′*	*8° 48½′*	*49° 15½′* good [bona]
5ʰ 24ᵐ	*4° 45½′*	*8° 49′*	*49° 15½′*
5ʰ 28ᵐ	*5° 16½′*	*8° 50′*	*49° 16′*
5ʰ 35ᵐ	*6° 9′*	*8° 50½′*	*49° 16½′*
5ʰ 39ᵐ	*6° 37′*	*8° 51¼′*	*49° 17′*
5ʰ 42ᵐ	*7° 0′*	*8° 51⅔′*	*49° 17½′*
5ʰ 52ᵐ	*8° 11′*	*8° 53′*	*49° 18′*

[195]

Time [Tempus]	*Altitude [Alt.]*	*Declination [Declin.]*	*Equatorial distance from the heart of ♌ [Diſt. æquat. a corde ♌]*
5ʰ 54ᵐ	*8° 27′*	*8° 53′*	*49° 18′*
6ʰ 11ᵐ	*10° 30′*	*8° 54′*	*49° 19′*
6ʰ 14½ᵐ	*10° 54′*	*8° 54½′*	*49° 19′*
6ʰ 47ᵐ	*14° 27½′*	*8° 55′*	*49° 19½′*
6ʰ 50½ᵐ	*14° 50′*	*8° 55′*	*49° 19½′*

[194] the declinations and distances in this paragraph are printed without unit marks and are given as degrees and minutes.

[195] the times after the first are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

Time [Tempus]	*Altitude [Alt.]*	*Declination [Declin.]*	*Equatorial distance from the heart of ♌ [Diſt. æquat. a corde ♌]*

196

Afterwards Spica was no longer observed, because the light of the dawn was weakening it for us [Poſtea non amplius obſeruabatur Spica ob lumen auroræ eam attenuantem nobis.]. But from this its refractions can be gathered with sufficient certainty, from an altitude of two degrees up to the refraction of an altitude of 15° [Verum hinc ſatis certo colligi poßunt ipſius refractiones ab altitudine duorum graduum vſque in refractionem altitudinis 15 part.]. For the true and unrefracted declination of Spica at this time is 8° 57½′ [Nam vera & irrefracta Spicæ declinatio hoc tempore eſt 8 57½.]. The true and unrefracted equatorial distance [is] 49° 19½′, which appears unrefracted near 15° of altitude [Vera & irrefracta diſtantia æquatoria 49 19½ quæ prope 15 grad. altitudinis irrefracte apparet.].

From this, once the comparison has been made, the refractions of Spica become clear, which will be able to be applied in the following and preceding observations of ☿ [Hinc collatione facta manifeſtantur Spicæ refractiones, quæ in ſequentibus & antecedentibus ☿ obſeruationibus applicari poterint.].[197]

Observations of ☿ [Obſeruationes ☿.]

At 5^h 59^m the altitude of ☿ [was] 0¾°, the declination 9° 50′ [Greek: ἐν πλάτει (en platei, "in breadth")], because of the nearness of the horizon [H.5M.59 Alt. ☿ 0¾ᵍ, Declin. 9 50 ἐν πλάτει propter vicinitatem Horizontis.].[198]

More exact observations of ☿ [Exactiores obſeruationes ☿$^{r\,i\,j}$.]

Time [Tempus]	*Altitude [Alt.]*	*Declination [Declin.]*	*Equatorial distance from the heart of ♌ [Diſt. æquat. a corde ♌]*
6^h 2¼^m [6^{H} 2¼′]	*1° 30′*	*9° 50½′*	*63° 30′ uncertain [incerta]*
6^h 5^m	*1° 45′*	*9° 52′*	*63° 35′ better [melior]*
6^h 8¼^m	*2° 6′*	*9° 54½′*	*63° 36′*
6^h 18^m	*3° 19′*	*9° 57′*	*63° 39′*
6^h 20½^m	*3° 37′*	*9° 59′*	*63° 39′*
6^h 23^m	*3° 55½′*	*10° 0′*	*63° 40′*
6^h 53½^m	*7° 39′*	*10° 4½′*	*63° 44′*
6^h 56^m	*7° 53′*	*10° 5′*	*63° 45′*
6^h 59½^m	*8° 11′*	*10° 6′*	*63° 46′*

199

[196] the page prints the heads *Tempus*, *Alt.*, *Declin.*, *Diſt. æquat. a corde* ♌ over these rows. The times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

[197] the declination 8 57½ and the distance 49 19½ are printed without unit marks and are given as degrees and minutes.

[198] the declination 9 50 is printed without unit marks and is given as degrees and minutes.

[199] the times after the first are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

Afterwards ☿ was no longer observed, as the light of the dawn was weakening it [Poſtea non amplius obſeruabatur ☿, lumine auroræ ipſum attenuante.]. But these observations are sufficiently certain, and you may safely base yourself on them [Verum hæ obſeruationes ſunt ſatis certæ, quibus tuto te fundare poßis.].

But let its declination be put, at about the very hour of 7 in the morning, [as] 10° 10½′, and the equatorial distance from the heart of ♌ [as] 63° 47′, and you will infallibly obtain its longitude and latitude, which you can compare with the distance from Spica taken at 6⅔^{h}, which was 14° 19′, account being taken of the intermediate advance of ☿ itself [Ponatur autem iuxta ipſam horam 7 matutinam ipſius declinatio 10 10½ & diſtantia æquatoria a corde ♌ 63 47 & infallibiliter obtinebis eius Long. & Latit. quam conferre potes cum diſtantia a Spica habita H.6⅔ quæ erat 14 19 habita ratione promotionis intermediæ ipſius ☿.].[200]

Time	Reading	Value
7^{h} 6⅙^{m} [7^{H} 6⅙′]	*☋ was distant from the meridian, west [Diſtabat ☋ a Merid. occcid.] [recte: occid.]*	*47° 16½′*
7^{h} 7¾^{m}	*The same remoteness of ☋ [Eadem remotio ☋]*	*47° 36′*
7^{h} 8⅓^{m}	*The same remoteness [Eadem remotio]*	*47° 46′*

[201]

Use these for verifying the clock [His vtere pro Horologio verificando.].

Between Spica and ☿ by the trigonal sextant [Inter Spicam & ☿ per Sextantem Trig.]:

Time	*Distance [Diſtantia]*	*Altitude of ☿ [Alt. ☿]*	*Altitude of Spica [Alt. Spicæ]*
6^{h} 33^{m}	*14° 19¾′*	*5° 20′*	*13° 0′*
6^{h} 36^{m}	*14° 19½′*	*5° 40′*	*13° 20′*
6^{h} 39^{m}	*14° 19′*	*5° 59′*	*13° 40′*
6^{h} 41½^{m}	*14° 18¾′*	*6° 18′*	*13° 57½′*

[202]

Therefore put, at about 6⅔^{h}, the distance of ☿ from Spica ♍ [as] 14° 19′, infallibly [Pone itaque iuxta horam 6⅔ diſtantiam ☿ a Spica ♍ 14 19 infallibiliter.].

At noon the clock was running slower by only ¼^{m}, which was imperceptible [Horologium in Meridie ſaltem ¼ Minuti tardius ibat, quod erat inſenſibile.].

[200] the declination, the distances and 14 19 are printed without unit marks and are given as degrees and minutes.

[201] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The value of the first line stands at the right on the line below its label. The times after the first are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

[202] the time column has no printed head; "Time" is this edition's. The times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

On 4 November, A. M. [DIE 4 NOUEMBRIS A. M.]

The refraction of Spica was observed at a similar altitude [to be] almost the same — as great as it was found earlier [Refractio Spicæ obſeruabatur in ſimili altitudine eadem pene, quanta eſt prius inuenta.]. For at an altitude of 7° Spica had a declination of 8° 51⅔′ [Nam in altitudine 7 partium habuit declinationem Spica 8ᵍ 51⅔′.].

Afterwards we observed ☿ in this way [Poſtea ☿ obſeruauimus hoc modo.].

	H. M.	*Altitude [Altitudo]*	*Declination [Declinatio]*	*Equatorial distance from the heart of ☊ [Diſt. æquat. a corde ☊]*
	6ʰ 11ᵐ	*about 1° [quaſi 1g.]*	*10° 57½′*	*66° 12½′*
	6ʰ 14ᵐ	*1° 27′*	*10° 58½′*	*66° 14′*
	6ʰ 17ᵐ	*1° 52½′*	*10° 59′*	*66° 14′*
	6ʰ 19⅓ᵐ	*2° 7′*	*11° 2½′*	*66° 14½′*
	6ʰ 22½ᵐ	*2° 32½′*	*11° 3′*	*66° 15½′*
	6ʰ 25ᵐ	*2° 50′*	*11° 4½′*	*66° 16¼′*
	6ʰ 27½ᵐ	*3° 4′*	*11° 5½′*	*66° 16⅙′*
obsc.	*6ʰ 32½ᵐ*	*3° 39′*	*11° 6′*	*66° 17½′*
better [melior]	*6ʰ 34½ᵐ*	*3° 55′*	*11° 7′*	*66° 18′*
obsc.	*6ʰ 36½ᵐ*	*4° 12′*	*11° 7½′*	*66° 20′*
obsc.	*6ʰ 40ᵐ*	*4° 40′*	*11° 8¼′*	*66° 22′*
	6ʰ 43½ᵐ	*5° 0′*	*11° 8½′*	*66° 22′*
	6ʰ 49ᵐ	*5° 32′*	*11° 9′*	*66° 22½′*
	6ʰ 52ᵐ	*6° 3′*	*11° 9½′*	*66° 23′*
	6ʰ 54ᵐ	*6° 18½′*	*11° 9⅔′*	*66° 24′*
	6ʰ 57ᵐ	*6° 30′*	*11° 10′*	*66° 26′*

203

N. B. The assigned times have been verified [N. B. Tempora aßignata ſunt verificata.]. *Set, at 7ʰ [Pone ad Horam 7]:*

Reading	Value
Declination of ☿ [Declin. ☿]	*11° 16½′*
Ascensional difference from the heart of ☊ [Differ. Aſcenſionalem a corde ☊]	*66° 26½′*

204

And from this let its place be sought [Hincque inquiratur eius locus.].

[203] the words *obſc.*, *melior*, *obſc.*, *obſc.* stand to the left of the time column, outside the printed heads; the first column's head is this edition's blank. *obſc.* is kept abbreviated as printed. The time head *H. M.* is kept as printed; the other values are printed without unit marks and are given as degrees and minutes.

[204] these lines are printed without heads; "Reading" and "Value" are this edition's. The label *Differ. Aſcenſionalem / a corde* ☊ runs over two printed lines, the value on the second. The values are printed without unit marks and are given as degrees and minutes.

On 7 November, A. M. [DIE 7 NOUEMBRIS A. M.]

N. B. The following times assigned to the observation of ☿ have been verified[1] [N. B. Sequentia tempora obſeruationi ☿ aßignata ſunt verificata[1].].

Time [Tempus]	*Altitude [Altitudo]*	*Declination [Declinatio]*	*Equatorial distance from the heart of ☌ [Diſt. æquat. a corde ☌]*
$6^h\ 41^m$	3° 10′	12° 48′ doubtful [dubia]	not observed [non obſeruabatur]
$6^h\ 48^m$	3° 24′	12° 49′	70° 36½′
$6^h\ 50^m$	3° 47′	12° 49½′	70° 35′
$6^h\ 54^m$	4° 13′	12° 49′	70° 34¼′
$6^h\ 56^m$	4° 50′	12° 50½′	70° 34½′
$6^h\ 59½^m$	5° 8′	12° 51′	70° 36′
$7^h\ 2^m$	5° 22′	12° 52′	70° 34½′
$7^h\ 4½^m$	5° 45′	12° 52½′	70° 35½′
$7^h\ 8^m$	5° 58′	12° 52½′	70° 35½′
$7^h\ 10^m$	6° 10′	12° 53′	70° 35½′

205

Afterwards ☿ was no longer observed, because the light of the dawn was weakening it to the sight [Poſtea non amplius obſeruabatur ☿ eo quod lumen auroræ ipſum viſui attenuaret.]. But at about $7^h\ 10^m$ you can take its true declination [as] 13° 0′ and the equatorial difference from Regulus [as] 70° 40′, and you will not err perceptibly [Potes autem iuxta Horam 7 10′ aßumere ipſius declinationem veram 13 0 & differentiam æquatoriam a Regulo 70 40 & non ſenſibiliter errabis.].[206]

On 8 November, A. M. [DIE 8 NOUEMBRIS A. M.]

Then we observed Spica ♍ several times in declination and equatorial distance, and that in order to investigate anew its refraction, which is to be applied to ☿ [Deinde Spicam ♍ aliquoties in declinatione & diſtantia æquatoria obſeruauimus, idque ob refractionem eius, quæ ☿ applicanda venit, denuo inueſtigandam.]. For the greater armillae had previously not been in level sufficiently exactly [Nam Armillæ maiores non ſatis exacte prius fuerant in libella.].

Corrected time [Tempus correctum]	*Altitude [Altitudo]*	*Declination [Declinatio]*	*Equatorial distance from the heart of ☌ [Diſt. æquat. a corde ☌]*
$5^h\ 48^m$ [$5^H 48^M$]	10° 30½′	8° 54⅚′	49° 19′
$5^h\ 53^m$	11° 8′	8° 55′	49° 19⅓′
$5^h\ 56^m$	11° 27¾′	8° 55⅙′	49° 19′

[205] in the first row *dubia* stands on the line below 12 48, under the declination column, and *non obſeruabatur* runs over both lines in the equatorial-distance column. The times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

[206] 13 0 and 70 40 are printed without unit marks and are given as degrees and minutes.

207

It is clear, therefore, that the difference between the refraction of the declination that there was before the armillae were rectified a little better to the level [and the present one] is imperceptible; and if there was any, it was only ½′, so that the refraction became smaller by ½′ than before — which it will be possible to guard against in the following observations of ☿; in the preceding ones there is no need [Patet itaque quod inſenſibilis ſit differentia inter refractionem declinationis, quæ fuit priusquam paululo melius ad libellam rectificarentur armillæ, & ſi qua ea fuit, erat ſaltem ½ ſcrupuli, ita vt refractio in ſemiße ſcrupuli minor fieret quam antea, id quod caueri poterit in ſequentibus ☿ obſeruationibus, in antecedentibus non eſt opus.].

Afterwards ☿ was observed in the manner that follows [Poſtea obſeruabatur ☿ in hunc qui ſequitur modum.].

Time corr. [Tempus corr.]	*Altitude of ☿ [Altit. ☿]*	*Declination of ☿ [Declin. ☿]*	*Equatorial distance from the heart of ☋ [Diſt. æquat. a corde ☋]*
$6^h\ 45^m$	2° 42′	13° 20′	71° 56′
$6^h\ 48^m$	3° 1′	13° 21′	71° 57′
$6^h\ 50^m$	3° 15′	13° 21½′	71° 57½′ medioc.
$6^h\ 52^m$	3° 26′	13° 22½′	71° 58′
$6^h\ 54^m$	3° 53′	13° 23½′	71° 58¼′
$6^h\ 56½^m$	4° 0′	13° 24′	71° 58½′
$6^h\ 59^m$	4° 20′	13° 25′	72° 0′ moderately [medioc.]
$7^h\ 1^m$	4° 40′	13° 25¾′	72° 0½′
$7^h\ 3^m$	4° 55′	13° 26¼′	72° 0¼′
$7^h\ 5^m$	5° 15′	13° 27′	72° 0½′
$7^h\ 10^m$	5° 35′	13° 27½′	72° 4′ uncertain [incerta]
$7^h\ 12^m$	5° 45′	13° 28′	72° 1¾′ better [melior]
$7^h\ 15^m$	6° 10′	13° 28′	could not be taken [non poterat accipi]

208

Afterwards ☿ was no longer seen, because the light of the dawn was weakening it to view [Poſtea non amplius videbatur ☿ ob lumen auroræ ipſum aſpectui attenuantem.]. Put, at about $7^h\ 15^m$, the true declination of ☿ itself [as] 13° 35′ and the difference of ascension [as] 72° 5′ [Pone iuxta Horam 7 M.15 declinationem ipſius ☿ veram 13 35 & diff. aſc. 72 5.].[209]

On 10 November, A. M. [DIE 10 NOUEMBRIS A. M.]

The clock was verified at 6^h by the heart of ☋ [Horologium verificabatur Hora 6 ad cor ☋.].

Observation of Spica ♍ [Obſeruatio Spicæ ♍]

[207] the times after the first are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

[208] *medioc.*, abbreviated, is given as "moderately" (*mediocriter*). In the last row *non poterat accipi* runs over two lines in the equatorial-distance column. The times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

[209] 13 35 and 72 5 are printed without unit marks and are given as degrees and minutes.

Time	*Altitude [Altitudo]*	*Declination [Declinatio]*	*Equatorial distance from the heart of ☽ [Dist. æquat. a corde ☽]*
6h 37m 40s [6H37'40"]	*16° 30′*	*8° 56′*	*49° 20′*
6h 42m 45s	*17° 9′*	*8° 56⅙′*	*49° 20′*

210

From this the declinations and equatorial distances will be able to be verified on account of the refraction [Hinc poterint verificari declinationes & distantiæ æquatoriæ ob refractionem.].

Afterwards ☿ was further observed in this manner [Postea adhuc obseruabatur ☿ in hunc modum.].

Time [Tempus]	*Altitude [Altitudo]*	*Declination [Declinatio]*	*Equatorial distance from the heart of ☽ [Dist. æquat. a corde ☽]*
6h 48m 0s	*1° 48′*	*14° 25′*	*74° 46½′*
6h 50m 40s	*2° 1′*	*14° 27′*	*74° 47½′*
6h 52m 15s	*2° 12′*	*14° 28′*	*74° 49′*
6h 53m 45s	*2° 20′*	*14° 29′*	*74° 50′*
6h 55m 30s	*2° 31½′*	*14° 29½′*	*74° 50½′*
6h 59m 0s	*3° 0′*	*14° 30½′*	*74° 50½′*

211

[1] Cf. above, p. 56, among the observations of Jupiter [Cf. supra p. 56 inter obſervationes Jovis.]

Time [Tempus]	*Altitude [Altitudo]*	*Declination [Declinatio]*	*Equatorial distance from the heart of ☽ [Dist. æquat. a corde ☽]*
7h 1m 20s	*3° 13′*	*14° 32′*	*74° 51½′ better [melior]*
7h 3m 10s	*3° 25′*	*14° 31½′*	*74° 50′*
7h 5m 0s	*3° 34′*	*14° 32¼′*	*74° 52′ good [bona]*
7h 6m 20s	*3° 45′*	*14° 32½′*	*74° 53′*
7h 8m 0s	*4° 10′*	*14° 33′*	*74° 52½′*
7h 11m 0s	*4° 30′*	*14° 34′*	*74° 55′*

212

Therefore put, at 7h 8m, the declination [as] 14° 42½′ and the equatorial distance [as] 74° 50′, and you will have the place of ☿ [Pone itaque ad Horam 7 M. 8 Declinationem 14 42½ & Dist. æquatoriam 74 50 & habebis locum ☿.].[213]

[210] the time column has no printed head; "Time" is this edition's. The second time is printed without unit marks and is given as hours, minutes and seconds; the values as degrees and minutes.

[211] the times are printed without unit marks and are given as hours, minutes and seconds; the values as degrees and minutes.

[212] the heads are printed again at the top of this page over these rows. The times are printed without unit marks and are given as hours, minutes and seconds; the values as degrees and minutes.

[213] 14 42½ and 74 50 are printed without unit marks and are given as degrees and minutes.

On 11 November, A. M. [DIE 11 NOUEMBRIS A. M.]

Spica ♍ was observed anew in order to investigate the refraction [Denuo obſeruabatur Spica ♍ propter refractionem inquirendam.].

Time [Tempus]	*Altitude [Altitudo]*	*Declination [Declinatio]*	*Equatorial distance from the heart of ♌ [Diſt. æquat. a corde ♌]*
5h 2m [5ᴴ 2ᴹ]	*6° 32½′*	*8° 51′*	*49° 16′*
5h 5m	*6° 52½′*	*8° 51½′*	*49° 16′*
5h 7½m	*7° 12′*	*8° 51½′*	*49° 16½′*
5h 33m	*10° 11′*	*8° 54′*	*49° 19′*
5h 36m	*10° 33½′*	*8° 54′*	*49° 18½′ good [bona]*
5h 39m	*10° 54′*	*8° 54′*	*49° 18′ good [bona]*

214

Spica was also observed from the heart, with the instrument fixed, in this manner [Spica etiam obſeruabatur a Corde, inſtrumento fixato in hunc modum.].

Time	Spica, east [Spica or.]	The heart of ♌, east [Cor ♌ or.]	*Equatorial distance [Diſt. æquat.]*	*Altitude of Spica [Alt. Spicæ]*
5h 23m	*58° 43¼′*	*9° 26¼′*	*49° 17′*	*9° 18½′*
5h 26½m	*57° 59¾′*	*8° 44′*	*49° 15¾′*	*9° 29′*
5h 29½m	*57° 18¼′*	*8° 1¾′*	*49° 16½′*	*9° 47′*

215

Repeated observations of Spica from the heart of ♌, with the instrument loose and fixed, so that a comparison can be made [Repetitæ obſeruationes Spicæ a corde ♌ inſtrumento ſoluto & fixato, vt collatio fieri poßit.].

Time	Declination [Declinatio]	*Equatorial distance [Diſt. æquat.]*	*Altitude [Altitudo]*
6h 29½m	*8° 55¼′*	*49° 20′*	*15° 18⅓′*
6h 33m	*8° 55⅔′*	*49° 19½′*	*16° 40′*
6h 35m	*8° 55⅔′*	*49° 19½′*	*16° 50′*

216

Afterwards, with the instrument fixed, the same equatorial distance was observed in this manner [Poſtea fixato inſtrumento obſeruabatur eadem diſtantia æquatoria in hunc modum.].

214 the times after the first are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

215 the time column has no printed head; "Time" is this edition's. The times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

216 the time column has no printed head; "Time" is this edition's. The times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

Time	Spica, east [Spica or.]	The heart of ♌, west [Cor ♌ occ.]	*Equatorial distance [Diſt. æquat.]*	*Altitude of Spica [Alt. Spicæ]*
6h 37½m	*40° 20′*	*8° 58′*	*49° 18′*	*17° 3′*
6h 38½m	*40° 0½′*	*9° 16′*	*49° 16½′*	*17° 10′*
6h 40m	*39° 38⅙′*	*9° 38¼′*	*49° 16½′*	*17° 18′*
6h 42m	*39° 8⅙′*	*10° 8′*	*49° 16⅙′*	

217

218

It is clear, therefore, that the instrument loose and fixed differs by 3′ [Patet itaque quod tribus ſcrupulis differat inſtrumentum ſolutum & fixum.]

Afterwards ☿ was observed in this manner [Poſtea obſeruabatur ☿ in hunc modum.]

Time [Tempus]	*Altitude [Altitudo]*	*Declination [Declinatio]*	*Equatorial distance from the heart of ♌ [Diſt. æquat. a corde ♌]*
6h 11m	*about 2½° [2½quaſi]*	*15° 4¾′*	*76° 22′*
6h 14m	*about 3° [3 quaſi]*	*15° 6′*	*76° 25′*
6h 16½m	*3° 1′*	*15° 6½′*	*76° 24′ good [bona]*
6h 18m	*3° 16′*	*15° 7½′*	*76° 25¼′*
6h 20½m	*3° 30′*	*15° 8′*	*76° 26′*

219

Put, at 6½h, the declination of ☿ itself [as] 15° 20′ and the equatorial distance from the heart of ♌ [as] 76° 31′, and you will obtain its place sufficiently precisely [Pone hora 6½ declinationem ipſius ☿ 15 20 & diſtantiam æquatoriam a corde ♌ partium 76 ſcrup. 31, & ipſius locum ſatis ſcrupuloſe obtinebis.].[220]

At noon the clock was running faster by 1m 55s, which error is [reckoned] only from 3⅝h in the morning [Horologium in Meridie celerius ibat M.1 55″ qui error ſaltem eſt ab hora matutina 3⅝.].

Table of Refractions [TABELLA REFRACTIONUM]

Of the declination and right ascension of Spica ♍, its true declination being put [as] 8° 57½′ south and the difference of right ascension from the heart

[217] the time column has no printed head; "Time" is this edition's. In the last row the altitude column is blank. The times are printed without unit marks and are given as hours and minutes; the values as degrees and minutes.

[218] In the third row the equatorial distance does not close against the two values before it: 39° 38⅙′ and 9° 38¼′ give 49° 16′ 25″, where the page prints 49° 16½′. The other three rows close. No figure has been changed.

[219] in the first two rows the altitude is printed as a single figure followed by *quaſi*, and is given in degrees. The times are printed without unit marks and are given as hours and minutes; the other values as degrees and minutes.

[220] the declination 15 20 is printed without unit marks and is given as degrees and minutes; the distance is printed with *partium* and *ſcrup.*

of ♌ [as] 49° 19½′, from the observations made above for ☿ in the month of October and November [Declinationis & Aſcenſionis Rectæ Spicæ ♍, poſita Declinatione eius vera Mer. 8° 57½′ & Differentia Aſc. R. a corde ♌ 49° 19½′ ex obſeruationibus ſupra pro ☿ menſe Octobri & Nouembri factis.].

Altitude, G. [Altitudo G.]	Refraction of declination, M. Sec. [Declinationis Refractio M. Sec.]	Refract. of right ascension, M. Sec. [Aſcenſionis R. Refract. M. Sec.]
1°	22′ 0″	7′ 0″
2°	15′ 30″	5′ 0″
3°	11′ 40″	4′ 30″
4°	9′ 20″	4′ 0″
5°	7′ 40″	3′ 20″
6°	6′ 50″	2′ 50″
7°	5′ 45″	2′ 10″
8°	4′ 40″	1′ 40″
9°	4′ 0″	1′ 15″
10°	3′ 20″	1′ 0″
11°	3′ 0″	0′ 50″
12°	2′ 50″	0′ 35″
13°	2′ 40″	0′ 20″
14°	2′ 35″	0′ 10″
15°	2′ 30″	0′ 0″

221

Investigation of the longitude and latitude of ☿ for the individual days on which it was observed above at the end of the month of October and the beginning of November, account being taken of the refractions of its declination and right ascension [Inquiſitio Longitudinis & Latitudinis ☿ ad ſingulos dies, quibus in fine menſis Octobris & initio Nouembris ſuperius obſeruabatur, habita Declinationis eius & Aſc.is R. refractionum ratione.].

On 25 October, A. M. [DIE 25 OCTOBRIS A. M.]

Time	Reading	Value
$6^h\ 40^m$ [H. 6 40′]	Equatorial distance of ☋ and ☿ [Diſt. æquat. ☋ & ☿]	95° 6′
	Add for refraction [Adde pro refractione]	1⅓′
	True equatorial distance [Vera diſtant. æquat.]	95° 7⅓′
	Right ascension of ☋ [Aſcen. R. ☋]	106° 40′
	Right ascension of ☿ [Aſcen. R. ☿]	201° 47⅓′
	Declination emended, with 5′ added [Declinatio emendata adiectis 5M]	6° 44′ south [Auſt.]
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	22° 38¾′ ♎
	Latitude [Latitudo]	2° 16′ north [Bor.]

221 the page heads the altitude column *G.* and the two refraction columns *M. Sec.*; the values are given accordingly as degrees, and as minutes and seconds.

222

On the same day [Eodem Die]

Time	Reading	Value
6^h 30^m [H. 6 30′]	Equatorial distance from the heart of ☌ [Diſt. æquat. a corde ☌]	55° 13′
	Add for refraction [Adde pro refractione]	1½′
	True difference of right ascension of ☿ from the heart of ☌ [Vera diff. Aſc. R. ☿ a corde ☌]	55° 14½′
	Right ascension of the heart of ☌ [Aſcenſio R. cordis ☌]	146° 35⅙′
	Right ascension of ☿ [Aſcenſio R. ☿]	201° 49⅔′
	Declination, south, as before [Decl. M., vt prius,]	6° 44′
	Hence the longitude of ☿ [Hinc Longitudo ☿]	22° 41′ ♎
	Latitude [Latitudo]	2° 17¼′ north [Bor.]

223

On 29 October, A. M. [DIE 29 OCTOBRIS A. M.]

Time	Reading	Value
7^h 0^m [H. 7 M. 0]	Equatorial distance of ☿ from the heart of ☌ [Diſt. æquat. ☿ a corde ☌]	59° 0¾′
	The refraction adds [Refractio addit]	0¾′
	True equatorial distance [Vera diſt. æquatoria]	59° 1½′
	Observed declination [Declin. obſeruata]	8° 8′
	add [adde]	3′
	True declination [Declin. vera]	8° 11′ south [Mer.]
	True right ascension [Aſcen. R. vera]	205° 36⅔′
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	26° 42½′ ♎
	Latitude [Latitudo]	2° 18′ north [B.]

224

[222] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figure added for refraction, 1⅓, as minutes. The words of the declination line run over two lines, with the value on the second; *Auſt.* and *Bor.* stand on the line below their values, at the right.

[223] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figure added for refraction, 1½, as minutes. *Diſt. æquat.* and *a corde* ☌ stand on two lines, with the value on the second; *Bor.* stands on the line below its value, at the right.

[224] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figures 0¾ (after *Refractio addit*) and 3 (after *adde*) as minutes. The label of the first line runs over two lines, with the value on the second; *Mer.* stands on the line below its value, at the right.

On 31 October, A. M. [DIE 31 OCTOBRIS A. M.]

Time	Reading	Value
6^h 10^m [H. 6 10′]	Observed declination of ☿ [Declin. ☿ obſeruata]	8° 59′ south [Mer.]
	Add for refract. [Adde pro refract.]	9′
	True declination [Vera declin.]	9° 8′ south [Mer.]
	Latitude proportion. [Latitudo proportion.]	2° 13½′ north [B.]
	Hence the longitude sought [Hinc Longitudo inquiſita.]	
	BC, distance of the poles [BC Diſt. polorum]	23° 31′
	AC, from the southern declination [AC ex declin. auſt.]	99° 8′
	AB, complem. of the latitude [AB complem. latit.]	87° 46½′
	Hence the angle ABC, ☿ from ♋ [Hinc ABC angulus, ☿ a ♋]	119° 10⅙′
	Corresponding longitude of ☿ sought [Reſp. Longitudo ☿ quæſita]	29° 10⅙′ ♎
	Latitude proportion. [Latit. proportion.]	2° 13½′ north [B.]

225

On 1 November, A. M. [DIE 1 NOUEMBRIS A. M.]

Time	Reading	Value
6^h 30^m [H. 6 30′]	Equatorial distance of ☿ from the heart of ☌ [Diſt. æquat. ☿ a corde ☌]	62° 27½′
	add [adde]	2⅚′
	True equatorial distance [Vera diſtantia æquat.]	62° 30⅓′
	Observed declination of ☿ [Declin. obſeruata ☿]	9° 30½′ south [Mer.]
	add [adde]	6⅚′
	True declination of ☿ [Vera declin. ☿]	9° 37⅓′ south [Mer.]
	True right ascension [Vera Aſc. R.]	209° 5½′
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	0° 26′ ♏
	Latitude [Latitudo]	2° 10½′ north [B.]

226

[225] these lines are printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The computation runs from the foot of the left column (to *AB complem. latit.*) to the top of the right column (from *Hinc ABC angulus*). The values are printed without unit marks and are given as degrees and minutes; the lone figure 9 added for refraction as minutes. *Mer.* stands on the line below each declination value, at the right; *Reſp. Longitudo* ☿ and *quæſita* stand on two lines, with the value on the second.

[226] these lines are printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figures 2⅚ and 6⅚ after *adde* as minutes. The label of the first line runs over two lines, with the value on the second; *Mer.* stands on the line below its value, at the right.

On the same day [Die eodem]

Time	Reading	Value
6^h 40^m [H. 6 40′]	Distance between ☿ and Spica [Diſt. inter ☿ & Spicam]	13° 1½′ by the sextant [per Sext.]
	Declination of ☿ [Declin. ☿]	9° 31′ south [Mer.]
	add [adde]	5′
	True declination [Declin. vera]	9° 36′ south [M.]

227

Point	Side	Value
A, the south pole [A polus auſt.]	Side AC [Latus AC]	80° 24′
B, Spica [B Spica]	AB	81° 2½′
C, ☿ [C ☿]	BC	13° 1½′

228

Reading	Value
Hence the angle CAB, difference of right ascension [Hinc Ang. CAB, diff. Aſc. R.]	13° 10′ 58″
Right ascension of Spica [Aſc. R. Spicæ]	195° 54′
Right ascension of ☿ sought [Aſc. R. ☿ quæſita]	209° 5′

229

This almost agrees with the right ascension found from the heart of ☌ [quæ fere cum inuenta Aſcenſione R. a corde ☌ conſentit.].

On 2 November, A. M. [DIE 2 NOUEMBRIS A. M.]

Time	Reading	Value
6^h 39^m [H. 6 39′]	Distance between ☿ and Spica ♍, BC, by the sextant [Diſt. inter ☿ & Spicam ♍ BC per Sextantem]	14° 19′
	True declination of ☿ [Decl. ☿ vera]	10° 10′ south [M.]
	BA, complem. of the declination of Spica [BA Complem. Decl. Spicæ]	81° 2½′

[227] these lines are printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figure 5 after *adde* as minutes. The label of the first line runs over two lines, with the value on the second; *per Sext.* and *Mer.* stand on the line below their values, at the right.

[228] a vertical rule divides the points A, B, C from the sides and their values; the heads ”Point”, ”Side” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[229] these lines are printed without heads; ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes; the three figures of the angle CAB, 13 10 58, as degrees, minutes and seconds.

Time	Reading	Value
	AC, complem. of the declination of ☿ [AC Complem. Decl. ☿]	79° 50′
	CAB, angle of the difference of right ascension [CAB Angulus diff. Aſc. R.]	14° 28′
	Right ascension of Spica [Aſc. R. Spicæ]	195° 54′
	Right ascension of ☿ [Aſc. R. ☿]	210° 22′
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	1° 48′ ♏
	Latitude [Latitudo]	2° 6′ north [B.]

230

On the same day [Eodem Die]

Time	Reading	Value
7^h 0^m [H. 7 0′]	Equatorial distance of ☿ from the heart of ☋ [Diſt. æquat. ☿ a corde ☋]	63° 45½′
	add [adde]	1½′
	True equatorial distance [Diſt. æquat. vera]	63° 47′
	Declination of ☿ [Declinatio ☿]	10° 5½′
	add [adde]	4⅔′
	True declination of ☿ [Declin. ☿ vera]	10° 10⅙′ south [M.]
	True right ascension [Aſcenſ. R. vera]	210° 22⅙′
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	1° 48¼′ ♏
	Latitude [Lətitudo] [recte: Latitudo]	2° 5¾′ north [B.]

231

On 4 November, A. M. [DIE 4 NOUEMBRIS A. M.]

Time	Reading	Value
6^h 57^m [H. 6 57′]	Equatorial distance of ☿ from the heart of ☋ [Diſt. æquat. ☿ a corde ☋]	66° 26½′ true [vera]
	Observed declination of ☿ [Declin. obſeruata ☿]	11° 10′
	add [adde]	6½′
	True declination [Declin. vera]	11° 16½′ south [M.]
	True right ascension of ☿ [Aſcenſ. R. vera ☿]	213° 1⅔′

[230] these lines are printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. *BC* and *per Sextantem* stand on the line below *Diſt. inter* ☿ *& Spicam* ♍, with the value; the labels of BA and CAB run over two lines, with the value on the second.

[231] these lines are printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figures 1½ and 4⅔ after *adde* as minutes. The label of the first line runs over two lines, with the value on the second. In *Lətitudo* the second letter is printed as a turned e.

Time	Reading	Value
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	4° 37⅔′ ♏
	Latitude [Latitudo]	1° 56½′ north [B.]

232

On 7 November, A. M. [DIE 7 NOUEMBRIS A. M.]

Time	Reading	Value
7^h 10^m [H. 7 10′]	Equatorial distance of ☿ from the heart of ☋ [Diſt. æquat. ☿ a corde ☋]	70° 40′ true [vera]
	True declination of ☿ [Declin. ☿ vera]	13° 0′ south [M.]
	Right ascension [Aſcenſio Recta]	217° 15⅙′
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	9° 6½′ ♏
	Latitude [Latitudo]	1° 40′ north [B.]

233

On 8 November, A. M. [DIE 8 NOUEMBRIS A. M.]

Time	Reading	Value
7^h 15^m [H. 7 15′]	Equatorial distance of ☿ from the heart of ☋, observed [Diſt. æquat. ☿ a corde ☋ obſ.]	72° 2′
	Add for refr. [Adde pro refr.]	3′
	True distance [Vera diſtantia]	72° 5′
	Declination of ☿, south [Declin. ☿ M.]	13° 28′
	add [adde]	7′
	True declination of ☿ [Vera Declin. ☿]	13° 35′ south [M.]
	True right ascension [Vera Aſc. R.]	218° 40⅙′
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	10° 36′ ♏
	Latitude [Latitudo]	1° 32⅔′ north [B.]

234

[232] these lines are printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figure 6½ after *adde* as minutes. The label of the first line runs over two lines, with the value on the second; *vera* stands alone on the line below that value, at the right.

[233] these lines are printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The label of the first line runs over two lines, with the value on the second; *vera* stands alone on the line below that value, at the right.

[234] these lines are printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figures 3 and 7 as minutes. The label of the first line runs over two lines, with the value on the second.

On 10 November, A. M. [DIE 10 NOUEMBRIS A. M.]

Time	Reading	Value
7^h 10^m [H. 7 10′]	Equatorial distance from the heart of ☌ [Diſt. æquat. a corde ☌]	74° 54′
	add [adde]	4′
	True equatorial distance [Diſtantia æquat. vera]	74° 58′
	Declination of ☿, observed [Declinatio ☿ obſer.]	14° 33½′
	add [adde]	9′
	True declination of ☿ [Declin. vera ☿]	14° 42½′ south [A. 14 42½ M.]
	True right ascension of ☿ [Aſcenſio R. ☿ vera]	221° 33′
	Corresponding longitude of ☿ [Reſp. Longitudo ☿]	13° 36⅓′ ♏
	Latitude [Latitudo]	1° 19½′ north [B.]

235

On 11 November, A. M. [DIE 11 NOUEMBRIS A. M.]

Time	Reading	Value
$6½^h$ [H. 6½]	True equatorial distance of ☿ from the heart of ☌ [Diſt. æquat. ☿ a corde ☌ vera]	76° 31′
	True declination, south [Declin. vera Au.]	15° 20′
	True right ascension of ☿ [Aſcenſ. R. ☿ vera]	223° 6′
	Hence the longitude of ☿ [Hinc Longitudo ☿]	15° 13½′ ♏
	Latitude [Latitudo]	1° 10¼′ north [B.]

236

Recapitulation of the observations of ☿ [RECAPITULATIO OBSERUATIONUM ☿]

Account being taken of the refraction in right ascension and declination, and at the same time of the parallax in longitude and latitude [habita ratione refractionis in Aſcenſione Recta & Declinatione & ſimul parallaxeos in Longitudine & Latitudine.].

From observation [Ex obſeruatione]

[235] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes; the lone figures 4 and 9 after *adde* as minutes. The label of the first line runs over two lines, with the value on the second. In the true declination *A.* stands before the figures and *M.* after them; both mark the value as south, and "south" is given once.

[236] these lines are printed without heads; "Time", "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The label of the first line runs over two lines, with the value on the second.

Date	Time, A. M. [Tempus A. M.]	Apparent declination, south [Decl. viſa M.]	Apparent equatorial distance from the heart of ☌ [Diſt. æquat. a corde ☌ viſa]	True declination, south [Decl. vera M.]	True right ascension [Aſc. R. vera]	Longitude [Longitudo]	Latitude, north [Latitudo B.]
October 25 [Oct. 25]	$6^h\ 30^m$	6° 39′	55° 13′	6° 44′	201° 49½′	22° 39′ ♎	2° 19¼′
29	$7^h\ 0^m$	8° 8′	59° 0½′	8° 11′	205° 35⅔′	26° 40¼′	2° 20′
31	$6^h\ 10^m$	8° 59′		9° 8′		29° 8′	2° 15½′
November 1 [Nou. 1]	$6^h\ 30^m$	9° 30½′	62° 27½′	9° 37⅓′	209° 5½′	0° 24′ ♏	2° 12½′
2	$7^h\ 0^m$	10° 5½′	63° 45½′	10° 10⅙′	210° 22′	1° 46⅙′	2° 7¾′
4	$6^h\ 57^m$	11° 10′	66° 24′	11° 16′	213° 1⅔′	4° 35½′	1° 58½′
7	$7^h\ 10^m$	12° 53′	70° 35½′	13° 0′	217° 15′	9° 4¼′	1° 42′
8	$7^h\ 15^m$	13° 28′	72° 2′	13° 35′	218° 40¼′	10° 34′	1° 34⅔′
10	$7^h\ 10^m$	14° 33½′	74° 54′	14° 42½′	221° 33′	13° 34′	1° 21½′
11	$6^h\ 30^m$	15° 8′	76° 26′	15° 20′	223° 6′	15° 11¼′	1° 12′

237

Date	From the Alphonsine calculation, Cyprian's [Ex Alphonſino calc. Cypr.]				From the Prutenic [calculation], Mästlin's [E Prutenico Mæſtlini]			
	Longitude [Long.]	exceeds [excedit]	Latitude, north [Latit. B.]	falls short [deficit]	Longitude [Long.]	exceeds [excedit]	Latitude, north [Latit. B.]	falls short [deficit]
October 25 [Oct. 25]	25° 37′ ♎	2° 58′	1° 44′	0° 35′	24° 29½′ ♎	1° 50½′	0° 49′	1° 30¼′
29	27° 39′	0° 59′	1° 46′	0° 34′	28° 15′	1° 35′	1° 6½′	1° 13½′
		falls short [deficit]						
31	29° 6′	0° 2′	1° 44′	0° 31½′	0° 20′ ♏	1° 12′	1° 16′	0° 59½′

[237] the date column has no printed head; "Date" is this edition's. *Ex obſeruatione* is centred over the column heads. The times are printed without unit marks and are given as hours and minutes; the other values as degrees and minutes. On 31 October the equatorial-distance and right-ascension cells are blank. The sign ♎ is printed only after the first longitude and ♏ only after the longitude of 1 November; none is supplied in the other rows. No foot row stands below the last row.

Date	From the Alphonsine calculation, Cyprian's [Ex Alphonſino calc. Cypr.]		From the Prutenic [calculation], Mästlin's [E Prutenico Mæſtlini]				
November 1 [Nou. 1]	29° 55½′	0° 28½′ 1° 42′	0° 30½′	1° 29′	1° 5′	1° 20′	0° 52½′
2	0° 50⅓′ ♏	0° 56′ 1° 39′	0° 28¾′	2° 42½′	0° 56′	1° 19′	0° 48¾′
4	2° 53′	1° 42½′ 1° 33′	0° 25½′	5° 15′	0° 39½′	1° 14′	0° 44½′
7	6° 14′	2° 50¼′ 1° 22′	0° 20′	9° 19⅓′	0° 15′	1° 8′	0° 34′
8	7° 25′	3° 9′ 1° 16½′	0° 18′	10° 45′	0° 11′	1° 6′	0° 28⅞′
10	9° 56½′	3° 38′ 1° 2′	0° 19½′	13° 39′	0° 5′	1° 2′	0° 19½′
					falls short [deficit]		
11	11° 14′	3° 57¼′ 0° 55′	0° 17′	15° 6′	0° 5′	1° 0′	0° 12′

238

Interval	Motion in longitude of ☿, intermediate [Motus Longitudinis ☿ intermedius]: Observed [Obſeruatus]	Alphonsine [Alphonſinus]	Prutenic [Pruteni-cus]	Daily motion arising uniformly from observation [Motus diurnus æqualiter ex obſeruatione proueniens]
from the 25th to the 29th [a 25 in 29]	4° 1¼′	2° 2′	3° 45½′	1° 0½′
from the 29th to the 31st [a 29 in 31]	2° 27¾′	1° 27′	2° 5′	1° 14′
from the 31st to the 1st [a 31 in 1]	1° 16′	0° 49½′	1° 9′	1° 16′
from the 1st to the 2nd [ab 1 in 2]	1° 22′	0° 55′	1° 13½′	1° 22′

[238] the page sets the two calculations in two columns divided by a vertical rule, each under its own head, and prints the dates only in the left column; the right column's rows stand level with them and are given here on the same lines. "Date" is this edition's head. The degree and minute marks are printed only in the first row of each column; the other values are given as degrees and minutes. The word *deficit* printed between the rows of 29 and 31 October stands in the Alphonsine *excedit* column, and the one between the rows of 10 and 11 November in the Prutenic *excedit* column; each is kept on its own line. In the Prutenic shortfall in latitude for 8 November the fraction is printed 2 over 8, unreduced, as set (the 8 confirmed on a native-resolution crop); set against the observed latitude of that day in the recapitulation on p. 100 (1 34⅔) the shortfall computes 0 28⅔; it is given as printed, and no correction is made.

Interval	Motion in longitude of ☿, intermediate [Motus Longitudinis ☿ intermedius]: Observed [Obſeruatus]	Alphonsine [Alphonſinus]	Prutenic [Prutenicus]	Daily motion arising uniformly from observation [Motus diurnus æqualiter ex obſeruatione proueniens]
from the 2nd to the 4th [a 2 in 4]	2° 49′	2° 3′	2° 32½′	1° 25′
from the 4th to the 7th [a 4 in 7]	4° 29′	3° 21′	4° 4′	1° 29⅔′
from the 7th to the 8th [a 7 in 8]	1° 29¾′	1° 11′	1° 26′	1° 29½′
from the 8th to the 10th [ab 8 in 10]	3° 0′	2° 31½′	2° 54′	1° 30′
from the 10th to the 11th [a 10 in 11]	1° 37′	1° 17½′	1° 27′	1° 37′

239

Daily motion of ☿ [Diurnus ☿ motus]

October [Oct.]	Observed [Obſeruatus]	Alphonsine [Alphonſinus]	Prutenic [Prutenicus]
25	0° 55′	0° 23′	0° 52′
26	0° 58′	0° 29′	0° 56′
27	1° 2′	0° 34′	0° 59′
28	1° 6′	0° 38′	1° 1′
29	1° 9′	0° 43′	1° 3′
30	1° 13′	0° 47′	1° 5′
31	1° 16′	0° 50′	1° 9′
November 1 [Nov. 1]	1° 22′	0° 55′	1° 13′
2	1° 25′	1° 1′	1° 15′

November [Nov.]	Observed [Obſeruatus]	Alphonsine [Alphonſinus]	Prutenic [Prutenicus]
3	1° 27′	1° 3′	1° 18′
4	1° 28′	1° 5′	1° 20′
5	1° 29′	1° 8′	1° 22′
6	1° 30′	1° 9′	1° 24′
7	1° 29½′	1° 12′	1° 26′
8	1° 30′	1° 15′	1° 27′

[239] the head *Motus Longitudinis ☿ intermedius* stands centred over the three columns *Obſeruatus*, *Alphonſinus*, *Prutenicus*; "Interval" is this edition's head for the unheaded row labels. The degree and minute marks are printed only in the first row; the other values are given as degrees and minutes.

November [Nov.]	Observed [Obſeruatus]	Alphonsine [Alphonſinus]	Prutenic [Prutenicus]
9	1° 30′	1° 18′	1° 28′
10	1° 37′	1° 20′	1° 29′

240

I think the observation of day 10 is uncertain [Puto obſeruationem diej 10 eße incertam.].

Thus, from observation, ☿ was at its greatest remoteness from the mean place of the Sun on about [quaſi] day 26⅓; you can pursue a deeper inquiry into this together with its place, on account of the apogee [Fuit itaque ☿ ex obſeruatione in maxima remotione a medio loco Solis die 26⅓ quaſi, cuius penitiorem inquiſitionem potes indagare vna cum loco ipſius propter apogæum.].

Recapitulation of selected observations of ☿, by the computation of triangles, for restoring its motion[1] [Recapitulatio ſelectarum obſeruationum in ☿ per Triangulorum ſupputationem pro motu eius reſtituendo[1].]

On 29 October [DIE 29 OCTOBRIS.]

When ☿ was at its greatest morning departure from ☉ [Cum ☿ eßet in maxima digreßione matutina a ☉.].

Apparent observations [Obſeruationes viſæ.]

Reading	Value	Longitude / latitude
Its distance from the tail of ☋ [Diſt. eius a cauda ☋]	41° 26½′	
Declination of ☿, south [Declin. ☿ M.]	8° 5′	
Declination of the tail of ☋ [Declin. caudæ ☋]	16° 53¾′	
Right ascension of the tail [Aſcenſ. recta caudæ]	171° 58⅔′	
Angle of the ascensional difference [Angulus differentiæ Aſcenſionalis]	33° 26½′	
Therefore the right ascension of ☿ [Idcirco Aſcenſ. R. ☿]	205° 25 1/[?]′	
Corresponding longitude [Reſp. Longitudo]	26° 29′ 56″ ♎	
Latitude [Latitudo]	2° 20′ 16″ north [B.]	
Altitude of ☿ [Alt. ☿]	6⅚°,	
Refraction [Refractio]	8′ 0″	
Parallax [Parallax.]	3′ 30″	Longitude [Long.] 3′ 20″ add.
Difference [Differentia]	4½′	Latitude [Lat.] 2′ 45″ subt.
Therefore the true longitude of ☿ [Ergo vera ☿ Longit.]	26° 33⅓′ ♎	
Latitude [Latit.]	2° 17⅓′ north [Bor.]	

[240] the page sets the October and November days in two columns divided by a vertical rule, under the one centred head *Diurnus ☿ motus*. The degree and minute marks are printed only in the first row of each column; the other values are given as degrees and minutes.

241

On 25 October [DIE 25 OCTOBRIS.]

Time	Reading	Value	Longitude / latitude
7⅙^{h} [H. 7⅙]	Distance of ☿ from the tail of ☋ [Diſt. ☿ a cauda ☋]	37° 39½′	
	Declination of ☿ [Declin. ☿]	6° 37¼′	
	Angle of the difference of ascension [Angulus diff. Aſcenſ.]	29° 45′ 20″	
	Therefore the right ascension of ☿ [Ergo Aſcenſ. R. ☿]	201° 44′ 0″	
	Corresponding longitude [Reſp. Longitudo]	22° 33½′ ♎	
	Latitude [Latitudo]	2° 21⅓′ north [Bor.]	
	Altitude 6°, refraction 9′ [Alt. 6°, Refractio 9′]		
	Parallax [Parallaxis]	3′ 30″	Longitude [Long.] 3′ 50″ add.
		5′ 30″	Latitude [Lat.] 3′ 40″ sub.
	True longitude [Vera Longitudo]	22° 37⅓′ ♎	
	Latitude [Latitudo]	2° 17′ 40″ north [Bor.]	

242

On 11 November [DIE 11 NOUEMBRIS.]

[241] these lines are printed without heads; "Reading", "Value" and "Longitude / latitude" are this edition's. The degree and minute marks are printed with the first value, the refraction (8′ 0″) and the longitude entry (3′ 20″); the other values are given as degrees and minutes, or degrees, minutes and seconds where three figures stand. The altitude 6⅚ is printed without a unit and is given as degrees; the parallax 3 30 as minutes and seconds (the refraction above it printed 8′ 0″); the difference 4½ as minutes; the latitude entry 2 45 as minutes and seconds (the longitude entry above it printed 3′ 20″). A short vertical rule divides the refraction, parallax and difference from the longitude and latitude entries, which stand on the lines of the parallax and the difference. The angle's label runs over two lines, with the value on the second. In the right ascension of ☿ the fraction's numerator is 1 and its denominator is not settled between 6 and 8.

[242] these lines are printed without heads; "Time", "Reading", "Value" and "Longitude / latitude" are this edition's. The entry begins at the foot of the left column (the time, distance and declination) and continues at the top of the right column (from the angle onward). The values are printed without unit marks except the altitude 6° and the refraction 9′, which stand together on one line; the others are given as degrees and minutes, or degrees, minutes and seconds where three figures stand; the parallax 3 30, the unlabelled 5 30 below it, and the longitude and latitude entries as minutes and seconds. A short vertical rule divides the two parallax lines from the longitude and latitude entries. *Bor.* after the last latitude stands alone on the line below the value.

Time	Reading	Value	Longitude / latitude
6⅓[h] [H. 6⅓]	Equatorial distance of ☿ from the heart of ☋ [Diſt. ☿ a corde ☋ æquat.]	76° 26′, ſufficiently certain [ſatis certa]	
	Right aſcension of the heart of ☋ [Aſcenſ. recta cordis ☋]	146° 33½′	
	Therefore the right aſcension of ☿ [Igitur Aſcenſio R. ☿]	222° 59′ 30″	
	Longitude [Longitudo]	15° 4¼′ ♏	
	Latitude [Latitudo]	1° 20⅓′ north [Bor.]	
	Altitude of ☿ 3½°. Refr. 12′ [Alt. ☿ 3½°. Refr. 12′]		
	Parallax [Parall.]	3′	Longitude [Long.] 6′ 50″ add.
		9′	Latitude [Lat.] 5′ 40″ subt.
	True longitude of ☿ [Vera ☿ Longitudo]	15° 11′ 0″ ♏	
	Latitude [Latitudo]	1° 14⅔′ north [Bor.]	

243

Obſervations of the fixed ſtars in the zodiac, and firſt of all [of] thoſe that are in Aries [OBSERUATIONES STELLARUM FIXARUM IN ZODIACO, ET PRIMO QUIDEM EARUM QUÆ SUNT IN ARIETE.]

On 13 January [DIE 13 IANUARIJ.]

Reading	Value
Meridian altitude of the bright ſtar of ♈ [Altitudo Merid. Lucidæ ♈]	55° 33′
by the revolving quadrant [per Q.Volub.], *after the pinnules had been corrected and the centre of the quadrant re-examined and reſtored [poſt correcta pinnacidia & centrum quadrantis reviſum & redintegratum.]*	
Declination of the bright ſtar of ♈ by the greateſt armillae, with one pinnule [Declinatio Lucidæ ♈ per Armillas maximas, vno pinn.]	21° 29½′
with the other [altero]	21° 29¼′

244

[243] these lines are printed without heads; "Time", "Reading", "Value" and "Longitude / latitude" are this edition's. The values in the value column are printed without unit marks; the altitude 3½°, the refraction 12′, the longitude entry 6′ 50″ and the unlabelled 9′ carry theirs. The values are given as degrees and minutes, or degrees, minutes and seconds where three figures stand; the parallax 3 is given as minutes; the latitude entry 5 40 as minutes and seconds (the longitude entry above it printed 6′ 50″). The distance's value and *ſatis certa* stand on the line below its label. A short vertical rule divides the parallax 3 and the unlabelled 9′ below it from the longitude and latitude entries.

[244] these lines are printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The altitude's value stands on the line of its label, and *per Q.Volub.* begins the next line, followed by the italic remark; the declination's label runs over two lines, with the value on the second.

On 14 January [DIE 14 JANUARIJ.]

Reading	Value
Altitude of the bright star of ♈ [Altitudo Lucidæ ♈]	55° 32¾′

245

After the pinnules of the quadrant had been rectified and the new sextant carefully re-examined [Poſt rectificata pinnacidia Quadrantis & Sextantem nouum diligenter reuiſum.].

On 15 January [DIE 15 JANUARIJ.]

In the evening the head of ♈ appeared to have in the meridian an altitude [Veſperi videbatur Caput ♈ in Meridiano habere Altitudinem]

Reading	Value
by the revolving quadrant [per Q. Volub.]	*55° 34′*
By the armillae, the declination [Per Armillas Declinatio]	*21° 28′*
with both pinnules [vtroque pin.]	

246

On 7 February [DIE 7 FEBRUARIJ.]

For the stars of ♈ [Pro Stellis ♈.]

Declination by the armillae [Declin. per Armillas]

Star	Value
1. ♈ according to Copernicus, with both pinnules [1. ♈ ſecundum Copern., vtroque pin.]	17° 14⅔′
2. The following [star] in the lower horn of ♈ [2. ſequens in cornu infer. ♈]	18° 46′
with the other pinnule [alt. pinnacidio]	18° 45¾′
3. The bright star above the head of ♈ [3. Luc. ſupra caput ♈]	21° 28¼′
with the other pinnule [alt. pinnacidio]	21° 28⅓′

247

1 From codex V [E codice V.].

[245] printed without heads; "Reading" and "Value" are this edition's. The value is printed without unit marks and is given as degrees and minutes.

[246] these lines are printed without heads; "Reading" and "Value" are this edition's. The whole entry, heading and figures included, is italic. The values are printed without unit marks and are given as degrees and minutes. *vtroque pin.* stands alone on the line below the declination's value.

[247] printed without heads; "Star" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The value of star 1 stands alone on the line below its label, at the right.

Reading	Value
Difference of right ascension of 1 ♈ from the eye of ♉, by the armillae [Differentia Aſcenſ. Rectæ 1 ♈ ab oculo ♉ per Armillas]	I 40° 17½′
	II 40° 20′
	III 40° 17′ 40″
Use 40° 18½′ [Vtere 40 18½.]	IV 40° 17′ 30″

248

Reading	Value
Difference of right ascension of 1 ♈ and the bright star in the shoulder of Orion [Differentia Aſcenſ. R. 1 ♈ & lucidæ in humero Orionis]	I 60° 24′ 45″
	II 60° 23′ 20″
	III 60° 24′ 30″
	IV 60° 23′ 0″
	V 60° 24′ 30″

249

You will be able to use 60° 24′ without any perceptible error [Poteris absque omni ſenſibili errore vti 60 24.].[250]

On 13 February [DIE 13 FEBRUARIJ.]

Reading	Value
For the stars of ♈ [Pro ſtellis ♈]	40° 6′ 10″
Equatorial difference between the eye of ♉ and the second [star] in the first horn of ♈ [Differ. æquat. inter oculum ♉ & ſecundam in primo cornu ♈]	40° 4′ 45″
	40° 3′ 45″
	40° 4′
	40° 3¼′
	40° 6′

[248] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, or degrees, minutes and seconds where three figures stand; the figure in the italic remark likewise as degrees and minutes. The Roman numerals I–IV stand before the values. The label runs over two lines, value I on the second. The italic remark *Vtere 40 18½.* stands at the left on the line of value IV. The page opens without a date heading.

[249] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds. The label runs over three lines; its first line carries no value, and value I stands on the second.

[250] 60 24 is printed without unit marks and is given as degrees and minutes.

Reading	Value
	40° 3½′
But you can use, without perceptible error, the equatorial distance [Sed potes absque ſenſibili errore vti diſtantia æquatoria]	40° 5′
Then, with one pinnule remaining fixed, there was found [Deinde vno pinnacidio fixo manente inuenta eſt]	40° 4½′
	40° 5′
Equatorial distance of the bright star of the head of ♈ and the eye of ♉ [Diſt. æquat. lucidæ cap. ♈ & oculi ♉]	37° 3′
	37° 4′
	37° 3½′
You can use without perceptible error [Potes absque ſenſibili errore vti]	37° 3½′
	37° 3½′
Between that [star] which is above the tail of ♈ and the eye of ♉ the distance was taken toward evening, by the sextant △ [Inter eam quæ eſt ſupra caudam ♈ & oculum ♉ capta eſt diſtantia ad veſperas per Sext. △]	26° 44⅙′
	26° 44′

251

Star	Declination [Declin.]	Distance in ascension from the eye of ♉ [Diſt. aſc. ab oculo ♉]
Of the bright star above the tail of ♈, by the subterranean armillae [Lucidæ ſupra caudam ♈ per Armill. ſubterr.]	25° 31′	26° 34′
	25° 31′	
	25° 31′	26° 34¼′
	25° 31′	26° 31′

252

On 23 September [DIE 23 SEPTEMBRIS.]

[251] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, or degrees, minutes and seconds where three figures stand. The first value, 40 6 10, stands on the line of *Pro ſtellis* ♈. The label *Differ. æquat. …* ♈ runs over four lines with a value on each, and two further values stand below it with no label. The sentence *Sed potes … æquatoria* runs over two lines, its value on the second. A brace joins the two values 40 4½ and 40 5 to the two-line label *Deinde … eſt*. The label *Diſt. æquat. …* ♉ runs over two lines, with a value on each and a third value below. The sentence *Potes … vti* runs over two lines, *vti* standing on the second, and the value 37 3½ is printed on each of the two lines; it is given on both rows. The label *Inter eam … per Sext.* △ runs over four lines, the value 26 44⅙ on the third (*veſperas*) and 26 44 on the fourth (*per Sext.* △); it is given whole on the first row.

[252] the heads *Declin.* and *Diſt. aſc. ab oculo* ♉ are printed in small type; "Star" is this edition's. The values are printed without unit marks and are given as degrees and minutes. The label runs over four lines with a declination on each; the second line carries no value in the second column.

Reading	Value
The first [star] of ♈ in the meridian, by the revolving quadrant [Prima ♈ in Meridiano per Q. Volub.]	51° 20⅙′
Declination arising from that [Declin. inde proueniens]	17° 14⅔′
Declination by the armillae [Declin. per Armillas]	17° 15′ 0″
The bright star of the lower horn of ♈, by the revolving quadrant [Luc. infer. cornu ♈ per Q. Volub.]	52° 51′ 0″
Declination arising from this [Declin. hinc proueniens]	18° 45′ 30″
Declination by the armillae [Declin. per Armillas]	18° 46′ 0″
The bright star of the head of ♈ in the meridian, by the revolving quadrant [Lucida cap. ♈ in Mer. per Q. Vol.]	55° 34¼′
Declination arising from this [Declin. hinc proueniens]	21° 28¾′
Declination by the armillae [Declin. per Armillas]	21° 29¼′

253

On 28 September [DIE 28 SEPTEMBRIS]

Reading	Value
Declination of the bright star of ♈ by the armillae [Decl. Luc. ♈ per Armillas]	21° 30′
with the other pinnule [alt. pin.]	21° 29⅚′

254

Altitude 21° 47′, when it was from the meridian toward the east [Altitudo 21 47 cum a meridiano ad ortum eßet.].[255]

On 30 September [DIE 30 SEPTEMBRIS.]

Reading	Value
The bright star of the lower horn of ♈ in the meridian [Lucida inferioris cornu ♈ in merid.]	52° 50⅓′
Declination from the altitude [Declin. ex Altitud.]	18° 44⅚′
Declination by the armillae [Declin. per Armillas]	18° 47′
with the other pinnule [altero pinnacid.]	18° 46⅚′
The bright star of the head of ♈, meridian altitude [Luc. cap. ♈ Alt. Merid.]	55° 33⅚′
Declination from the altitude [Declin. ex Altitud.]	21° 28⅓′
Declination by the armillae [Declin. per Armill.]	21° 29½′
with the other pinnule [altero pinnacidio]	21° 30′

[253] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, or degrees, minutes and seconds where three figures stand. The entry runs from the foot of the left column (to the altitude 52 51 0) to the head of the right column (from the declination 18 45 30). The three star labels each run over two lines, with the value on the second.

[254] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[255] 21 47 is printed without unit marks and is given as degrees and minutes.

256

On 10 October [DIE 10 OCTOBRIS.]

At 12^{h} 5^{m} 0^{s} the bright star of ♈ was in the meridian [H.12 5′0″ fuit luc. ♈ in Merid.]

Reading	Value
Having an altitude of [Alt. habens]	55° 34⅓′
Declination by the armillae [Declin. per Armillas]	21° 28¾′
with the other pinnule [Alt. pinnacid.]	21° 28⅚′

257

On 18 October [DIE 18 OCTOBRIS.]

Reading	Value
With the place of the Vulture set at [Poſito loco Vulturis in]	26° 0′ ♐
the bright star of ♈ was observed by the zodiacal armillae [obſeruabatur lucida ♈ per Armillas Zodiacales]	I 1° 47′ ♉
	II 1° 48′ ♉
	III 1° 47′ ♉

258

The altitude of the bright star of the Vulture was then about 15° [Fuit tunc Altitudo lucidæ Vulturis quaſi 15 p.].

On 7 November [DIE 7 NOUEMBRIS.]

Reading	Value
Between the eye of ♉ and the first [star] of ♈, by the sextant △ [Inter oculum ♉ & primam ♈ per Sext. △]	I 38° 39⅔′
	II 38° 39½′
	III 38° 39¼′

[256] printed without heads; ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The first label runs over two lines, with the value on the second.

[257] printed without heads; ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The time is printed *H.12 5′0″*, with a single and a double prime after the minutes and seconds of time.

[258] printed without heads; ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The sentence runs over four lines; the place of the Vulture stands on the first, and the three readings I–III on the second to fourth, the label of the observation being given whole on the first of them.

Reading	Value
Between the eye of ♉ and the lower horn of ♈, by the sextant △ [Inter oculum ♉ & infer. cornu ♈ per Sext. △]	I 38° 23′
	II 38° 22½′
	III 38° 23′
Between the eye of ♉ and the bright star of ♈, by the sextant △ [Inter oculum ♉ & lucid. ♈ per Sext. △]	I 35° 33¾′
	II 35° 33¾′
Between the eye of ♉ and the brighter [star] in the tail of ♈ [Inter ocul. ♉ & lucidiorem in cauda ♈]	I 26° 46′
	II 26° 46½′

259

Reading	Value
Declination of the first [star] of ♈ [Declin. primæ ♈]	17° 15′
Declination of the lower horn of ♈ [Declin. infer. cornu ♈]	18° 47½′
Declination of the bright star of ♈ [Declin. lucidæ ♈]	21° 28¾′
Declination of the brighter [star] in the tail of ♈ [Declin. lucidioris in cauda ♈]	25° 31′

260

On 16 November [DIE 16 NOUEMBRIS.]

With the instrument fixed [Inſtrumento fixato.].

Reading	Value
The bright star of ♈, east [Lucida ♈ orient.]	57° 30′
The lower horn of ♍, west [Infer. cornu ♍ occid.]	29° 4′
Equatorial distance [Diſt. æquat.]	86° 34′
Meridian altitude of the following [star] in the horn of ♈, by the revolving [quadrant] [Altit. merid. ſequentis in cornu ♈ per Volubilem]	52° 51½′
With the eye of ♉ set at 4° 2′ ♊, the place of the bright star of ♈ was observed at [Poſito oculo ♉ in 4°2′♊ obſeruatus eſt locus lucidæ ♈ in]	1° 55¾′ ♉
Again at [Rurſus in]	1° 56′ ♉

[259] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes; the Roman numerals stand before them. Each label runs over two or three lines with a value on each line and is given whole on its first row.

[260] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The last label runs over two lines, with the value on the second. The page opens without a date heading.

261

On 6 December [DIE 6 DECEMBRIS.]

Reading	Value
Declination of the bright star of ♈ by the armillae, with one [Decl. luc. ♈ per Arm. vno]	*21° 28′*
with the other pinnule [alt. pin.]	*21° 28′*

262

On 27 December [DIE 27 DECEMBRIS.]

Time	Reading	Value
6^h [H.6]	The bright horn of ♈ had in the meridian an altitude of [Lucidum cornu ♈ in Meridiano habuit Altitud.]	52° 51⅔′
6^h 28^m 40^s [6 28 40]	The bright star above the head of ♈ had in the meridian an altitude of [Lucida ſuper caput ♈ in merid. alt. habuit]	55° 34⅔′

263

On 31 December [DIE 31 DECEMBRIS.]

Afterward I was observing the stars of ♈ through the meridian, with the pinnules verified [Poſtea obſeruabam ſtellas ♈ per Meridianum verificatis pinnacidijs.].

Time	Reading	Value
6^h 15^m 45^s [H.6 15′45″]	*The first [star] of ♈, altitude by the revolving [quadrant] [Prima ♈ Alt. per Volub.]*	*51° 19¾′*
6^h 16^m $47½^s$ [6 16 47½]	*The following [star] of ♈ in the horn, altitude by the revolving [quadrant] [Sequens ♈ in cornu, Altitud. per Volub.]*	*52° 51′*
6^h 28^m 58^s [6 28 58]	*The third, bright [star] of ♈, altitude by the revolving [quadrant] [Tertia lucida ♈, Altitud. per Volub.]*	*55° 34½′*
	or [vel]	*34⅓′*

[261] printed without heads; ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes; the place of the eye of ♉ is printed with its marks, *4°2′♊*. The label of the meridian altitude and the sentence *Poſito … in* each run over two lines, with the value on the second.

[262] printed without heads; ”Reading” and ”Value” are this edition's. The whole entry, heading and figures included, is italic. The values are printed without unit marks and are given as degrees and minutes.

[263] printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The second time, 6 28 40, is printed without unit marks and is given as hours, minutes and seconds; the values are printed without unit marks and are given as degrees and minutes. Each time stands at the head of its label, which runs over two lines with the value on the second.

264

Afterward the declinations of the stars of ♈ were being taken, when they were near the meridian, by the greater armillae [Poſtea accipiebantur declinationes ſtellarum ♈ cum eßent iuxta merid. per Armill. maio.].

Reading	Qualifier	Value
Declination of the first [star] of ♈, which Copernicus used [Declin. primæ ♈ qua uſus eſt Copernicus]	*with one [vno]*	*17° 14½′*
	with the other [alt.]	*17¼°*
The following [star] in the horn of ♈ [Sequens in cornu ♈]	*with one [vno]*	*18° 45½′*
The third and bright [star] of the head of ♈ [Tertia & lucida cap. ♈]	*with the other [alt.]*	*18° 45⅔′*
	with both [vtroque]	*21° 28′*

265

Observations of the stars in Taurus [OBSERUATIONES STELLARUM IN TAURO.]

On 13 January [DIE 13 JANUARIJ.]

Reading	Value
Meridian altitude of the eye of ♉ [Altit. oculi ♉ Meridiana]	49° 40¼′
Declination of Aldebaran in the meridian, with one [Declin. Aldeb. in Mer., vno]	15° 37½′
with the other pinnule [altero pin.]	15° 37¼′
The quadrant gave [Quadrans dedit.]	15° 34′ 45″

266

[264] printed without heads; "Time", "Reading" and "Value" are this edition's. The first time is printed *H.6 15′45″*; the other two are printed without unit marks and are given as hours, minutes and seconds. The values are printed without unit marks and are given as degrees and minutes; *vel 34⅓* stands on its own line, the figure at the minute position under 34½, and is given as minutes. Each time stands at the head of its star's line, and the altitude on the line below.

[265] printed without heads; "Reading", "Qualifier" and "Value" are this edition's. *vno*, *alt.* and *vtroque* stand in a column of their own between the labels and the values. The values are printed without unit marks and are given as degrees and minutes, except *alt. 17¼*, which stands at the degree position (under the 17 of the line above) with no figure at the minute position, and is given as degrees. The labels of the first and third stars run over two lines. *alt. 18 45⅔* is printed on the first line of the label *Tertia & lucida / cap.* ♈, and *vtroque 21 28* on its second line; both rows are kept where they are printed.

[266] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, or degrees, minutes and seconds where three figures stand.

On 14 January [DIE 14 JANUARIJ.]

Reading	Instrument	Value
Meridian altitude of Aldebaran [Alt. merid. Aldeb.]	*by the new sextant [per Sext. nou.]*	*49° 41′ 40″*
	by the revolving quadrant [per Q. Volub.]	*49° 40′ 35″*
Declination by the armillae, with one [Declin. per Armill., vno]		*15° 36′ 30″*
with the other pinnule [altero pinn.]		*15° 36′ 0″*

267

On 15 January [DIE 15 JANUARIJ.]

Reading	Instrument	Value
Meridian altitude of the breast of ♉ [Alt.Merid. pectoris ♉]	by the Tychonic quadrant [per Q. Tich.]	45° 21′
	by the revolving quadrant [per Q. Volub.]	*45° 21′ 0″*
	by the new sextant [per Sext. nou.]	*45° 21′ 15″*
Declination of the same by the armillae [Declin. eiusdem per Armill.]	*with one pinnule [vno pin.]*	*11° 15⅙′*
	with the other [altero]	*11° 15¼′*
The eye of ♉ by the revolving quadrant [Oculus ♉ per Q. Volub.]		*49° 41′ 5″*
or 10″ at most [vel 10″ ad ſummum]		
by the new sextant [per Sext. nouum]		*49° 42′ 0″*
Declination by the armillae, with one [Declin. per Armill., vno]		*15° 35¼′*
with the other pinnule [alt. pin.]		*15° 36′*
Altitude by the Tychonic quadrant [Alt. per Q. Tichon.]		49° 41⅔′
The bright star of the Pleiades in the meridian, by the Tychonic quadrant [Lucida Pleiadum in Merid. per Q. Tichon.]		56° 51′

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[267] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The whole entry, heading and figures included, is italic. The values are printed without unit marks and are given as degrees, minutes and seconds. A brace joins the two instrument lines to the two-line label *Alt. merid. / Aldeb.*

[268] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, or degrees, minutes and seconds where three figures stand. A brace joins the three instrument lines to the label *Alt.Merid. / pectoris* ♉, which stands centred against them; a second brace joins *vno pin. / altero* to the label *Declin. eiusdem / per Armill. vel 10″ ad ſummum* stands on its own line below 49 41 5. The heading and the lines to *alt. pin. 15 36* are italic, except the first instrument line, *per Q. Tich. 45 21*, which is roman (letters and figures); the last three lines (*Alt. per Q. Tichon.* to *56 51*) are roman. The lines run from the foot of the left column (to *per Sext. nouum 49 42 0*) to the head of the right column's lower block (from *Declin. per Armill., vno 15 35¼*), and are joined here in reading order. The label of the Pleiades runs over two lines, with the value on the second.

On 16 January [DIE 16 JANUARIJ.]

Reading	Instrument	Value
Aldebaran in the meridian [Aldebor. in Merid.]	*by the portable quadrant [per Q. Portat.]*	*49° 41′*
	by the new sextant [per Sext. nouum]	*49° 42⅓′*
Declination by the armillae [Declin. per Armillas]		*15° 36′*
with the other pinnule [Alt. pinnacidio]		*15° 36½′*
Repeated [Reiterata]		*15° 35⅔′*
The same [Eadem]		*15° 36′*

269

Therefore use the declination of the eye of ♉, 15° 36′, without any perceptible error [Vtere itaque declinatione oculi ♉ 15 36 absque omni ſenſibili errore.].

Reading	Instrument	Value
The mural quadrant gives [Muralis Quadrans dat]		*49° 41′ 45″*
		34° 5′ 30″
Declination (agrees sufficiently) [Declin. (ſatis conuenit)]		*15° 36′ 15″*
On the same day the eye of ♉ [Eodem die Oculus ♉]	by the Tychonic quadrant [per Quadrantem Tichon.]	49° 41⅚′
	by the old sextant [per Sext. veterem]	49° 42′
The bright star of the Pleiades by the Tychonic quadrant [Luc. Pleiad. per Q. Tich.]		56° 50′

270

On 21 January [DIE 21 JANUARIJ.]

Reading	Value
Altitude of Aldebaran[1] by the Tychonic quadrant [Alt. [Aldeb.][1] per Q. Tichon.][271]	49° 42′
with the other pinnule [Alt. pinnacid.]	49° 42⅓′
The bright star of the Pleiades by the Tychonic [quadrant] [Lucida Pleiadum per Tich.]	56° 49¾′

[269] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. A brace joins the two instrument lines to the label *Aldebor. / in Merid.*

[270] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The figures in the sentence above and in this table are printed without unit marks and are given as degrees and minutes, or degrees, minutes and seconds where three figures stand. The second value of the mural quadrant, 34 5 30, stands alone on the line below 49 41 45. The mural quadrant and declination lines are italic; *Eodem die Oculus* ♉ to *56 50* are roman. *Eodem die Oculus* ♉ stands alone on its line, the two instrument lines indented below it.

[271] the edition prints *Aldeb.* in square brackets.

272

On 23 January [DIE 23 JANUARIJ.]

Reading	Value
The bright star of the Pleiades by the Tychonic quadrant [Lucida Pleiadum per Q. Tich.]	56° 50′
with the other pinnule [Alt. pinnacid.]	56° 50¼′
The eye of ♉ by the Tychonic quadrant [Oculus ♉ per Quad. Tich.]	49° 41¾′
with the other pinnule [Alt. pinnacid.]	49° 41⅝′
The northern horn of ♉ by the Tychonic quadrant [Boreale cornu ♉ per Q. Tich.]	62° 15⅝′
with the other pinnule [Alt. pinnacid.]	62° 16′

273

On 1 February [DIE 1 FEBRUARIJ.]

Reading	Value
Meridian altitude of the eye of ♉ by the Tychonic quadrant, with both pinnules [Altit. Merid. Oculi ♉ per Q. Tich. vtroque pinnacidio]	49° 41⅔′

274

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Value
The eye of ♉ in the meridian by the Tychonic quadrant, with both pinnules [Oculus ♉ in Merid. per Q. Tichon. vtroque pinnacidio]	49° 41′ 40″

275

On 7 February [DIE 7 FEBRUARIJ.]

[272] printed without heads; ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The name *Aldeb.* is printed enclosed in square brackets in the edition itself, with the footnote cue after them; the English gives the name as text.

[273] printed without heads; ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The first label runs over two lines, with the value on the second.

[274] printed without heads; ”Reading” and ”Value” are this edition's. The label runs over two lines, with the value on the second; the value is printed without unit marks and is given as degrees and minutes.

[275] printed without heads; ”Reading” and ”Value” are this edition's. The label runs over two lines, with the value on the second; the value is printed without unit marks and is given as degrees, minutes and seconds.

Reading	Value
The eye of ☉ in the meridian, by the Tychonic quadrant [Oculus ☉ in Merid. per Q. Tichon]	49° 41′ 40″
with the other pinnule [altero pinnacidio]	49° 41′ 35″
Declination, with one [Declin. vno]	15° 36⅙′
with the other [altero]	15° 36′
The southern horn of ☉ by the Tychonic quadrant [Merid. cornu ☉ per Q. Tich.]	54° 54′ 0″
with the other pinnule [altero pinn.]	54° 53′ 55″

276

On 24 September [DIE 24 SEPTEMBRIS.]

Reading	Value
The eye of ☉ in the meridian by the revolving [quadrant] [Oculus ☉ in Mer. per Volub.]	49° 42′ 0″
Declination from the altitude [Declin. ex altitudine]	15° 36′ 30″
Declination by the armillae [Declin. per Armillas]	15° 37′ 0″

277

On 7 November [DIE 7 NOUEMBRIS.]

Morning [Mane]	The bright star of the Pleiades, west [Lucida Pleiadum occ.]	The heart of ☋, east [Cor ☋ or.]	Equatorial distance [Dift. æq.]
$3^h\ 33^m\ 50^s$	57° 34′	38° 9¾′	95° 43¾′
$3^h\ 36^m\ 40^s$	58° 20½′	37° 22⅚′	95° 43⅓′
$3^h\ 39^m\ 10^s$	59° 0¼′	36° 43½′	95° 43¾′

278

Set the equatorial distance between the heart of ☋ and the bright star of the Pleiades [as] 95° 43½′ [Pone diſtantiam æquatoriam inter cor ☋ & Lucidam Pleiadum 95 43½].

Reading	Value
Declination of the bright star of the Pleiades [Declinatio lucidæ Pleiad.]	22° 46¼′
of the breast of ☉ [pectoris ☉]	11° 16½′
of the mouth of ☉ [oris ☉]	14° 34¾′

[276] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, or degrees, minutes and seconds where three figures stand. The first label runs over two lines, with the value on the second.

[277] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds.

[278] the four column heads are printed. The times under *Mane* are printed without unit marks and are given as hours, minutes and seconds; the other values are printed without unit marks and are given as degrees and minutes.

Reading	Value
of the middle [star] among the Hyades [mediæ inter fucculas]	16° 30′
of the northern eye of ♉ [borealis oculi ♉]	18° 12½′
of the forehead of ♉ [frontis ♉]	14° 56′
of Aldebaran [Aldeboræ]	15° 36½′

279

The breast of ♉ [Pectus ♉]

Time	The breast of ♉, west [Pectus ♉ occ.]	The heart of ♌, east [Cor ♌ or.]	Difference of ascension [Diff: Aſc.]
4^h $14\frac{1}{2}^m$	64° 29′	27° 33½′	92° 2½′
4^h $17\frac{1}{3}^m$	65° 16′	26° 46¼′	92° 2¼′
4^h $19\frac{3}{4}^m$	65° 54′	26° 9′	92° 3′

280

Set this difference of ascension [as] 92° 2⅔′ [Pone differentiam Aſcenſ. hanc 92 2⅔].

The mouth of ♉ [Os ♉]

Remark	The mouth of ♉, west [Os ♉ occ.]	The heart of ♌, east [Cor ♌ orient.]	Value
uncertain because of chasms [incerta propter chasmata]	62° 22⅙′	24° 58½′	87° 20⅔′
	63° 6′	24° 18′	87° 24′
	63° 44½′	23° 40½′	87° 25′
	64° 12′	23° 11′	87° 23′
	64° 45½′	22° 40′	87° 25½′
Set [Pone]			87° 24½′

281

The northern eye of ♉ [Borealis oculus ♉]

[279] printed without heads; "Reading" and "Value" are this edition's. The first line stands at the foot of the left column and the six genitives that depend on it at the head of the right column, with no heading between; they are joined here in reading order. The values are printed without unit marks and are given as degrees and minutes.

[280] the last three column heads are printed; "Time" is this edition's, the times standing against the column rule with no head. The times are printed without unit marks and are given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes.

[281] the second and third column heads are printed; "Remark" and "Value" are this edition's, no head standing over the last column. The remark runs over two lines and is joined by a brace to the first row only. *Pone* is printed in the column under *Cor ♌ orient.*, with its value in the last column; it is set here in the remark column. The values are printed without unit marks and are given as degrees and minutes.

The northern eye of ♉, west [Bor. oc. ♉ occ.]	The heart of ♌, east [Cor ♌ or.]	Value
63° 42½′	21° 38¾′	85° 21¼′
64° 6′	21° 15½′	85° 21½′
64° 33½′	20° 46½′	85° 20′

282

Set this difference of the heart of ♌ and the northern eye of ♉ [as] 85° 21′ [Pone hanc differ. cordis ♌ & Borealis oculi ♉ 85 21].

The forehead of ♉, that [star] which is between Aldebaran and the mouth [Frons ♉ illa quæ eſt inter Aldeboram & Os.].

The forehead of ♉, west [Frons ♉ occ.]	The heart of ♌, east [Cor ♌ or.]	Value
71° 42¾′	13° 30′	85° 12¾′
72° 20½′	12° 52½′	85° 13′

283

On 8 November, morning [DIE 8 NOUEMBRIS MANE.]

The eye of ♉ was distant from the meridian toward the west [Diſtabat oculus ♉ a Meridiano ad occaſum]:

Time	Dis-tance	Remark
$1^h\ 58^m\ 15^s$ [1ᴴ58′ 15″]	22° 46′	Corrected in the meridian [In meridiano correctum] (for both times)
$1^h\ 59^m\ 0^{s2}$ [1 59 0²]	22° 53½′	

284

From this the clock can be verified [Hinc poteſt verificari horologium.].

Reading	Value
Declination of the northern horn of ♉ [Declin. borealis cornu ♉]	28° 10′
Declination of the southern horn [Declin. auſtralis cornu]	20° 48′
Declination of the sinciput of ♉ [Declin. ſincipitis ♉]	22° 5′
Declination of the lowest [star] in the southern horn [Decl. infimæ in auſtr. cornu]	20° 55′

[282] the first two column heads are printed; "Value" is this edition's. The values are printed without unit marks and are given as degrees and minutes.

[283] the first two column heads are printed; "Value" is this edition's. The values are printed without unit marks and are given as degrees and minutes.

[284] printed without heads; "Time", "Distance" and "Remark" are this edition's. The first time and the first distance are printed with their marks (*1ᴴ58′ 15″*, *22°46′*); the second time is printed without unit marks and is given as hours, minutes and seconds, the second distance without unit marks and given as degrees and minutes. The remark runs over two lines and is joined by a brace to both rows.

285

[1] Compare p. 53 above [Cf. ſupra p. 53.].

[2] Written below the times are: »slower $0^h\ 13^m\ 21^s$« and »slower $0^h\ 13^m\ 8^s$« [Adſcripta ſunt infra tempora: »tardius 0 13 21« et »tardius 0 13 8«.].[286]

Equatorial distances [Diſtantiæ æquatoriæ.]

The middle [star] of the Hyades, between the northern eye and the mouth of ♉ [Media ſuccularum inter oculum B. & os ♉.]

The middle [star] of the Hyades, west [Med. ſucc. occ.]	The heart of ♌, east [Cor ♌ or.]	Value
59° 15′	27° 28′	86° 43′
60° 16′	26° 26½′	86° 42½′
60° 43½′	26° 0′	86° 43½′

287

Set the equatorial distance [as] 86° 43′ [Pone diſt. æquat. 86 43].

The southern horn of ♉ [Auſtralis cornu ♉]

The southern horn, west [Auſt. cor. occ.]	The heart of ♌, east [Cor ♌ or.]	Value
46° 21½′	21° 53′	68° 14½′
47° 29′	20° 47½′	68° 16½′
48° 5¼′	20° 10′	68° 15¼′
48° 27′	19° 49½′	68° 16½′

288

Set this equatorial distance [as] 68° 16′ [Pone hanc diſt. æquat. 68 16].

The northern horn of ♉ [Boreale cornu ♉]

Remark	The northern horn of ♉, west [Bor. cor. ♉ occ.]	The heart of ♌, east [Cor ♌ or.]	Value
	55° 17¼′	16° 12¼′	71° 29½′
	56° 3′	15° 26¾′	71° 29¾′
	57° 30′	13° 59¾′	71° 29¾′
Set [Pone]			71° 29⅔′

[285] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[286] in footnote 2 the figures are printed without unit marks and are given as hours, minutes and seconds.

[287] the first two column heads are printed; "Value" is this edition's. The values are printed without unit marks and are given as degrees and minutes.

[288] the first two column heads are printed; "Value" is this edition's. The values are printed without unit marks and are given as degrees and minutes.

289

The sinciput of ☿ [Sinciput ☿]

The sinciput, west [Sinciput occ.]	The heart of ☋, east [Cor ☋ or.]	Value
69° 36½′	12° 31⅓′	82° 7⅚′
70° 34¼′	11° 34′	82° 8¼′

290

On 16 November [DIE 16 NOUEMBRIS.]

[At] 12^{h} 1^{m} 15^{s} the eye of ☿ passed through the meridian and had a meridian altitude of 49° 42¾′ [H.12 1′ 15″ tranſiuit oculus ☿ per Meridianum habuitque Altitudinem meridianam 49 42¾].[291]

Observations of the stars in Gemini [OBSERUATIONES STELLARUM IN GEMINIS.]

On 14 January [DIE 14 IANUARIJ.]

Reading	Instrument	Value
The bright foot of the following ♊ [Lucidus pes ſequentis ♊]	by the revolving quadrant [per Q. Volub.]	50° 44¼′
The lower foot of the following ♊ [Inferior pes ſequentis ♊]	by the revolving quadrant [per Q. Volub.]	47° 20⅔′
	by the new sextant [per Sext. nou.]	47° 21′
Declination of the same by the armillae [Declin. eiusdem per Armill.]		13° 15⅔′
Declination from the given altitude [Declin. ex altit. dat.]		*13° 15½′*

292

Among clouds [Inter nubes.].

On 15 January [DIE 15 IANUARIJ.]

Declination of the upper ♊ 32° 42¾′ toward the east. But its declination is 32° 42½′; therefore it differs imperceptibly [Declin. ſuperioris ♊ 32 42¾ verſus ortum. Eſt autem declin. eius 32 42½, igitur inſenſibiliter differt.].

[289] the second and third column heads are printed; "Remark" and "Value" are this edition's. *Pone* is printed in the column under *Cor ☋ or.*, with its value in the last column; it is set here in the remark column. The values are printed without unit marks and are given as degrees and minutes.

[290] the first two column heads are printed; "Value" is this edition's. The values are printed without unit marks and are given as degrees and minutes.

[291] the time is printed with its marks, *H.12 1′ 15″*; the altitude is printed without unit marks and is given as degrees and minutes.

[292] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The first two labels each run over two lines, the instrument and value on the second. The last row is italic.

Reading	Instrument	Value
The thigh of the lower ♊ [Femur inferioris ♊]	by the revolving quadrant [per Q. Volub.]	51° 18⅔′
	by the sextant [per Sext.]	51° 19½′
Declination of the same, with one [Declin. eiusdem, vno]		17° 12½′
with the other pinnule [alt. pin.]		17° 12⅓′
The upper head of ♊ [Superius caput ♊]	by the revolving quadrant [per Q. Volub.]	66° 47′
Declination by the armillae, with one [Declin. per Armill., vno]		32° 42½′
with the other pinnule [alt. pin.]		32° 42⅓′
The lower head of ♊ [Inferius caput ♊]	by the revolving quadrant [per Q. Volub.]	63° 2′
Declination by the armillae [Declin. per Armill.]		28° 55½′
Repeated, with both pinnules [Repetita, vtroque pinnac.]		28° 56′

293

On 16 January [DIE 16 JANUARIJ.]

Reading	Instrument	Value
The far end of the foot of ♊ [Extrema pedis ♊]	by the Tychonic quadrant [per Q. Tichon.]	56° 37¾′
The heel of the foot of ♊ [Calx pedis ♊]	by the Tychonic quadrant [per Q. Tichon.]	56° 43¾′
The bright [star] of the feet of ♊ [Lucida pedum ♊]	by the Tychonic quadrant, with both pinnules [per Q. Tichon. vtroque pinnac.]	50° 45⅔′
	by the old sextant [per Sext. Vet.]	50° 46⅓′

294

On 21 January [DIE 21 JANUARIJ.]

Reading	Instrument	Value
The bright [star] in the feet of ♊ [Lucida in pedibus ♊]	by the Tychonic quadrant, with one pinnule [per Q. Tichon. vno pinnacid.]	50° 45⅔′
	with the other pinnule [alt. pinnacid.]	50° 46′

[293] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The figures in the italic sentence above and in this table are printed without unit marks and are given as degrees and minutes. Each star's label stands on its own line, with the instrument and value on the line below.

[294] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The first label runs over two lines; *Lucida pedum* ♊ *per Q. Tichon.* stands on one line, with *vtroque pinnac.* and the value on the next.

Reading	Instrument	Value
The upper head of ♊ [Superius caput ♊]	by the Tychonic quadrant, with both pinnules [per Q. Tichon. vtroque pinnac.]	66° 48′
The lower head of ♊ [Inferius caput ♊]	by the Tychonic quadrant [per Q. Tich.]	63° 2¼′
	with the other pinnule [alt. pinnac.]	63° 2⅓′

295

On 23 January [DIE 23 JANUARIJ.]

Reading	Value
Propus ♊ by the Tychonic quadrant [Propus ♊ per Q. Tichon.]	56° 44⅚′
with the other pinnule [alt. pinnacid.]	56° 44⅔′
The bright foot of the lower ♊ [Lucidus pes inferioris ♊]	50° 46′
with the other pinnule [alt. pinnac.]	50° 46⅙′
The upper head by the Tychonic quadrant [Superius caput per Q. Tich.]	66° 48′
with the other pinnule [alt. pinnacid.]	66° 47¾′
The lower head of ♊ by the Tychonic quadrant, with both pinnules [Inferius caput ♊ per Q. Tichon. vtroque pinnacidio]	63° 2⅓′

296

On 1 February [DIE 1 FEBRUARIJ.]

Reading	Instrument	Value
The far end of the foot of ♊ [Extrema pedis ♊]	by the Tychonic quadrant [per Q. Tich.]	56° 38′ 5″
	with the other pinnule [alt. pinnacidio]	56° 38′
The heel of the foot of ♊ [Calx pedis ♊]	by the Tychonic quadrant, with both pinnules [per Q. Tichon. vtroque pinnacidio]	56° 43′ 40″

297

[295] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The first two labels each run over three lines (star, instrument, pinnule), the value on the last.

[296] printed without heads; ”Reading” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The last label runs over two lines, with the value on the second.

[297] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds where three figures stand, degrees and minutes where two. In the first row the figure 5 stands at the seconds position. The heel label runs over two lines, *vtroque pinnacidio* and the value on the second.

Reading	Declination [Declin.]	Altitude [Altit.]
The lower head of ♊ [Infer. caput ♊]	28° 59′	17⅔°
The upper head of ♊ [Super. caput ♊]	32° 44′	18⅔°

298

When they were inclining toward the western horizon [Cum ad horizontem occid. vergerent.].

The true declination [is] 32° 42½′, the difference 1½′ on account of refraction [Vera declinatio 32 42½, differentia 1½ ob refractionem.].

Note. At about an altitude of 18°, the lower head of ♊ *had, through refraction, a declination greater than the correct [one] by 2′, and the upper head in the same way by 1½′ [Nota. Circa altitudinem 18 partium infer. caput* ♊ *per refractionem habuit declinationem duobus ſcrupulis iuſto maiorem & ſuperius caput eodem modo ſcrupulo 1½.].*[299]

On 3 February [DIE 3 FEBRUARIJ.]

Reading	Instrument	Value
The far end of the foot of ♊ [Extrema pedis ♊]	by the Tychonic quadrant [per Q. Tich.]	56° 37′ 40″
	with the other pinnule [Alt. pinnacidio]	56° 38′
The heel of the foot of ♊ [Calx pedis ♊]	by the Tychonic quadrant, with both pinnules [per Q. Tich. vtroque pinnacidio]	56° 43′ 30″
The bright [star] in the feet of ♊ [Lucida in pedibus ♊]	by the same, with both [per eundem vtroque,]	50° 45′ 45″
The star in the knee of ♊ [Stella in genu ♊]	by the Tychonic [quadrant] [per Tichon.]	59° 32′ 40″
	with the other pinnule [alt. pinnac.]	59° 32′ 45″
The other [star] in the feet of ♊, fairly bright [Altera in pedibus ♊ ſublucida]		47° 21′ 20″
The upper head of ♊ [Superius caput ♊]	with one pinnule [vno pinn.]	66° 47′ 25″
	with the other pinnule [alt. pinnac.]	66° 47′ 30″
The lower head of ♊ [Inferius caput ♊]	with one pinnule [vno pin.]	63° 1′ 55″
	with the other pinnule [alt. pinnac.]	63° 2′ 0″
	by the Tychonic quadrant [per Q. Tichon.]	

300

[298] the heads "Declination" and "Altitude" are printed, in small type; "Reading" is this edition's. The values are printed without unit marks: the declinations are given as degrees and minutes, and the single altitude figures with their fractions as degrees.

[299] in the first italic sentence the figures are printed without unit marks and are given as degrees and minutes (32° 42½′) and as minutes (1½′). In the note, *18 partium* (the figure 18, the unit in words) is 18°, and *duobus ſcrupulis* (set in words) is 2′; *ſcrupulo 1½* is 1½′.

[300] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds where three figures stand, degrees and minutes where two. In the heel row the value stands on the label line, and *vtroque pinnacidio* stands alone on the line below it; the label is given whole on the one row. *per Q. Tichon.* stands alone, with no value, on the last line of the group, and is given as a row of its own.

On 7 February [DIE 7 FEBRUARIJ.]

By the Tychonic quadrant [Per Q. Tichonicum]

Reading	Value
The far end of the foot of ♊ [Extrema pedis ♊]	56° 37′ 50″
	56° 37′ 55″
The heel of the foot of ♊ [Calx pedis ♊]	56° 43′ 30″
	56° 43′ 35″
The bright [star] of the feet of ♊ [Lucida pedum ♊]	50° 45′ 35″
	50° 45′ 30″
The knee of ♊ [Genu ♊]	59° 32′ 35″
	59° 32′ 40″
[The star] in the body of ♊, with both [In corpore ♊, vtroque]	51° 17′ 45″
Another [star] in the body [Alia in corpore]	56° 45′ 0″
	56° 45′ 10″
The lower head of ♊ [Inferius caput ♊]	63° 2′ 10″
	63° 2′ 5″

301

Reading	Value
Declination of the lower head of ♊ [Declin. infer. cap. ♊]	28° 59⅚′
Altitude [Altit.]	14°
Declination of the upper head of ♊ [Declin. ſuper. cap. ♊]	32° 45′
Altitude [Altit.]	16°

302

There is therefore, as it were, a refraction of 3′ in the declination [Eſt itaque quaſi Refractio in 3 M. in declinatione.].

On 13 February [DIE 13 FEBRUARIJ.]

By the sextant △ [Per Sext. △]

Reading	Value
Between the heart of ♌ and the southern head of ♊ [Inter cor ♌ & Merid. caput ♊]	37° 1′
	37° 1′
Between the heart of ♌ and the northern head of ♊ [Inter cor ♌ & Bor. caput ♊]	40° 32½′

[301] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds. Each label stands level with the first of its values.

[302] these rows stand at the head of the right column, under no date heading of their own; the last date heading before them in reading order is 7 February, in the left column. Printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks: the declinations are given as degrees and minutes, and the single altitude figures 14 and 16, which stand at the degree position, as degrees.

Reading	Value
When they were almost equally distant from the meridian [Cum æqualiter fere a meridiano diſtarent]	40° 32⅓′

303

Afterwards by the old sextant △ [Poſtea per Sext. △ vet.]

No.	Reading	Value
	Between the lower head of ♊ and the heart of ♌ [Inter infer. caput ♊ & Cor ♌]	37° 0¼′
II		37° 0¼′
	The altitude of the lower head of ♊ was then about 15[°] [Erat tunc Alt. infer. cap. ♊ q. 15]	
	Between the upper head of ♊ and the heart of ♌ [Inter ſuper. cap. ♊ & Cor ♌]	40° 32′
II		40° 32′
	Altitude of the upper head about 15[°] [Altit. ſuperioris cap. q. 15.]	

304

On 4 March [DIE 4 MARTIJ.]

Reading	Instrument	Value
Meridian altitude of the lower head of ♊ [Altit. Merid. infer. cap. ♊]	by the Tychonic quadrant [per Q. Tichon.]	63° 2½′
	with the other pinnule [Alt. pinnacid.]	63° 2¼′

305

On 5 March [DIE 5 MARTIJ.]

Reading	Instrument	Value
Meridian altitude of the lower head of ♊ [Altit. Merid. infer. cap. ♊]		63° 2½′

[303] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. *Cum æqualiter fere* stands level with the value 40 32⅓, and *a meridiano diſtarent* on the line below; no brace joins the clause to other rows.

[304] printed without heads; "No.", "Reading" and "Value" are this edition's. The roman numeral II is printed before the second value of each pair; no numeral stands before the first. The values are printed without unit marks and are given as degrees and minutes; the figure 15 in the two altitude lines is given as degrees. *q.* is rendered "about".

[305] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The label runs over two lines, the instrument and value on the second.

Reading	Instrument	Value
	by the revolving quadrant [per Q. Volub.]	63° 1⅔′
Declination by the armillae [Declin. per Armill.]		28° 56′

306

On 8 November, A. M. [DIE 8 NOUEMBRIS A. M.]

Time	Reading	Value
	Meridian altitude of the upper head of ♊ [Altit. Merid. ſuperioris capitis ♊]	66° 48′
	Declination by the armillae, with both [Declin. per Armill., vtroque]	32° 42′
$3^h\ 48^m\ 0^s$ [H.3 48′0″]	Meridian altitude of the lower head of ♊ [Alt. mer. inf. cap. ♊]	63° 2′
	Declination of the same, with both [Declin. eiusdem, vtroque]	28° 56½′

307

On 26 December [DIE 26 DECEMBRIS.]

[At] $11^h\ 58^m\ 35^s$ the upper head of ♊ *passed through the meridian, having an altitude of 66° 48′ [H. 11 58′ 35″ Tranſiuit ſuperius caput* ♊ *per Merid. habens Alt. 66 48].*

[At] $12^h\ 10^m\ 22^s$ the lower head of ♊ *[passed] through the meridian, having an altitude of 63° 2¼′ [H. 12 10 22 Inferius caput* ♊ *per Merid. habens Alt. 63 2¼].*

Reading	Value
Declination of the upper head of ♊*, with both pinnules [Declin. ſuper. cap.* ♊*, vtroque pin.]*	*32° 41′*
Declination of the lower [head], with one [Declin. inferioris, vno]	*28° 56′*
with the other pinnule [altero pinnacid.]	*28° 55¾′*

308

[306] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes. The value 63 2½ stands on the label line, which names no instrument; *per Q. Volub.* stands on the next line with its own value.

[307] printed without heads; ”Time”, ”Reading” and ”Value” are this edition's. The time is printed with its marks, *H.3 48′0″*, at the head of its line; the other values are printed without unit marks and are given as degrees and minutes. The first label runs over two lines, the value on the second.

[308] the entry for 26 December is italic on the page, figures included. The first time is printed with marks, *H. 11 58′ 35″*; the second, *H. 12 10 22*, is printed without marks and is given as hours, minutes and seconds. The altitudes and declinations are printed without unit marks and are given as degrees and minutes. The table is printed without heads; ”Reading” and ”Value” are this edition's. The first label runs over two lines, the value on the second.

Observations of the stars in Cancer [OBSERUATIONES STELLARUM IN CANCRO.]

On 7 February [DIE 7 FEBRUARIJ.]

For the stars of ♋. Declination by the armillae [Pro ſtellis ♋. Declin. per Armillas]

Reading	Value
The southern claw of ♋ [Chele Auſtralis ♋]	13° 25′
Praesepe and the nebulous [star] in the breast [Præſepe & nebuloſa in pectore]	20° 59½′
The southern Asellus [Aſellus Auſtralis]	19° 36′
The northern Asellus [Aſellus Borealis]	22° 52½′
The northern claw [Chele Borealis]	30° 12′

309

Difference of right ascension [Differentia Aſcenſionis Rectæ]

No.	Reading	Value
I	The southern claw from the heart of ♌ [Chele Auſtralis a corde ♌]	17° 34½′
II		17° 35′
I	Of the nebulous [star] of ♋ and of the heart of ♌ [Nebuloſæ ♋ & cordis ♌]	22° 26½′
II		22° 28½′
III		22° 25′
	You can use [Potes vti]	*22° 27′*

310

No.	Reading	Value
I	Of the southern Asellus from the heart of ♌ [Auſtralis Aſelli a corde ♌]	21° 14¼′
II		21° 14⅔′
III		21° 14⅔′
I	Of the northern Asellus from the heart of ♌ [Borealis Aſelli a corde ♌]	21° 43′
II		21° 43¾′
I	The northern claw of ♋ from the heart of ♌ [Chele Boreal. ♋ a corde ♌]	21° 9½′
II		21° 8′
III		21° 8½′

[309] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The second label runs over two lines, *in pectore* and the value on the second. In the last row a small dot stands at mid-height between 30 and 12; it may be a speck rather than a printed point.

[310] printed without heads; "No.", "Reading" and "Value" are this edition's. The roman numerals I, II, III are printed before the values. The values are printed without unit marks and are given as degrees and minutes. The last row is italic, its value included.

311

Reading	Instrument	Value
Meridian altitude, Praesepe [Alt. Merid. præſepe]		55° 19′
	by the Tychonic [quadrant], with the other [per Tichon. alt.]	55° 19′ 25″

312

On 5 March [DIE 5 MARTIJ.]

Reading	Instrument	Value
Meridian altitude of the southern claw of ♋ [Altit. Merid. Auſtralis branchæ ♋]	by the revolving quadrant [per Q. Volub.]	47° 30′
Its declination by the armillae [Declin. eius per Armill.]		13° 24½′

313

Observations of the stars in Leo [OBSERUATIONES STELLARUM IN LEONE.]

On 15 January [DIE 15 JANUARIJ.]

Reading	Instrument	Value
Meridian altitude of the heart of ♌ [Alt. Mer. Cordis ♌]	by the revolving quadrant [per Q. Volub.]	48° 3¼′
	by the sextant [per Sextant.]	48° 4′
Declination by the armillae [Declin. per Armill.]		13° 57⅔′
	with the other pinnule [alt. pinnacidio]	13° 57½′
Altitude of the lowest [star] of the neck of ♌ [Alt. infimæ Ceruicis ♌]	by the revolving quadrant [per Q. Volub.]	52° 49⅔′
Declination by the armillae [Declin. per Armill.]		18° 44½′

[311] these rows stand at the head of the right column of the upper block; no heading is printed above them. Printed without heads; "No.", "Reading" and "Value" are this edition's. The roman numerals I, II, III are printed before the values. The values are printed without unit marks and are given as degrees and minutes. Each label runs over two lines, *a corde* ♌ on the second.

[312] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Alt. Merid. præſepe* stands with 55 19 on the first line, which names no instrument; *per Tichon.* stands on the line below, before *alt.* and 55 19 25, and is given on that row. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[313] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The first label runs over two lines, the instrument and value on the second.

Reading	Instrument	Value
	with the other pinnule [alt. pinnacidio]	18° 45′
Altitude of the middle [star] of the neck [Alt. med. Ceru.]	by the revolving [quadrant] [per Volub.]	55° 59⅔′
Its declination by the armillae [Decl. eius per Armill.]		21° 53½′
	with the other pinnule [alt. pinnacidio]	21° 54′
Altitude of the uppermost [star] in the neck of ♌ [Alt. ſupremæ in ceruice ♌]	by the revolving quadrant [per Q. Volub.]	59° 31½′
Its declination by the armillae [Declin. eius per Armill.]		25° 26½′
	with the other pinnule [alt. pinnacid.]	25° 26¼′
Altitude of the uppermost [star] in the hip of ♌ [Alt. ſupremæ in Coxa ♌]	by the quadrant [per Q.]	56° 52½′
Declination of the same by the armillae [Decl. eiusdem per Armill.]		22° 46⅓′
	with the other pinnule [alt. pinnacid.]	22° 46½′
Altitude of the lowest [star] in the hip of ♌ [Alt. infimæ in Coxa ♌]	by the revolving quadrant [per Q. Volub.]	51° 45¼′
	by the sextant △ [per Sext. △]	51° 46⅓′

314

Reading	Instrument	Value
Declination by the armillae [Declin. per Armill.]		17° 41′
	with the other pinnule [alt. pinnacid.]	17° 40½′
Meridian altitude of the tail of ♌ [Alt. Mer. Caudæ ♌]	by the revolving quadrant [per Q. Volub.]	50° 59′
	by the sextant △ [per Sext. △]	51° 0′
but the plumb-line did not fall exactly enough on the line [ſed non ſatis exacte incidit perpendiculum in lineam.]		
Declination by the armillae [Declin. per Armill.]		16° 52¾′
	with the other pinnule [alt. pinnacidio]	16° 53′

315

[314] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. Each star's label stands on its own line, with the first instrument and value on the line below, except the middle star of the neck, whose label, instrument and value stand on one line.

[315] the first two rows stand at the head of the right column of the lower block, with no star label above them; the last star label before them in reading order is *Alt. infimæ in Coxa* ♌, at the foot of the left column. Printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The sentence runs over two lines, below the sextant row.

On 23 January, A. M. [DIE 23 JANUARIJ A. M.]

The heart of ♌ [Cor ♌]

The heart of ♌, west [Cor ♌ occident.]	Spica ♍, west [Spica ♍ occ.]	Equatorial distance [Dist. æquat.]
54° 42½′	5° 22½′	49° 20′
55° 9′	5° 48½′	49° 20½′
55° 35′	6° 14¾′	49° 20¼′

316

The neck of ♌ [Ceruix ♌]

The bright [star] of the neck of ♌, west [Lucida Ceruicis ♌ occid.]	Spica ♍, west [Spica ♍ occ.]	Equatorial distance [Dist. æquat.]
54° 42½′	8° 4¼′	46° 38¼′
55° 52⅓′	9° 14′	46° 38⅓′
56° 40¼′	9° 59¼′	46° 41′
57° 16′	10° 37′	46° 39′
57° 46′	11° 9′	46° 37′

317

The hip of ♌ [Coxa ♌]

The hip of ♌, west [Coxa ♌ occid.]	Spica ♍, west [Spica ♍ occ.]	Equatorial distance [Dist. æquat.]	Remark
44° 28′	11° 33½′	32° 54½′	not certain enough (for the first two rows) [non satis certæ]
45° 3′	12° 9½′	32° 53½′	
45° 46¼′	12° 54′	32° 52¼′	
46° 35′	13° 42½′	32° 52½′	
47° 42½′	14° 50′	32° 52½′	

318

The tail of ♌ [Cauda ♌]

The tail of ♌, west [Cauda ♌ occid.]	Spica, west [Spica occid.]	Equatorial distance [Dist. æquat.]
39° 32¼′	15° 39′	23° 53¼′

316 all three column heads are printed. The values are printed without unit marks and are given as degrees and minutes.

317 all three column heads are printed. The values are printed without unit marks and are given as degrees and minutes.

318 the left column opens with the sub-head *Coxa* ♌ and no date heading. The three value heads are printed; "Remark" is this edition's. The values are printed without unit marks and are given as degrees and minutes. A brace to the right of the equatorial distances of the first two rows joins both to the remark *non ſa-tis certæ*, divided over the two lines.

The tail of ♌, west [Cauda ♌ occid.]	Spica, west [Spica occid.]	Equatorial distance [Dift. æquat.]
40° 3′	16° 9½′	23° 53½′

319

On 1 February [DIE 1 FEBRUARIJ.]

Reading	Instrument	Value
Altitude of the heart of ♌ [Alt. cordis ♌]	by the new sextant [per Sext. nou.]	48° 2⅚′
	by the old sextant [per Sext. vet.]	48° 2⅚′
Its declination by the armillae [Declin. eius per Armill.]		13° 58′
	with the other pinnule [alt. pinnacidio]	13° 57½′

320

N. B. Observations after midnight were made among clouds that kept recurring from time to time [N. B. Obſeruationes poſt mediam noctem inter nubes ſubinde recurrentes factæ ſunt.]

On 3 February [DIE 3 FEBRUARIJ.]

Reading	Instrument	Value
Altitude of the heart of ♌ [Alt. cordis ♌]	by the Tychonic quadrant [per Q. Tich.]	48° 2′ 50″
The bright [star] in the neck of ♌ [Lucida in ceruice ♌]	by the Tychonic quadrant [per Q. Tich.]	55° 59′ 40″
	with both pinnules [utroque pinnacidio.]	

321

On 7 February [DIE 7 FEBRUARIJ.]

Reading	Instrument	Value
The bright [star] of the foot of ♌ [Lucida ped. ♌]		45° 48′ 40″

[319] all three column heads are printed; the second prints *Spica* with no sign. The values are printed without unit marks and are given as degrees and minutes.

[320] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[321] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds. The second label runs over two lines, the instrument and value on the second; *utroque pinnacidio.* stands on a line of its own below, with no value.

Reading	Instrument	Value
	by the Tychonic quadrant [per Q. Tichon.]	45° 48′ 45″
	by the new sextant [per Sext. nou.]	45° 49¾′
The lowest [star] of the neck of ♌ [Infima ceruicis ♌]		52° 50′
	by the Tychonic quadrant [per Q. Tichon.]	52° 50′ 5″
The heart of ♌ [Cor ♌]	by the Tychonic quadrant [per Q. Tich.]	48° 2′ 55″
	with the other [altero]	48° 2′ 45″
	by the new sextant [per Sext. nouum]	48° 3½′
	by the old sextant [per Sext. veterem]	48° 3¼′

322

By the Tychonic quadrant [Per Q. Tichonicum]

Reading	Instrument	Value
The uppermost [star] of the neck of ♌ [Suprema ceruicis ♌]		59° 32′ 10″
The bright [star] of the neck [Luc. Ceruicis,]	with both [vtroque]	55° 59′ 35″
The belly of ♌ [Venter ♌]		45° 30′ 35″
	with the other [altero]	45° 30′ 25″
The lower [star] in the hip of ♌ [Inferior in Coxa ♌]		51° 46′ 45″
		51° 46′ 50″
Another [star] in the thigh of ♌ [Alia in femore ♌]		46° 45′
The bright [star] of the tail of ♌ [Lucida Caudæ ♌]		50° 59′ 5″

323

On 4 March [DIE 4 MARTIJ.]

Reading	Instrument	Value
The first [star] of the foot of ♌ [Prima pedis ♌]		45° 49′
	with the other pinnule [alt. pinnacid.]	45° 48′ 40″
Its declination by the armillae [Declin. eius per Armill.]		11° 43½′
The bright [star] in the head of ♌ [Luc. in cap. ♌]	by the Tychonic [quadrant] [per Tich.]	59° 43′ 40″

[322] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand. The first and fourth labels stand on their own lines with a value and no instrument.

[323] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds, and as degrees and minutes where two figures stand. The sixth row prints a value with no label, under the value of the row above.

Reading	Instrument	Value
Declination of the following [star] in the head [Sequentis in cap. decl.]	by the armillae [per Armillas]	27° 54′
The lowest [star] in the neck [Infima in Ceruice]	by the Tychonic [quadrant] [per Tich.]	52° 50′
Its declination by the armillae [Decl. eius per Armill.]		18° 44¼′
The heart of ♌ [Cor ♌]	by the Tychonic [quadrant] [per Tich.]	48° 2′ 50″
Its declination by the armillae [Decl. eius per Armill.]		13° 58⅙′
	with the other pinnule [alt. pinnacid.]	13° 57′
The uppermost [star] in the neck [Suprema in ceruice]	by the Tychonic [quadrant] [per Tich.]	59° 32′ 10″
The bright [star] of the neck [Lucida ceruicis]	by the Tychonic [quadrant] [per Tich.]	55° 59½′
Its declination by the armillae [Declin. eius per Armill.]		21° 53¼′

324

On 5 March [DIE 5 MARTIJ.]

Reading	Instrument	Value
Meridian altitude of the nose of ♌ [Alt. Merid. nasi ♌]	by the revolving quadrant [per Q. Volub.]	62° 0′
Declination by the armillae [Declin. per Armill.]		27° 54¼′
The mouth of ♌ [Os ♌]	by the revolving quadrant [per Q. Volub.]	58° 49⅓′
Declination by the armillae [Declin. per Armill.]		24° 44½′
The bright foot of ♌ [Luc. pes ♌]	by the Tychonic quadrant [per Q. Tichon.]	45° 48⅔′
	by the revolving quadrant [per Q. Volub.]	45° 48½′
Declination by the armillae [Declin. per Armill.]		11° 43½′
The throat of ♌ [Faux ♌]	by the Tychonic quadrant [per Q. Tich.]	59° 43¾′
	by the revolving quadrant [per Q. Volub.]	59° 43⅔′
Declination by the armillae [Declin. per Armill.]		25° 38½′
The uppermost [star] of the head of ♌ [Suprema cap. ♌]	by the revolving quadrant [per Q. Vol.]	62° 0¼′
Declination by the armillae [Declin. per Armill.]		27° 54¾′

325

[324] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand. The fifth label runs over two lines, *per Armillas* and the value on the second.

[325] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The first label runs over two lines, the instrument and value on the second.

On 26 March, in the evening [DIE 26 MARTIJ AD VESPERAS.]

Reading	Instrument	Value
The bright foot of ♌ [Luc. pes ♌]	by the revolving quadrant [per Q. Volub.]	45° 49¼′
	by the new sextant [per Sext. nou.]	45° 48⅔′
Declination by the armillae [Decl. per Armill.]		11° 43½′
The bright [star] in the mouth of ♌ [Luc. in ore ♌]	by the revolving quadrant [per Q. Volub.]	59° 43⅓′
[The star] in the forehead of ♌ [In fronte ♌]	by the revolving quadrant [per Q. Volub.]	62° 0½′
The lowest [star] in the neck of ♌ [Infima in ceruice ♌]	by the revolving quadrant [per Q. Volub.]	52° 49¾′
The heart of ♌ [Cor ♌]	by the Tychonic quadrant [per Q. Tich.]	48° 3′
	by the revolving quadrant [per Q. Volub.]	48° 2½′
	by the new sextant [per Sext. nou.]	48° 2½′
Declination by the armillae [Decl. per Armill.] among clouds [inter nubes]		13° 58′
The bright [star] in the neck [Luc. in ceruice]	by the Tychonic [quadrant] [per,Tich.]	55° 59½′

326

Afterwards [it was] dark [Poſtea tenebroſum.]

On 31 October, A. M. [DIE 31 OCTOBRIS A. M.]

A. M.	*The eye of ♉, west [Oculus ♉ occ.]*	*The heart of ♌, east [Cor ♌ or.]*	*Equatorial distance [Diſt. æquat.]*
5ʰ 15ᵐ	*61° 40⅔′*	*21° 46½′*	*83° 27⅙′*
5ʰ 18⅙ᵐ	*62° 27¼′*	*20° 59⅚′*	*83° 27′ 5″*
5ʰ 25ᵐ	*64° 8′*	*19° 18′*	*83° 26′*
5ʰ 27½ᵐ	*64° 50⅙′*	*18° 37⅓′*	*83° 27½′*

327

326 printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The sixth label runs over two lines, the instrument and value on the second. *inter nubes* stands on a line of its own, set to the right, between the declination 13 58 and the next label, with no value. In the last row a comma is printed between *per* and *Tich.*

327 all four column heads are printed, *A. M.* over the time column. The first time is printed with its marks, *H. 5 15′*; the other times are printed without marks and are given as hours and minutes. The values are printed without unit marks and are given as degrees and minutes; in the second row a 5 stands apart to the right of 83 27, at the seconds position, and is given as seconds.

On 7 November, A. M. [DIE 7 NOUEMBRIS A. M.]

Afterwards the heart of ☋ was observed, when it was near the meridian, in its declination, so that it may be compared with the meridian altitude [Poſtea obſeruabatur cor ☋ cum prope meridianum eßet, in ſua declinatione vt ea cum altitudine meridiana conferatur.]

[At] 6^h 0^m 5^s the heart of ☋ passed through the meridian, and that on the new meridian line; it had a meridian altitude of 48° 4′, good [6^H 0^M 5^s tranſiuit cor ☋ per meridianum idque in noua meridiej linea, habuit alt. meridianam 48^9 4′, bona.]

[Margin: From this let the clock be verified.[1]]

At about the same time the declination of the same was taken by the armillae [Circa idem tempus fuit declinatio eiusdem per armillas accepta]

Instrument	Value
with one pinnule [vno pinnacidio]	*13° 57′*
with the other pinnule [altero pinnac.]	*13° 57⅔′*

328

Value
48° 4′
34° 5′ 30″
13° 58′ 30″

It is necessary to find the reason for this discrepancy in the declination by the armillae and by the meridian altitude [Huius diuerſitatis in declinatione per armillas & per altitudinem meridianam oportet rationem inuenire.][329]

Afterwards we found that the armillae had not been fixed exactly enough in their level, so that they showed the declination smaller than the correct [one] by about 1′ in the northern [declinations], and larger than the correct [one] by as much in the more southern declinations; this fault is to be guarded against and corrected in the preceding [observations], especially in the declinations of the fixed stars. In ☿ there is no need, because it was limited in its observations with respect to Spica by declination, etc. [Nos poſtea deprehendimus armillas non ſatis exacte in libella ſua fuiße firmatas, ita vt vno ſcrupulo quaſi declinationem iuſto minorem in borealibus & tantum iuſto maiorem in auſtralioribus declinationibus exhiberent, quod vitium in antecedentibus cauendum et corrigendum venit, præſertim in declinationibus ſtellarum fixarum. In ☿ non eſt odus] [recte: opus] [eo quod is reſpectu Spicæ limitabatur in ſuis obſeruationibus per declinationem &c.]

[328] printed without heads; "Instrument" and "Value" are this edition's. The first value is printed *13^9 57*, with a degree mark and no minute mark; the second without marks; both are given as degrees and minutes.

[329] the three figures are printed without heads or unit marks at the left of the column, beside the first three lines of the sentence that follows them here, with a rule above the third; "Value" is this edition's. They are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

On 8 November [DIE 8 NOUEMBRIS.]

Reading	Instrument	Pinnule	Value
At about 5⅚^{h}, declination of the heart of ♌ [Circa horam 5⅚ Declin. cordis ♌]	*by the armillae [per Armillas]*	*with one [vno]*	*13° 58′*
		with the other [altero]	*13° 57′*
Repeated declination [Reiterata Decl.]		*with one [vno]*	*13° 58¼′*
		with the other [altero]	*13° 58′*

330

Time	Reading	Instrument	Value
5^{h} 57½^{m} [5^{H}57½′]; corr. 6^{h} 13^{m} 48^{s} (for both times)	*Meridian altitude of the heart of ♌ [Alt. Merid. cordis ♌]*	*by the revolving quadrant [per Q. Volub.]*	*48° 4¼′*
		by the mural quadrant [per Q. Mural.]	*48° 3′ 0″*
6^{h} 24^{m} 38^{s} corr.	*The bright [star] of the neck in the meridian [Luc. ceruicis in Merid.]*		*56° 0¼′*
	Declination of the same [Eiusdem Declin.]	*with one [vno]*	*21° 52¾′*
		with the other [altero]	*21° 53′*

331

On 11 November [DIE 11 NOUEMBRIS.]

When the heart of ♌ was near the meridian, its declination was observed by the armillae [Cum Cor ♌ eßet prope merid. obſeruabatur eius Declin. per Armillas]

Reading	Instrument	Value
Repeated declination [Repetita Decl.]	*with both pinnules [vtroque pin.]*	*13° 57½′*
		13° 57¾′
	with the other [alt.]	*13° 57½′*

330 printed without heads; "Reading", "Instrument", "Pinnule" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The first label runs over two lines, *per Armillas*, *vno* and the value on the second.

331 these rows stand at the head of the right column; no date heading is printed above them. Printed without heads; "Time", "Reading", "Instrument" and "Value" are this edition's. The two times in the first row are roman, the rest italic. A brace joins the two times, *5^{H}57½′* over *corr. 6 13 48*, to the two-line label *Alt. Merid. cordis ♌ / per Q. Volub.*, the value on the second line; the label is given once. The first time is printed with its marks; *corr. 6 13 48* and *6 24 38* are printed without marks and are given as hours, minutes and seconds. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand. The third label runs over two lines, *in Merid.* and the value on the second.

332

[At] 6ʰ 1ᵐ 47ˢ the heart of ☋ [passed] through the meridian [H. 6 1′ 47″ Cor ☋ per Meridianum,]

Reading	Value
Altitude by the revolving [quadrant], good [Alt. per Volub., bona]	*58° 3½*
Declination from the altitude [Declin. ex Altitud.]	*13° 58′*

333

[At] 6ʰ 12ᵐ 40ˢ the middle [star] of the neck passed through the meridian and had an altitude of 56° 0′ [6 12 40 Tranſiuit media Ceruicis per Merid. habuitque Altitud. 56 0][334]

Reading	Instrument	Value
After the level of the armillae had been verified again, the declination of the heart of ☋ was repeated and was found [Poſt verificatam denuo Libellam Armillarum repetebatur Declin. cordis ☋ & inuenta eſt]		*13° 58′*
	with the other pinnule [alt. pinnacid.]	*13° 57⅚′*

335

And this agrees quite exactly with that declination which was taken by the meridian line [Atque hoc ſatis exacte conuenit cum ea Declinatione quæ per lineam meridianam capiebatur.]

Reading	Instrument	Value	Remark
Declination of the middle [star] of the neck [Declin. mediæ Ceruicis]		*21° 54½′*	
	with the other pinnule [alt. pinn.]	*21° 54⅙′*	
Meridian altitude [Altit. Merid.]		*56° 0′*	

[332] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[333] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. The altitude is printed 58 3½ (the 58 and the single minute figure 3 confirmed on a native-resolution crop, nothing in the tens place of the minutes), while the declination printed from it, 13 58, is what an altitude of 48 3½ gives with the 34 5½ used on this page, and the meridian altitude of the heart of ☋ is printed 48 4 and 48 4¼ elsewhere on the page; the figures are given as printed, and no correction is made.

[334] the time is printed without marks and is given as hours, minutes and seconds; the altitude, printed without unit marks on a line of its own, is given as degrees and minutes.

[335] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The sentence runs over three lines, the value on the third. The values are printed without unit marks and are given as degrees and minutes.

Reading	Instrument	Value	Remark
Declination by the altitude [Decl. per Alt.]		*34° 5½′* *21° 54½′*	*agrees well [bene conuenit.]*

336

It is therefore evident that here too the declination and the meridian altitude agree well, and that both instruments, the quadrant as well as the greater armillae, are in order [Patet itaque quod hic etiam Declinatio & Altitudo Meridiana bene conueniant, & quod ambo inſtrumenta tam Quadrans quam Armillæ maiores recte ſe habeant.]

Reading	Instrument	Value
By the mural quadrant the altitude of the heart of ☌ was observed by Elias at the same time [Per Q. Muralem obſeruabatur Cordis ☌ Altitudo ab Elia eodem tempore]	*with one pinnule [vno pin.]*	*48° 3⅙′*
	with the other pinnule [alt. pinnacid.]	*48° 3′*
The altitude of the middle [star] of the neck, also by the mural [quadrant] [Altit. mediæ ceruicis etiam per Muralem]	*with one pinnule [vno pinnacidio]*	*55° 59½′*
	with the other [altero]	*55° 59′ 35″*

337

[1] It is written beside this in another hand: It should have passed at $6^h\ 18^m\ 0^s$; therefore the clock was running slower by $17^m\ 55^s$ [Adſcriptum eſt alia manu: Debuit tranſiuiße H. 6 18′ 0″, ergo Horologium tardius 17 M. 55″ ibat.]

Observations of the stars in Virgo [OBSERUATIONES STELLARUM IN VIRGINE.]

On 15 January [DIE 15 JANUARIJ.]

Reading	Instrument	Value
Meridian altitude of Vindemiatrix [Alt. Merid. Vindemiatricis]	by the revolving quadrant [per Q. Volub.]	47° 18′
	by the sextant [per Sextant.]	47° 19′
Meridian altitude of Spica ♍ [Alt. Mer. Spicæ ♍]	by the revolving quadrant [per Q. Volub.]	25° 8¾′
	by the sextant [per Sext.]	25° 9¼′

[336] printed without heads; ”Reading”, ”Instrument”, ”Value” and ”Remark” are this edition's. The values are printed without unit marks and are given as degrees and minutes. A rule stands under 34 5½, above the declination by the altitude.

[337] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. Each label runs over two lines, the instrument and value on the second. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

Reading	Instrument	Value
	Declination by the armillae [Declin. per Armillas]	8° 55¾′
	with the other pinnule [alt. pinnacidio]	8° 56′
The girdle of ♍ in the meridian [Cingulum ♍ in Meridiano]	by the revolving quadrant [per Q. Volub.]	35° 39½′
	by the sextant [per Sextant.]	35° 40½′
	Declination by the armillae [Declin. per Armillas]	1° 33⅔′
The upper foot of ♍ in the meridian [Superior pes ♍ in Merid.]	by the revolving quadrant, uncertain [per Q. Volub., incerta,]	30° 18′
	by the new sextant △ [per Sext. △ Nou.]	30° 20′
	Declination of the same by the armillae [Declin. eiusdem per Armill.]	3° 46′
	with the other pinnule [altero pinnacidio]	3° 47′

* not exactly enough (for the last four rows) [* non ſatis exquiſite.][338]

On 23 January, A. M. [DIE 23 JANUARIJ A. M.]

Reading	Instrument	Value
Spica ♍ in the meridian [Spica ♍ in Meridiano]	by the new sextant [per Sext. nou.]	25° 9′ 0″
	by the old sextant [per Sext. vet.]	25° 9′ 10″
	by the Tychonic quadrant, with both [perQ.Tich., vtroq.]	25° 8½′
Its declination by the subterranean armillae [Declin. eius per Arm. ſubterr.]		8° 56¼′
	with the other pinnule [alt. pinnacidio]	8° 56⅓′

339

Spica ♍, west [Spica ♍ occ.]	The bright [star] of the Vulture, east [Luc. Vultur. orient.]	Equatorial distance [Diſt. æquat.]	Remark
26° 58′	69° 46′	96° 44′	* (for the first four rows)
27° 37′	69° 8′	96° 45′	
30° 36′	66° 6′	96° 42′	
31° 39½′	65° 3½′	96° 43′	
32° 58′	63° 45′	96° 43′	

[338] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes. Each label stands on a line of its own, the instrument, declination and pinnule lines indented below it with their values. A brace joins the four values of the upper foot of ♍ to an asterisk, and the asterisked remark stands below them.

[339] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The label *Spica ♍ in Meridiano* stands at the left over the first three lines, the instruments beside it. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

* The Vulture and Spica were then at the same altitude, about 22° [* Fuerunt tunc Vultur & Spica in eodem Alt., quaſi 22 G.][340]

Reading	Instrument	Value
The knee of ♍ in the meridian had an altitude [Genu ♍ in Merid. habuit Alt.]	by the Tychonic quadrant [per Q. Tichon.]	35° 38′

[341]

On 24 January, A. M. [DIE 24 JANUARIJ A. M.]

Reading	Instrument	Value
Altitude of Spica ♍ in the meridian [Alt. Spicæ ♍ in Merid.]	by the old sextant [per Sext. Vet.]	25° 9′
	by the new sextant [per Sext. Nou.]	25° 8⅚′
	by the Tychonic quadrant [per Q. Tich.]	25° 8⅔′
	with the other pinnule [alt. pinn.]	25° 8½′
Declination of Spica by the subterranean armillae [Decl. Spicæ per Armill. ſubterr.]	with both pinnules [vtroque pinn.]	8° 56½′

[342]

At the very moment after the declination of Spica, the whole sky was being covered over with black clouds [Ipſo momento poſt declinationem Spicæ totum cœlum obducebatur atris nubibus.][343]

On 1 February [DIE 1 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Spica ♍ in the meridian [Spica ♍ in Meridiano]	by the new sextant [per Sext. nou.]	25° 8⅙′	completely dark (for both rows) [plane tenebroſum]

[340] the three value heads are printed; "Remark" is this edition's. The values are printed without unit marks and are given as degrees and minutes. A brace joins the equatorial distances of the first four rows to an asterisk. The asterisked note is printed between the fourth and the fifth row; the table is given here unbroken, with the note after it.

[341] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The sentence runs over two lines, the instrument and the value on the second. The value is printed without unit marks and is given as degrees and minutes.

[342] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The label *Alt. Spicæ ♍ in Merid.* stands at the left over the first three lines, the instruments beside it. The last label runs over two lines, the pinnule line and the value on the second. The values are printed without unit marks and are given as degrees and minutes.

[343] this sentence stands at the head of the right column, under no date heading.

Reading	Instrument	Value	Remark
	by the old sextant [per Sext. vet.]	25° 8¾′	
Its declination [Declin. eius]	by the armillae [per Armill.]	9° 56′	uncertain (for both rows) [incertæ]
	with the other pinnule [alt pinnacid.]	9° 57′	
Declination of the same [Decl. eiusdem]	repeated [repetita]	9° 57′	nor was it clear enough (for both rows) [neque erat ſatis ſerenum]
	with the other pinnule [alt. pinnacid.]	9° 56⅝′	

344

N. B. Observations after midnight were made among clouds that kept recurring from time to time [N. B. Obſeruationes poſt mediam noctem inter nubes ſubinde recurrentes factæ ſunt.]

On 7 February [DIE 7 FEBRUARIJ.]

By the Tychonic quadrant [Per Q. Tichonicum]

Reading	Instrument	Value
In the wing of ♍ [In ♍ ala]		34° 56′ 25″
	with the other pinnule [altero pinnacid.]	34° 56′ 20″
The following [star] in the wing [Sequens in ala,]	with both [vtroque]	39° 46′
In the back of ♍ [In dorſo ♍]		47° 18¼′
Difference of right ascension of Spica ♍ and the bright [star] of the Vulture [Differ. Aſcenſ. R. Spicæ ♍ & lucidæ Vulturis]	I	96° 44′ 10″
	II	96° 44′ 5″

345

The altitude of both stars was then about 20° [Tunc fuit Altitudo vtriusque ſtellæ circiter 20 G.]

344 printed without heads; "Reading", "Instrument", "Value" and "Remark" are this edition's. The values are printed without unit marks and are given as degrees and minutes. Each label stands on a line of its own, the lines below it indented with their values. A brace joins the two sextant values to the remark *plane tenebroſum*; a brace spanning *Declin. eius* and its two lines joins them to *incertæ*; a brace spanning *Decl. eiusdem* and its two lines joins them to *neque erat ſatis ſerenum*, set in small type over three lines. The four declinations of Spica of 1 February are printed with 9 degrees (the first two, 9 56 and 9 57, confirmed on a native-resolution crop), where Spica's declination is printed 8 55¾ to 8 56½ on the other days on this page; the page itself marks them uncertain, they are given as printed, and no correction is made.

345 printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand. The last label runs over two lines; the Roman numerals I and II stand before the values, which are given in the second column.

Afterwards, when the bright [star] of the Vulture was more elevated and Spica had an altitude of 16¾[°], we found its difference of right ascension from Aquila [Poſtea cum lucida Vulturis eßet eleuatior & Spica haberet Altitudinem 16¾, inuenimus differentiam Aſcenſionis rectæ eius ab Aquila]

	Value
I	96° 43′
II	96° 42⅙′
III	96° 42½′

346

Reading	Instrument	Value
Spica ♍	by the Tychonic quadrant [per Q. Tich.]	25° 8′ 20″
		25° 8′ 30″
	by the new sextant [per Sext. nou.]	25° 9¼′
	by the old sextant [per Sext. vet.]	25° 9′
Declination by the greater subterranean armillae [Declin. per Armill. maio. ſubterr.]	with one pinnule [vno pin.]	8° 56⅚′
	with the other [altero]	8° 56′ 55″
	Repeated, with one [Repetita, vno]	8° 57′
	with the other [altero]	8° 56⅚′
The knee of ♍ [Genu ♍]	by the Tychonic quadrant, with both [per Q. Tichon, vtroque]	35° 39′ 10″

347

On 13 February [DIE 13 FEBRUARIJ.]

Reading	Value	Remark
The middle [star] of the lower wing of ♍ [Media inferioris alæ ♍]	35° 45′	by the new sextant (for all four rows) [per Sext. nouum]
The lowest [star] in the northern side of ♍ [Infima in latere ♍ Bor.]	44° 57′	
In the belly of ♍ [In ventre ♍]	39° 46⅓′	
Praevindemiatrix [Præuindemiatrix]	47° 18¼′	

346 the altitude 16¾ is printed without a unit mark and is given as degrees. The three values, with the Roman numerals I, II, III before them, are printed at the right of the last three lines of the sentence; they are set out here below it. "Value" is this edition's head; they are printed without unit marks and are given as degrees and minutes.

347 printed without heads; "Reading", "Instrument" and "Value" are this edition's. The second value of Spica stands on a line of its own with no label. The declination label and the knee label each stand on their own line, the pinnule lines and values below them. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

348

Reading	Instrument	Value	Pinnule
Spica ♍	by the Tychonic quadrant [per Q. Tich.]	25° 8′ 20″	old pinnule [vet. pinn.]
		25° 8′ 40″	new [nou.]
	by the new sextant [per Sext. nou.]	25° 9′	
Its declination by the armillae [Declin. eius per Armill.]		8° 56⅔′	
	with the other pinnule [alt. pinnacid.]	8° 56½′	

349

Reading	Value	Remark
The middle [star] in the train of ♍ [Media in fyrmate ♍]	30° 16⅔′	by the new sextant (for both rows) [per Sext. nou.]
The far end of the northern foot of ♍ [Extrema Bor. pedis ♍]	37° 47⅔′	

350

On 29 October [DIE 29 OCTOBRIS.]

We observed Spica for the sake of ☿.[1] [Obſeruauimus Spicam propter ☿ [1].]

On 31 October [DIE 31 OCTOBRIS.]

Afterwards we observed Spica by the equatorial armillae for the sake of ☿.[1] [Poſtea Spicam obſeruauimus per Armillas æquatorias propter ☿[1].]

On 15 December [DIE 15 DECEMBRIS.]

The greater clock had not yet been corrected enough [Maius horologium nondum erat ſatis correctum.]

[348] printed without heads; "Reading", "Value" and "Remark" are this edition's. The values are printed without unit marks and are given as degrees and minutes. A brace joins the four values to *per Sext. nouum*, set in small type over two lines.

[349] printed without heads; "Reading", "Instrument", "Value" and "Pinnule" are this edition's. *vet.* stands in small type after the first value, with *pinn.* below it on a line of its own; *nou.* stands in small type after the second value, which has a line of its own with no label. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[350] printed without heads; "Reading", "Value" and "Remark" are this edition's. The values are printed without unit marks and are given as degrees and minutes. A brace joins the two values to *per Sext. nou.*, set in small type over two lines.

Clock	Time	Remark
By the lesser [clock] [Per minus]	*6^{h} 29^{m} 36*	*Spica passed exactly through the meridian and had an altitude of 25° 8⅝′ (for both times) [tranſiuit exacte Spica per Meridianum habuitque Altitud.]*
By the greater [clock] [Per maius]	*6^{h} 29^{m} 43^{s}*	

351

Spica through the meridian, at the greatest altitude, by the mural quadrant: 25° 8′, at nearly 6^{h} 35^{m} [Spica per Meridian. in altitudine maxima per Q. Muralem 25 8 H. 6 M. 35 fere.][352]

Reading	Instrument	Value
Declination by the greater armillae [Declin. per Armill. maiores]	*with one [vno]*	*8° 57½′*
	with the other [altero]	*8° 57¼′*

353

Note. The declination of Spica agrees sufficiently well with the mural [quadrant], but differs from the revolving quadrant by about 40″ [Nota. Declin. Spicæ ſatis bene conuenit cum Murali, ſed differt a Q. Volub. quaſi 40″.]

On 26 December [DIE 26 DECEMBRIS.]

Reading	Value
Distance of Spica and the heart of ♌ [Diſt. Spicæ & cordis ♌]	*54° 1¼′*
	54° 1′
	54° 1½′

354

But it may be that this was happening because of refraction, for Spica was low [Sed fieri poteſt quod ob refractionem hoc fiebat, erat enim Spica decliuis.]

[351] these rows stand at the head of the right column; no date heading is printed above them. Printed without heads; "Clock", "Time" and "Remark" are this edition's. The first time is printed *H.6 29 36*, with an hour mark only; the second *6 29 43* without marks; the minutes and seconds are given as such. A brace joins the two times to the sentence, which runs over three lines, the altitude *25 8⅝* on a fourth line of its own under *Altitud.*; the altitude is printed without unit marks and is given as degrees and minutes.

[352] the altitude is printed without unit marks and is given as degrees and minutes; the time is printed with *H.* and *M.*

[353] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[354] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes; the second and third stand on lines of their own under the first.

On 31 December, A. M. [DIE 31 DECEMBRIS A. M.]

Reading		Value
Distance between Spica ♍ and the heart of ♌ [Dist. inter Spicam ♍ & Cor ♌]	I	54° 1′
	II	54° 1¼′
	III	54° 1′

355

Observations of the stars in Libra [OBSERUATIONES STELLARUM IN LIBRA.]

On 15 January [DIE 15 JANUARIJ.]

Reading	Instrument	Value
The southern scale-pan of ♎ [Meridionalis Lanx ♎]	by the revolving quadrant [per Q. Volub.]	19° 51½′
	by the sextant △ [per Sext. △]	19° 52¾′
	Declination of the same by the armillae [Declin. eiusdem per Armill.]	14° 14⅓′
	with the other pinnule [altero pinnacid.]	14° 14′

356

On 23 January [DIE 23 JANUARIJ.]

Reading	Instrument	Value
The southern scale-pan of ♎ in the meridian [Merid. lanx ♎ in Merid.]	by the old sextant [per Sext. vet.]	19° 53¼′
	by the new sextant [per Sext. nou.]	19° 52½′
	by the Tychonic quadrant, with one [per Q. Tichon. vno]	19° 52⅓′
	with the other [altero]	19° 52¼′
	Declination of the same by the armillae [Declin. eiusdem per Armill.]	14° 13½′
	with the other pinnule [altero pinnacid.]	14° 13¾′
The northern scale-pan of ♎ in the meridian [Bor. lanx ♎ in Merid.]	by the new sextant [per Sext. nou.]	26° 19½′
	by the old sextant [per Sext. vet.]	26° 20′
	by the Tychonic quadrant, with both [per Q. Tichon., vtroque]	26° 19′

[355] printed without heads; "Reading" and "Value" are this edition's. The label runs over two lines; the Roman numerals I, II, III stand before the values. The values are printed without unit marks and are given as degrees and minutes.

[356] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The label stands on a line of its own, the lines below it indented with their values. The values are printed without unit marks and are given as degrees and minutes.

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On 1 February [DIE 1 FEBRUARIJ.]

Reading	Instrument	Value
The southern scale-pan by both sextants, among recurring clouds [Merid. lanx per Sext. vtrumque inter recurrentes nubes]		19° 52′
Declination by the armillae [Declin. per Armillas]	with one [uno.]	14° 12¾′

358

On 7 February [DIE 7 FEBRUARIJ.]

Reading	Instrument	Value
Meridian altitude of the northern scale-pan of ♎ [Alt. Merid. lancis ♎ Bor.]	by the Tychonic quadrant, with one pinnule [per Q. Tichon. vno pin.]	26° 18′ 55″
	with the other [altero]	26° 19′
	by the new sextant [per Sext. nou.]	26° 19¾′
	by the old sextant [per Sext. vet.]	26° 19¾′

359

On 13 February [DIE 13 FEBRUARIJ.]

Reading	Instrument	Value
The southern scale-pan of ♎ [Auſtralis lanx ♎]	by the Tychonic quadrant [per Q. Tichon.]	19° 51′ 15″
	with the other pinnule [alt. pinnacid.]	19° 51′ 25″
	by the new sextant [per Sext. nou.]	19° 52⅔′
The northern scale-pan of ♎ [Borealis lanx ♎]	by the Tychonic quadrant [per Q. Tichon.]	26° 18′ 40″
	with the other pinnule [alt. pinnacid.]	26° 18′ 55″
	by the new sextant [per Sext. nou.]	26° 19½′

[357] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The first label stands on a line of its own, the lines below it indented; the second, *Bor. lanx* ♎ *in Merid.*, stands at the left over two lines, the instruments beside it. The values are printed without unit marks and are given as degrees and minutes.

[358] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The first label runs over two lines, the value on the second. *uno.* stands alone at the right on the line below the declination value and is given on the declination's row. The values are printed without unit marks and are given as degrees and minutes.

[359] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. The label stands on a line of its own, the lines below it indented. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

Reading	Instrument	Value

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[1] Compare above, pp. 78 and 80, among the observations of Mercury [Cf. ſupra pp. 78 et 80 inter obſervationes Mercurii.]

Observations of the stars in Capricorn [OBSERUATIONES STELLARUM IN CAPRICORNO.]

On 22 September [DIE 22 SEPTEMBRIS.]

Reading	Value	Remark
Meridian altitude of the upper horn of ♑ [Altit. Merid. ſuperioris cornu ♑]	20° 21½′	
		not certain enough [non ſatis certa]
of the lower horn of ♑ [inferioris cornu ♑]	18° 6′	

361

Reading		Value
Distance between the bright [star] of the Vulture and the bright [star] of the tail of ♑, by the old sextant △ [Diſt. inter lucidam Vulturis & lucidam caudæ ♑ per Sext. △ veterem]	I	38° 4′
	II	38° 4′

362

On 23 September [DIE 23 SEPTEMBRIS.]

Reading	Instrument	Value
The upper horn of ♑ *[Superius cornu* ♑*]*		*20° 22¾′*
The lower horn of ♑ *[Inferius cornu* ♑*]*		*18° 6⅙′*
The preceding [star] of the tail of ♑ *[Præcedens caudæ* ♑*]*	*by the revolving [quadrant] [per Volub.]*	*15° 39½′*

[360] printed without heads; "Reading", "Instrument" and "Value" are this edition's. Each label stands at the left over two lines, the instruments beside it. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[361] printed without heads; "Reading", "Value" and "Remark" are this edition's. The label *Altit. Merid. ſuperioris* stands on a line of its own, *cornu* ♑ indented below it with the value; *non ſatis certa* stands alone at the right on the line under that value; *inferioris cornu* ♑ is indented under the first label. The values are printed without unit marks and are given as degrees and minutes.

[362] printed without heads; "Reading" and "Value" are this edition's. The label runs over three lines and is given whole on the first row; the Roman numerals I and II stand before the values. The values are printed without unit marks and are given as degrees and minutes.

Reading	Instrument	Value
	Declination by the armillae [Declin. per Armillas]	*18° 25½′*
The following [star] of the tail of ♉ [Sequens caudæ ♉]		*16° 10¼′*
	Declination of the following [star] of the tail [Declin. ſequ. caudæ]	*17° 54½′*

363

On 31 October [DIE 31 OCTOBRIS.]

In the evening[1] [Ad Veſperas[1]]

Reading	Value
Declination of the upper horn of ♉ [Declin. ſuperioris cornu ♉]	13° 40½′ south [13 40½ M.]
Declination of the lower horn of ♉ [Declin. inferioris cornu ♉]	15° 58½′ south [15 58½ M.]

364

The bright [star] of ♈, east [Lucida ♈ ad ort.]	*The upper horn of ♉, west [Superius cornu ♉ ad occaſ.]*	*Equatorial distance [Diſt. æquat.]*
58° 21¼′	*28° 59′*	*87° 20¼′*
57° 37½′	*29° 39½′*	*87° 17′*
56° 58′	*30° 20½′*	*87° 18½′*
56° 20½′	*30° 56½′*	*87° 17′*

365

Therefore set the ascensional difference [as] 87° 18′ [Pone itaque differentiam aſcenſionalem 87 18.][366]

On 1 November [DIE 1 NOUEMBRIS.]

Reading	Value
Declination of the lower horn of ♉ [Declin. inferioris cornu ♉]	15° 58½′ south [15 58½M.]
Equatorial distance between the bright [star] of ♈ and the lower horn of ♉ [Diſt. æquat. inter lucidam ♈ et inferius cornu ♉]	*86° 36′*

[363] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The declination lines and *per Volub.* are printed indented under the star labels. The values are printed without unit marks and are given as degrees and minutes.

[364] printed without heads; "Reading" and "Value" are this edition's. The figures are printed without unit marks and are given as degrees and minutes; *M.* follows each value.

[365] this table stands at the head of the right column; no date heading is printed above it. The three heads are printed. The values are printed without unit marks and are given as degrees and minutes.

[366] the value is printed without unit marks and is given as degrees and minutes.

Reading	Value
The same, repeated [Eadem reiterata]	*86° 36′*

367

On 16 November [DIE 16 NOUEMBRIS.]

Reading	Value
Declination of the lower horn of ♍ [Declin. inferioris cornu ♍]	15° 59′
Equatorial distance of it from the bright [star] of ♈, east [Diſt. æquat. eius a lucid. ♈ or.]	86° 33¼′
Declination of the same [Declin. eiusdem]	15° 58′
Equatorial distance of the same from the bright [star] of ♈ [Diſt. æquat. eiusdem a luc. ♈]	86° 35′
Declination of the lower horn of ♍ [Declin. inferior. cornu ♍]	15° 58¾′
Distance from the bright [star] of ♈, east [Diſt. a lucida ♈ or.]	86° 35′
Declination of the same, south [Declin. eiusdem-M.]	15° 58¾′
Distance from the bright [star] of ♈, east [Diſt. a lucida ♈ or.]	86° 34′

368

Observations of the stars in Aquarius [OBSERUATIONES STELLARUM IN AQUARIO.]

On 22 September [DIE 22 SEPTEMBRIS.]

Reading		Value
Between the bright [star] of the Vulture and the left shoulder of ♒ [Inter Lucidam Vulturis & ſiniſtrum humerum ♒]	I	29° 0¼′
	II	29° 0⅔′
	III	29° 0¼′
	otherwise [alias]	28° 59′

369

On 23 September [DIE 23 SEPTEMBRIS.]

[367] printed without heads; "Reading" and "Value" are this edition's. The second label runs over two lines, its value on the second. The figures are printed without unit marks and are given as degrees and minutes.

[368] printed without heads; "Reading" and "Value" are this edition's. On the seventh row *M.* stands after the label, not after the value, with a short hyphen-like mark before it. The values are printed without unit marks and are given as degrees and minutes.

[369] printed without heads; "Reading" and "Value" are this edition's. The label runs over three lines and is given whole on the first row; the Roman numerals I, II, III stand before the values; *alias* stands with its value alone at the right on the line below. The values are printed without unit marks and are given as degrees and minutes.

Reading	Instrument	Value
The left shoulder of ♒ [Sinister humerus ♒]	by the revolving [quadrant] [per Volub.]	26° 46′
The right shoulder of ♒ [Dexter humerus ♒]	*Meridian altitude [Alt. Merid.]*	*31° 49⅓′*
	Declination of the right shoulder by the armillae [Declin. dextri humeri per Armillas]	*2° 15′*
	with the other pinnule [alt. pinn.]	*2° 15⅙′*

370

Afterwards the armillae were being rectified again [Postea denuo rectificabantur armillæ.][371]

On 27 September [DIE 27 SEPTEMBRIS.]

Reading	Instrument	Value
Meridian altitude of the left shoulder of ♒ [Alt. Mer. sinistri humeri ♒]		26° 46⅓′
	Declination from the meridian altitude [Declin. ex Alt. Merid.]	7° 19⅙′
	Declination by the armillae [Declin. per Armill.]	7° 19′

372

It was not clear enough [Non fuit satis serenum.]

On 30 September [DIE 30 SEPTEMBRIS.]

Reading	Instrument	Value
Meridian altitude of the left shoulder of ♒ [Alt. sinistri humeri ♒ Merid.]	by the revolving [quadrant] [per Volub.]	26° 45¾′
	Declination of the same by the armillae [Declin. eiusdem per Armill.]	7° 19¼′
	with the other [altero]	7° 19′

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[370] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The lines under each star label are printed indented; *Declin. dextri humeri* stands on a line of its own with *per Armillas* and the value on the line below, and the two lines are given whole on one row. The values are printed without unit marks and are given as degrees and minutes.

[371] this sentence stands at the head of the right column; no date heading is printed above it.

[372] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The declination lines are printed indented under the label. The values are printed without unit marks and are given as degrees and minutes.

[373] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Merid.* is printed after the sign ♒. *Declin. eiusdem* stands indented on a line of its own, with *per Armill.* and the value on the line below; the two lines are given whole on one row. The values are printed without unit marks and are given as degrees and minutes.

[1] Added in Tycho's hand at the top of the page: *Compare the stars in the comet.* Compare vol. IV, p. 36 of our edition [Adſcriptum eſt manu Tychonis ad ſummam paginam: Cfr. Stellas in Cometa. Cf. T. IV p. 36 noſtræ editionis.]

On 31 October [DIE 31 OCTOBRIS.]

The left shoulder of ♒ [Iniſter humerus ♒]

The bright [star] of ♈, east [Lucida ♈ or.]	*The left shoulder of ♒, west [Iniſter humerus ♒ occ.]*	*Ascensional difference [Diff. Aſcenſionalis]*
52° 16¾′	*16° 21½′*	*68° 38¼′*
51° 44½′	*16° 53′*	*68° 37½′*
51° 18½′	*17° 16′*	*68° 34½′*
50° 54½′	*17° 42½′*	*68° 37′*
50° 14½′	*18° 21½′*	*68° 36′*
49° 11′	*19° 23½′*	*68° 34½′*

374

Set the ascensional difference [as] 68° 37′ [Pone differentiam aſcenſionalem 68 37]
The right shoulder of ♒ [Dexter humerus ♒]

The bright [star] of ♈, east [Lucida ♈ or.]	*The right shoulder of ♒, west [Dexter humerus ♒ occ.]*	*Difference of ascension [Diff. Aſcenſ.]*
47° 39½′	*12° 12′*	*59° 51½′*
46° 53½′	*12° 59½′*	*59° 53′*
45° 52′	*14° 2½′*	*59° 54½′*
45° 3½′	*14° 50⅙′*	*59° 53′ 40″*
44° 37¼′	*15° 18′*	*59° 55¼′*
43° 22½′	*16° 31′ 40″*	*59° 54⅙′*

375

Set the ascensional difference [as] 59° 54′ [Pone differentiam Aſcenſional. 59 54]
Declination of the right shoulder: 2° 16′ south [Declin. humeri dextri 2 16 Mer.][376]

On 1 November [DIE 1 NOUEMBRIS.]

Reading	Value
Declination of the bright [star] of the left hand of ♒ [Declin. ſiniſtræ manus ♒ lucidæ]	10° 55½′ south [10 55½M.]

[374] the three heads are printed. The values are printed without unit marks and are given as degrees and minutes.

[375] the three heads are printed. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand (the fourth row, third column; the sixth row, second column).

[376] the figures in the two sentences above are printed without unit marks and are given as degrees and minutes.

Reading	Value
Declination of the left shoulder of ♒ [Declin. finiſtri humeri ♒]	7° 19¼′ south [7 19¼M.]
Declination of the right shoulder of ♒ [Declin. dextri humeri ♒]	2° 16′ south [2 16 M.]

377

The left shoulder of ♒ [Siniſter humerus ♒]

Time	*The bright [star] of the Vulture, west [Lucida Vulturis occid.]*	*The left shoulder, west [Siniſt. hum. occid.]*	*Difference of aſcenſ. [Differ. aſcenſ.]*
	37° 46⅓′	*13° 0⅚′*	*24° 45′ 30″*
	38° 22′	*13° 37½′*	*24° 44′ 30″*
7ʰ 0ᵐ	*38° 59′*	*14° 14½′*	*24° 44½′*

378

Set the equatorial distance [as] 24° 45′ [Pone diſtantiam æquatoriam 24 45][379]

Time		*The right shoulder, west [Dext. hum. occid.]*	
7ʰ 3ᵐ	*39° 40′*	*6° 13½′*	*33° 26½′*
7ʰ 6ᵐ	*40° 15½′*	*6° 47¼′*	*33° 28¼′*
7ʰ 8ᵐ	*40° 45′*	*7° 15′*	*33° 30′*
7ʰ 10ᵐ	*41° 14½′*	*7° 46′*	*33° 28½′*
7ʰ 12ᵐ	*41° 44¾′*	*8° 18′*	*33° 26¾′*

380

Time		*The right shoulder, west [Dext. hum. occid.]*	
7ʰ 16ᵐ	*42° 33½′*	*9° 4′*	*33° 29½′*
7ʰ 20ᵐ	*43° 43½′*	*10° 4½′*	*33° 29′*

377 printed without heads; ”Reading” and ”Value” are this edition's. The first label runs over two lines, the value alone at the right on the second. The figures are printed without unit marks and are given as degrees and minutes; *M.* follows each value.

378 the three heads over the value columns are printed; ”Time” is this edition's, the column having no head, and only the third row carries a figure in it, printed *7ᴴ 0ᴹ*. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

379 the value is printed without unit marks and is given as degrees and minutes.

380 only the head over the third column is printed, over two lines; ”Time” is this edition's, and the second and fourth columns have no head. The first column is printed as bare pairs of figures (*7 3 … 7 12*) and is given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes. The rows continue at the head of the right column.

381

Set the ascensional difference [as] 33° 28′ [Pone differentiam aſcenſionalem 33 28][382]

On 6 November [DIE 6 NOUEMBRIS.]

Reading	Value
Declination of the left shoulder of ♒ [Declin. ſiniſtri hum. ♒]	*7° 17′ south [7 17M.]*
Declination of the same, repeated [Repetita Declin. eiusdem]	*7° 17½*
Declination of the right shoulder of ♒ [Declin. hum. ♒ dextri]	*2° 15′ south [2 15M.]*
Declination of the right shoulder, repeated [Repetita decl. dext. hum.]	*2° 15′*

383

On 17 November [DIE 17 NOUEMBRIS.]

The hand of ♒ [Manus ♒]

The bright [star] of the Vulture, west [Lucida Vult. occ.]	The bright [star] of the left hand of ♒, west [Lucida ſiniſtræ manus ♒ occ.]	Difference of ascension [Different. Aſcenſ.]
38° 45′	25° 6½′	13° 38½′
39° 14′	25° 34′	13° 40′
39° 40′	26° 1¾′	13° 38¼′
40° 1½′	26° 23′	13° 38½′

384

Set the difference of right ascension of the bright [star] in the left hand of ♒ from the Vulture [as] 13° 38½′ [Pone differentiam Aſcenſ. R. Lucidæ in ſiniſtra manu ♒ a Vulture 13 38½]

The same, from the bright [star] of ♈ [Eadem a Lucida ♈]

[381] these two rows stand at the head of the right column and continue the rows above across the column break; the head *Dext. hum. occid.* is printed again, on one line, over the third column only. "Time" is this edition's; the first column is printed as bare pairs of figures and is given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes. In the row of $7^{h}\ 20^{m}$ the printed values 43 43½ and 10 4½ differ by 33° 39′, while the difference is printed 33 29, where the other six rows of this run agree with their differences; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

[382] the value is printed without unit marks and is given as degrees and minutes.

[383] printed without heads; "Reading" and "Value" are this edition's. The two *Repetita* lines are printed indented. The figures are printed without unit marks and are given as degrees and minutes.

[384] the three heads are printed. The values are printed without unit marks and are given as degrees and minutes.

The bright [star] of the hand of ♒, west [Luc. manus ♒ occ.]	The bright [star] of ♈, east [Lucida ♈ orient.]	Equatorial distance [Diſt. æquat.]	Remark
27° 24′	52° 15¼′	79° 39¼′	
27° 56⅓′	51° 44′	79° 40⅓′	
28° 30′	51° 15½′	79° 45½′	uncertain [incerta]
28° 49′	50° 52′	79° 41′	
29° 17′	50° 24′	79° 41′	

385

Set the difference of ascension from the bright [star] of ♈ [as] 79° 40½′ [Pone differentiam Aſc. a lucida ♈ 79 40½]

Declination of the bright [star] of the hand of ♒: 10° 53½′ [Declin. Lucidæ manus ♒ 10 53½][386]

On 23 November [DIE 23 NOUEMBRIS.]

The places of some fixed stars were being observed at intervals between 6^h and 8^h by the zodiacal armillae [Obſeruabantur per interualla inter H. 6 & 8 aliquot fixarum loca per Armillas Zodiacales.][387]

Reading		Value
With the bright [star] of ♈ set at [Poſita ♈ Lucida in]		1° 55′ ♉
the place of the left shoulder of ♒ was observed at [obſeruatus eſt Siniſtri humeri ♒ locus in]	I	17° 44′ ♒
	II	17° 44½′
	III	17° 44′
With the place of the bright [star] of ♈ set at [Poſito loco Lucid. ♈ in]		1° 55′ ♉
the right shoulder of ♒ was being observed at [Dexter humerus ♒ obſeruabatur in]		27° 41¼′ ♒
		27° 42′
		27° 42′

388

[385] the three heads over the value columns are printed; "Remark" is this edition's. *incerta* stands to the right of the third value of the third row. The values are printed without unit marks and are given as degrees and minutes.

[386] the figures in the two sentences above are printed without unit marks and are given as degrees and minutes.

[387] *H.* is printed once, before 6; the hour is given to both figures.

[388] printed without heads; "Reading" and "Value" are this edition's. The first value is printed *1°55′♉* with a degree sign and a prime; the second place of the bright star is printed *1 55 ♉* without marks and is given as degrees and minutes, as are the other values, which are printed without unit marks. The label *obſeruatus eſt Siniſtri hume- ri ♒ locus in* runs over three lines, beside the Roman numerals I, II, III, and is given whole on the first of its rows; *Dexter humerus ♒ obſeruabatur in* runs over two lines, beside the first two values, and is given whole on the first. The sign ♒ follows the first value of each group only.

Observations of the stars in Pisces [OBSERUATIONES STELLARUM IN PISCIBUS.]

On 1 November [DIE 1 NOUEMBRIS.]

The jaw of ♓ [Mandibula ♓]

Time	The southern jaw of ♓, west [Mandibula ♓ Auſt. occ.]	The bright [star] of ♈, east [Lucida ♈ or.]	Equatorial distance [Diſt. æquat.]
$9^h\ 41^m$ [H.9 M.41]	28° 15½′	13° 44½′	42° 0′
$9^h\ 46^m$	29° 7¼′	12° 54½′	42° 1¾′
$9^h\ 49^m$	29° 41½′	12° 20½′	42° 2′
$9^h\ 51^m$	30° 15′	11° 46½′	42° 1½′

389

The head of ♓ [Caput ♓]

Time	The head of ♓, west [Caput ♓ occ.]		
$9^h\ 59^m$	29° 25¼′	9° 46½′	39° 11¾′
$10^h\ 2^m$	30° 3¾′	9° 4¾′	39° 8½′
$10^h\ 5^m$	30° 55¼′	8° 18′	39° 13¼′

390

This difference [is] not certain enough on account of the beam [Hæc differentia non ſatis certa propter trabem.]

The breast of ♓ [Pectus ♓]

Time	The breast of ♓, west [Pectus ♓ occid.]		
$10^h\ 13^m$	33° 9½′	6° 26¼′	39° 35¾′
$10^h\ 15^m$	33° 46′	5° 48⅙′	39° 34⅙′
$10^h\ 20^m$	34° 50¾′	4° 44½′	39° 35¼′

391

Set the equatorial distance [as] 39° 35′ [Pone diſtantiam æquatoriam 39 35]

[389] the three heads over the value columns are printed; "Time" is this edition's, the column having no head. The first time is printed *H.9 M.41*; the others are printed as bare pairs of figures and are given as hours and minutes. The values are printed without unit marks and are given as degrees and minutes.

[390] only the head over the second column is printed; "Time" is this edition's, and the third and fourth columns have no head. The first column is printed as bare pairs of figures and is given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes.

[391] only the head over the second column is printed; "Time" is this edition's, and the third and fourth columns have no head. The first column is printed as bare pairs of figures and is given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes.

On 6 November [DIE 6 NOUEMBRIS.]

The mouth of ♓, west [Os ♓ occ.]	The bright [star] of ♈, west [Lucida ♈ occid.]	
49° 39½′	4° 21½′	45° 18′
50° 30′	5° 13′	45° 17′
51° 4¾′	5° 46¾′	45° 18′

392

Set this difference of ascension [as] 45° 17⅔′ [Pone hanc Differ. Aſc. 45 17⅔][393]

The jaw of ♓ [Mandibula ♓]

The jaw of ♓, west [Mandibula ♓ occ.]		
48° 31¼′	6° 28′	42° 3¼′
49° 30′	7° 26′	42° 4′
49° 55′	7° 50½′	42° 4½′

394

Set the equatorial distance [as] 42° 4′ [Pone diſtant. æquat. 42 4]

The head of ♓ [Caput ♓]

The head of ♓, west [Caput ♓ occ.]		
47° 59¾′	8° 44′	39° 15¾′
48° 50′	9° 34′	39° 16′
49° 26½′	10° 13½′	39° 13′
51° 5¾′	11° 50′	39° 15¾′
51° 50½′	12° 37′	39° 13½′

395

Set here 39° 14′ [Pone hic 39 14]

The breast of ♓ [Pectus ♓]

The breast of ♓, west [Pectus ♓ occ.]		
53° 27′	13° 51½′	39° 35½′

[392] the heads over the first two columns are printed; the third column has no head. The values are printed without unit marks and are given as degrees and minutes.

[393] the figures in the two sentences above are printed without unit marks and are given as degrees and minutes. The right-hand column of the page, which follows, carries no date heading of its own.

[394] only the head over the first column is printed; the second and third columns have no head. The values are printed without unit marks and are given as degrees and minutes.

[395] only the head over the first column is printed; the second and third columns have no head. The values are printed without unit marks and are given as degrees and minutes.

The breast of ♓, west [Pectus ♓ occ.]		
54° 41′	15° 5½′	39° 35½′

396

Equatorial distance 39° 35½′ [Diſtantia æquatoria 39 35½]

Reading	Value	Remark
Declination of the mouth of ♓, north [Declinatio oris ♓ B.]	1° 39½′	
Declination of the jaw of ♓, north [Declin. Mandibulæ ♓ B.]	1° 6′	
		repeat [repete]
Declination of the head of ♓, north [Declin. capitis ♓ B.]	4° 8¾′	
Declination of the breast of ♓, south [Declin. pectoris ♓ M.]	0° 55½′	
Declination of the back of ♓, north [Declin. dorſi ♓ B.]	3° 27′	
Declination of the belly of ♓, south [Declin.Ventris ♓ M.]	0° 25½′	

397

Observations of the stars in the northern asterisms outside the zodiac [OBSERUATIONES STELLARUM IN ASTERISMIS BOREALIBUS EXTRA ZODIACUM.]

On 13 January [DIE 13 JANUARIJ.]

By the revolving quadrant, meridian altitude [Per Q. Volub. Alt. Merid.]

Reading	Value
of the left foot of Andromeda [ſiniſtri pedis Andromedæ]	74° 22⅓′
of the highest [star] in the Triangle [ſupremæ in Triangulo]	67° 3′

398

after the pinnules [had been] corrected and the centre of the Quadrant re-examined and restored [poſt correcta pinnacidia et centrum Quadrantis reviſum & redintegratum.]

When the bright [star] of the shoulder of Cepheus was toward the west, at about the sixth hour [Cum verſus occaſum eßet Lucida humeri Cephei circa horam Sextam]

396 only the head over the first column is printed; the second and third columns have no head. The values are printed without unit marks and are given as degrees and minutes.

397 printed without heads; "Reading", "Value" and "Remark" are this edition's. *repete* stands alone at the right on the line under the value of the jaw. The figures in the sentences *Pone …* and *Diſtantia æquatoria …* above and in these rows are printed without unit marks and are given as degrees and minutes.

398 printed without heads; "Reading" and "Value" are this edition's. The two rows are printed indented under *Per Q. Volub. Alt. Merid.*; the values are printed without unit marks and are given as degrees and minutes.

Reading	Value
Declination [[Decl.]]	*60° 53¾′*

399

Reading	Value
Declination of the highest [star] in the Chair [Supremæ in Cathedra declin.]	*56° 53′*
with the other pinnule [altero pinnacid.]	*56° 53½′*
Minimum altitude of the bright [star] in the □ of Ursa Minor [Altit. minima Lucidæ in □ Vrſæ minoris]	41° 44⅙′

400

but it is doubtful whether it was exactly in the meridian [ſed dubium eſt an fuerit exquiſite in Meridiano.]

Reading	Value
The other [star] in the Bear [Altera in Vrſa]	*39° 12¼′*
repeated [reiterata]	*39° 12′*

401

Reading	Instrument	Value
Declination of the same by the armillae [Declin. eiusdem per Armillas]	*with both pinnules [vtroque pinnacid.]*	*73° 21′*[1]

402

55° 54½′		*16° 39′*
39° 12′		*16° 42′*
16° 42½′	*Difference [Differentia]*	*3′*

[399] printed without heads; "Reading" and "Value" are this edition's. The edition prints the abbreviation *Decl.* in square brackets; the English gives it as text. The value is printed without unit marks and is given as degrees and minutes.

[400] printed without heads; "Reading" and "Value" are this edition's. *Supremæ in Cathedra* stands on a line of its own, *declin.* on the next with the value; *Altit. minima Lucidæ* stands on a line of its own, *in □ Vrſæ minoris* indented below it with the value. The sign □, a hollow square, is kept. The values are printed without unit marks and are given as degrees and minutes.

[401] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[402] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The value is printed without unit marks and is given as degrees and minutes.

403

Reading	Value
Meridian altitude of the bright [star] in the lower foot of Perseus [Alt. Merid. Lucidæ in infer. pede Perſei]	64° 39′
The bright foot of Erichthonius by the quadrant [Lucidus pes Erichtonij per Q.]	62° 13⅚′

404

On 14 January [DIE 14 JANUARIJ.]

Reading	Instrument	Value
The bright [star] in the □ of Ursa Minor [Lucida in □ Vrſæ min.]		*41° 45⅓′*
Then again [Deinde rurſus]	*exactly [exacte]*	*41° 45′*
Repeated [Reiterata]		*41° 45′*
Repeated [Reiterata]	*good [bona]*	*41° 44¾′*
Declination of the same by the armillae [Declin. eiusdem per Armill.]		*75° 51′*
	with the other pinnule [altero pinnac.]	*75° 51¼′*
	**the difference is ½′*2 [differentia eſt ½′2]*	
Declination of the following [star] in the □ of Ursa Minor [Declin. ſequentis in □ Vrſæ minoris]	*with one pinnule [vno pinn.]*	*73° 20¾′*
	with the other [altero]	*73° 20¼′*
Altitude of the same by the quadrant in the meridian [Alt. eiusdem per Q. in Mer.]		*39° 11′ 45″*
Declination from the altitude [Declin. ex Altitud.]		*73° 17′ 15″*
The difference is 3′ [Differentia eſt ſcrupulorum 3]		

405

On 15 January [DIE 15 JANUARIJ.]

[403] two subtractions are printed side by side without heads; the columns and their blank heads are this edition's. A rule stands under the second figure of each, above the result; *Differentia* stands on the line of the results, before the 3. The values are printed without unit marks and are given as degrees and minutes; the lone 3 is given as minutes.

[404] printed without heads; "Reading" and "Value" are this edition's. The first label runs over two lines, the value on the second. The values are printed without unit marks and are given as degrees and minutes.

[405] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *exacte* and *bona* stand immediately before their values, in the second column; *differentia eſt ½′* stands right-aligned on a line of its own, and is the only value on the page printed with a mark (a prime after ½). The label *Declin. ſequentis in □ Vrſæ minoris* runs over two lines, *vno pinn.* on the second with the value. The other values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand. The sign □, a hollow square, is kept.

Reading	Instrument	Value
Meridian altitude of the head of Medusa [Alt. Merid. capitis Meduſæ]	*by the quadrant [per Q.]*	*73° 22½′*
Declination by the armillae [Declin. per Armillas]	*with one [vno]*	*39° 17½′*
	with the other pinnule [altero pinnacid.]	*39° 17¾′*
Meridian altitude of the side of Perseus [Alt. Merid. lateris Perſei]	*by the quadrant [per Quad.]*	*82° 24¼′*
The bright [star] of the □ of Ursa Minor by the armillae [Lucida □ Vrſæ minoris per Armill.]	*with one [vno]*	*75° 51′*
	with the other pinnule [alt. pinn.]	*75° 51½′*
The other [star] in Ursa Minor [Altera in Vrſa minore]		*39° 12′ 10″*
Declination by the armillae [Decl. per Armillas]	*with both pinnules [vtroque pin.]*	*73° 18′ 30″*
The upper foot of Erichthonius in the meridian [Superior pes Ericht. in Merid.]	by the portable quadrant [per Q. Portat.]	66° 30⅙′
Declination of the same by the armillae [Decl. eiusdem per Armill.]	with both [vtroque]	32° 25′
The lower of the Kids in the meridian [Hædorum inferior in Merid.]		74° 40′
Capella in the meridian [Capella in Merid.]	by the revolving quadrant [per Q. Volub.]	79° 33′

406

Reading	Instrument	Value
The neck of Canis Minor [Ceruix Canis min.]	by the revolving quadrant [per Q. Volub.]	43° 9′
	by the sextant △ [per Sext. △]	43° 10′
Declination by the armillae [Declin. per Armill.]	with one [vno]	9° 3½′
	with the other [altero]	9° 3¼′
Canis Minor [Canis minor]	by the revolving quadrant [per Q. Volub.]	40° 19′
	by the sextant △ [per Sext. △]	40° 19¾′
Declination by the armillae [Decl. per Armillas]	with one [vno]	6° 13½′
	with the other [altero]	6° 13¼′
Declination of the far end of the tail of Ursa Major [Declin. extremæ caudæ vrſæ maioris]		51° 24¼′
	with the other pinnule [alt. pinn.]	51° 24′
Altitude of the bright [star] of the shoulder of Cepheus in the meridian [Alt. Lucid. humeri Cephei in Merid.]	by the revolving quadrant [per Q. Volub.]	26° 49′
Its declination [Declin. eius]	with both pinnules, armillae [vtroque pinn. Armill.]	60° 53′

[406] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The label *Lucida □ Vrſæ minoris per Armill.* runs over three lines, *vno* standing at the right of the second and *alt. pinn.* at the right of the third, each with its value; it is given whole on the first of its rows. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

407

Toward the west the same declination was 60° 51½′, repeated 60° 52½′ [Verſus occaſum erat eadem declinatio 60 51½, reiterata 60 52½]

Therefore the armillae [differ] by ½′ [Itaque dimidio ſcrupulo Armillæ.][408]

Reading	Instrument	Value	Remark
Altitude of the bright [star] in the girdle of Cepheus [Altit. Lucidæ in cingulo Cephei]	by the revolving quadrant [per Q. Volub.]	35° 41⅙′	
Declination of the same by the armillae [Declin. eiusdem per Armill.]		68° 47′	
	with the other pinnule [alt. pinnacid.]	68° 46¾′	
Minimum altitude of Schedar of Cassiopeia [Altit. minima Schedir Caßiopeæ]	by the revolving quadrant [per Q. Volub.]	20° 12½′	
Minimum altitude of the pole star [Alt. min. ſtellæ Polaris]	by the revolving [quadrant] [per Volub.]	52° 59½′	
Maximum altitude of the last [star] in the tail of Ursa Major [Alt. maxima extremæ in Cauda vrſæ maioris]	by the revolving quadrant [per Q. Volub.]	85° 30′	
The bend of Boötes in the meridian [Flexura Bootis in Mer.]	by the revolving [quadrant] [per Volub.]	54° 37′	
Declination of the same by the armillae [Declin. eiusdem per Armill.]		20° 31′	
	with the other pinnule [alt. pinnacid.]	20° 31¼′	
Meridian altitude of Arcturus by the revolving [quadrant] [Alt. Arcturi Merid. per Volub.]		55° 28½′	
Declination of the same by the armillae [Declin. eiusdem per Armill.]		21° 23¾′	
	with the other pinnule [alt. pinnacid.]	21° 23⅔′	
The left shoulder of Boötes in the meridian [Sinift. hum. Bootis in Mer.]	by the revolving quadrant [per Q. Volub.]	74° 10′	uncertain [incerta]
Declination of the same [Decl. eiusdem]	by the armillae [per Armill.]	40° 9′	good (for both) [bonæ]
	with the other pinnule [alt. pinnacid.]	40° 9′	

[407] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The label *Ceruix Canis min.* stands on a line of its own; *Declin. extremæ caudæ* runs on to *vrſæ maioris* on the next line, which carries *alt. pinn.* and the second value; *Alt. Lucid. humeri Cephei in* runs on to *Merid.* on the next line; *Declin. eius vtroque* runs on to *pinn. Armill.* on the next line with the value. The values are printed without unit marks and are given as degrees and minutes. The sign △, a hollow triangle, is kept.

[408] the figures in the sentence above are printed without unit marks and are given as degrees and minutes.

Reading	Instrument	Value	Remark
Declination of the bright shoulder of Cepheus [Decl. lucidi hum. Cephei]		60° 52¼′	

409

by the armillae, with a single pinnule only on account of the beam, when it was distant from the pole toward the east [per Armillas, vnico tantum pinnacidio propter trabem, cum a polo ad ortum diſtaret.][410]

Reading	Instrument	Value
Maximum altitude of the bright [star] in the □ of Ursa Minor [Altit. maxima Lucidæ in □ Vrſæ minoris]	by the revolving quadrant [per Q. Volub.]	70° 3′ 30″
Declination by the armillae [Declin. per Armillas]		75° 50⅙′
	with the other pinnule [alt. pinnacid.]	75° 49¾′

411

1 Added in Codex V: »This observation was made for the comparison of the instruments« [Adſcriptum eſt in codice V.: »Hæc obſeruatio facta eſt pro collatione inſtrumentorum«.].

2 So in Codex C [Sic in codice C.].

Reading	Value	Reading	Value
below the pole [Infra polum]	*75° 51′*	*above the pole [Supra polum]*	*75° 50′ 10″*
	75° 51½′		*75° 49′ 45″*
mean [medium]	*75° 51¼′*	*mean [medium]*	*75° 49′ 58″*
The mean of these [Horum medium]	*75° 50′ 36″*		

[409] printed without heads; "Reading", "Instrument", "Value" and "Remark" are this edition's. Each label that stands on a line of its own is given with the instrument and value printed on the line below it. *per Armill.* of the declination of the left shoulder of Boötes is printed on the line under *Decl. eiusdem*, before the first value, and is kept in the second column. *bonæ* stands to the right of the two values 40 9 and 40 9, joined to both, and is given once, on the first row. *incerta* stands after its value. The values are printed without unit marks and are given as degrees and minutes.

[410] this sentence is printed indented in the column directly under the row *Decl. lucidi hum. Cephei 60 52¼*, which it continues, and above *Altit. maxima Lucidæ …*; the English gives it as a line of its own after the table.

[411] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The first label runs over two lines, *mi- noris* divided across them, the instrument and value on the second. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

412

Therefore the true declination of the one that is below the pole, the bright [star] in the □ of Ursa Minor, ought to be 70° 50′ 40″ in the evening, and above the pole in the same way. Therefore the axis of the instrument ought to be raised so that it gives a declination of 70° 50′ 40″, as far as these observations are concerned [Vera itaque declinatio eius quæ eſt infra polum in □ Lucida Vrſæ minoris debet veſperi eße 70ᵍ 50′ 40″ & ſupra polum eodem modo. Debet itaque axis inſtrumenti ita attolli vt declinationem præbeat 70ᵍ 50′ 40″ quantum ad has obſeruationes attinet.][413]

On 16 January [DIE 16 JANUARIJ.]

Reading	Instrument	Value
Altitude of the following [star] in the □ of the Bear [Altit. ſequentis in □ Vrſæ]		*39° 12⅓′*
Declination [Declin.]	*with one pinnule [vno pinnacid.]*	*73° 19½′*
The bright [star] in the □ of the Bear toward the east [Lucida in □ Vrſæ verſus ortum]	*pinnule I [I pinn.]*	*75° 50′ 40″*
	pinnule II [II pinn.]	*75° 50′ 30″*

414

From this it will be possible to see whether the instrument stands, as far as the axis is concerned, in the plane of the equator [Hinc poterit videri an inſtrumentum ſtet quo ad axim in plano æquatoris.]

Reading	Instrument	Value
The other, lesser [star], in a similar position [Altera minor in ſimili ſitu,]	*with one [vno]*	*73° 18⅙′*
	with the other [alt.]	*73° 18½′*
Of the former [star], repeated [Reiterata prioris]		*75° 51′*
	with the other pinnule [alt. pinnacid.]	*75° 50⅔′*

[412] printed without heads; "Reading" and "Value" are this edition's. *Infra* and *Supra* stand as heads on a line of their own, each over its group of figures, and *polum* begins the first line under each; each label is given whole on the first row. *Horum medium* stands under the left group. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[413] both values in this passage are printed with unit marks: a small raised g after the degrees, a single mark after the minutes and a double mark after the seconds. The degrees are printed 70 on both lines, against 75 in every figure of the table above.

[414] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Lucida in □ Vrſæ verſus ortum* stands on a line of its own, and *I pinn.* and *II pinn.* stand right-aligned on the two lines under it, each with its value. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

415

Again I myself observed, with Helias [Denuo ipſemet cum Helia obſeruaui.]

Reading	Instrument	Value
Repeated [Reiterata]		*75° 50⅓′*
Repeated again [Denuo reiterata,]	*with the same pinnule [eodem pinn.]*	*75° 50⅓′*
	with the other pinnule [alt. pinnacid.]	*75° 50′*

416

It is therefore evident that the armillae are not exactly in the plane of the meridian as far as the axis is concerned, [they] falling short by about 40″ or ½′ [Patet itaque quod armill. non ſint exacte in plano meridiani quo ad axim deficientibus quaſi 40″ vel ½ ſcrupulo.]

The lower axis ought therefore to be pushed a little toward the west, by ½′; but the observation of the bright [star] of Cepheus protests, which requires that [it] be drawn toward the east by just as much. It may therefore be that [it] is in good enough order, since the declination of the upper [star] of Ⅱ *toward the east, 32° 42¾′, agrees; nearly such [a declination] the declination from the altitude 66° 48′ also gives [Deberet itaque inferior axis parum verſus occaſum trudi ½ ſcrupulo, ſed reclamitat obſeruatio Lucidæ Cephei, quæ requirit vt verſus ortum trahatur tantundem. Fieri itaque poteſt, vt ſatis bene ſe habeat, conſentiente declinatione ſuperioris* Ⅱ *verſus ortum 32 42¾ qualem etiam dat fere declinatio ex altitudine 66 48.]*[417]

There follows an examination of the preceding observations made on the 15th and 16th [Sequitur examinatio antecedentium obſeruationum die 15 & 16 factarum.]

On 15 January, after the pinnules of the subterranean armillae [had been] rectified again [Die 15 Januarij poſt denuo rectificata pinnacidia Armillarum ſubterranearum.]

*About the [observation] that was made at the head of ♈*1 *I am not certain enough. For at the altitude 55° 34′ the evening twilight was still shining; but if that is true, the armillae give the declination 21° 28′ with both pinnules, whereas the altitude gives 21° 28½′, ½′ more. If, therefore, the pole is raised by ¼′, the declination will be 21° 28¼′, and it will also come out so by the altitude of the quadrant [De ea quæ ad caput ♈ facta eſt*1 *non ſum ſatis certus. In altitudine 55 34 ſiquidem crepuſculum veſpertinum adhuc lucebat, quod ſi ea vera ſit, armillæ dant declinationem 21 28*

[415] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Altera minor in ſimili ſitu,* stands on a line of its own, and *vno* and *alt.* stand right-aligned on the two lines under it, each with its value. The values are printed without unit marks and are given as degrees and minutes.

[416] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[417] 40″ is printed with a double mark; *½ ſcrupulo* (twice) is given as ½′. The figures 32 42¾ and 66 48 are printed without unit marks and are given as degrees and minutes.

vtroque pinnacidio, altitudo vero dat 21 28½, dimidio ſcrupulo plus. Si itaque polus attollatur ¼ erit declinatio 21 28¼ & talis etiam fiet per altitudinem quadrantis.][418]

The bright [star] of the shoulder of Cepheus toward the west, in declination 60° 52½′: because afterwards, when it was in the meridian, it was observed to have 60° 53′, it is an indication that the upper axis of the armillae ought to be directed about ½′ toward the west, or the lower toward the east. But this does not yet prove [it] sufficiently, unless more are added [Lucida humeri Cephej verſus occaſum in declinatione 60 52½, quia poſtea cum eßet in meridiano obſeruabatur habere 60 53, indicio eſt axem ſuperiorem armillarum debere quaſi dimidio ſcrupulo verſus occaſum tendi, vel inferiorem verſus ortum. Sed hoc nondum ſatis probat niſi plura acceßerint.][419]

Reading	Value		Value
The head of Medusa by the portable quadrant [Caput Meduſæ per quadrantem portatilem]	*73° 22½′*		
	34° 5′ 30″		
	39° 17′ 0″		
the armillae gave [armillæ dabant]	*39° 17′ 40″*		
difference [differentia]	*0° 0′ 40″*		
	73° 22′ 30″		*39° 17′ 55″*
	34° 5′ 15″		*39° 17′ 15″*
	39° 17′ 15″	*difference [diff.]*	**30″*2*

[420]

This observation does not agree well enough, whatever altitude of the pole you take. For in both cases the difference is ½′ [Hæc obſeruatio non ſatis conuenit, quamcunque acceperis poli altitudinem. Eſt enim vtrobique differentia ½ ſcrupulj.][421]

On 21 January [DIE 21 JANUARIJ.]

[418] the figures in this passage are printed without unit marks and are given as degrees and minutes; the lone fraction ¼ after *attollatur* is given as ¼′. *dimidio ſcrupulo* is given as ½′.

[419] the figures in this passage are printed without unit marks and are given as degrees and minutes; *dimidio ſcrupulo* is given as ½′.

[420] printed without heads; "Reading" and "Value" are this edition's, and the third column's blank head is this edition's. *Caput Meduſæ per quadrantem* runs on to *portatilem* on the next line, which carries the first value. The first five value rows form one subtraction at the right of the column: a rule stands under 34 5 30, above the result 39 17 0, and a second rule under 39 17 40, above the difference. The last three rows are two further subtractions printed side by side below it, each with a rule above its result; *diff.* stands before 30 in the second. The values are printed without unit marks and are given as degrees, minutes and seconds where three figures stand; the lone 30 after *diff.* is given as seconds.

[421] *conue* ends its line with no hyphen and *nit* begins the next; read as one word. *½ ſcrupulj* is given as ½′.

Reading	Instrument	Value
The bright [star] of the head of Medusa in the meridian [Lucida capitis Meduſæ in Meridiano]		50° 37¾′
Canis Minor in the meridian [Canis minor in Meridiano]	by the Tychonic quadrant, with both pinnules [per Q. Tichon., vtroque pinn.]	40° 19′
The bright [star] of the two preceding [stars] in the □ of Ursa Major (when they were distant from the pole toward the east) had [the] declination by the subterranean armillae [Lucida ex duabus præcedentibus in □ Vrſæ maioris (cum a polo verſus ortum diſtarent) declinationem habuit per Armillas ſubterr.]		63° 57½′
	with the other pinnule [alt. pinnacid.]	63° 57⅓′
The following [star] of the two preceding [stars] of the same (from the pole toward the east) had [the] declination [Sequens duarum præcedentium eiusdem (a polo verſus ortum) declin. habuit]		58° 35′
	with the other pinnule [alt. pinnacid.]	58° 35¼′

422

[1] Cf. above, p. 88 [Cf. ſupra p. 88.].
[2] So in Codex C [Sic in codice C.].

On 22 January [DIE 22 JANUARIJ.]

Reading	Instrument	Value
The bright [star] of the □ of the Bear [Lucid. □ Vrſæ]	*with one pinnule [vno pinnac.]*	*75° 51′*
	by the subterranean armillae [per ſubterr. Armillas.]	
Altitude of the following [star] [Alt. ſequentis]	*by the new sextant [per Sext. nou.]*	*39° 13¾′*

423

[422] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Lucida capitis Meduſæ* runs on to *in Meridiano* on the next line with the value; *Canis minor in Meridiano* runs on to *per Q. Tichon., vtroque pinn.* on the next line with the value. The two sentences *Lucida ex duabus … ſubterr.* and *Sequens duarum … habuit* run over four and three lines, their values at the end of the last. The values are printed without unit marks and are given as degrees and minutes.

[423] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *per ſubterr. Armillas.* is printed indented on the line under the first value, with no value of its own, and is kept on that line. The values are printed without unit marks and are given as degrees and minutes.

Declinations for the position of the armillae [Pro ſitu Armillarum Declinationes.]

Reading	Instrument	Value	Remark
The bright [star] of the Chair of Cassiopeia [Lucida Cathedræ Caßiopeæ]		56° 52½′	*western (for all four values) [occidentales]*
	with the other pinnule [alt. pinnacid.]	56° 51½′	
Schedar of Cassiopeia [Schedir Caßiopeæ]		54° 16′ 0″	
	with the other pinnule [alt. pinnacid.]	54° 15′ 10″	
Repeated declination of Schedar [Repetita Schedir declinatio]		54° 16′	
	with the other pinnule [alt. pinnacid.]	54° 15¼′	
The highest [star] of the Chair, repeated [Suprema Cathedræ repetita]		56° 52⅔′	
	with the other pinnule [alt. pinnacid.]	56° 51½′	

424

These two were distant from the pole toward the west [Diſtabant hæ duæ a polo ad occaſum.]

Reading	Instrument	Value
The lower of the preceding [stars] in the □ of Ursa Major, from the pole toward the east [Inferior præcedentium in □ vrſæ maioris, a polo ad ortum]		58° 35⅙′
	with the other pinnule [alt. pinn.]	58° 35′
Repeated declination of the same [Repetita eiusdem declin.]		58° 35′ 0″
	with the other pinnule [alt. pinnac.]	58° 35′
Declination of the bright [star] in the □ of Ursa Minor [Declin. Lucidæ in □ Vrſæ minoris]	by the greater subterranean armillae [per Armill. ſubterr. maiores]	75° 51⅓′
	with the other pinnule [alt. pinnacid.]	75° 51′

[424] printed without heads; "Reading", "Instrument", "Value" and "Remark" are this edition's. *Lucida Cathedræ* stands on a line of its own and runs on to *Caßiopeæ* on the next, which carries the value. One brace joins the four values from *Lucida Cathedræ* to the second value of *Schedir Caßiopeæ*, and the italic word *occidentales*, divided over four lines, stands to the right of it; it is given once, on the first row. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

425

it was then distant from the pole toward the east [diſtabat tunc a polo ad ortum.][426]

On 23 January A. M. [DIE 23 JANUARIJ A. M.]
For the position of the instrument [Pro ſitu inſtrumenti]

Reading	Instrument	Value
Declination of the lower of the two preceding [stars] in the □ of Ursa Major, when it was toward the west from the pole [Declin. inferioris præcedentium duarum in □ vrſæ maioris cum a polo ad occaſum eßet]		58° 34′ 45″
	with the other pinnule [alt. pinnacid.]	58° 34′ 50″
The same, repeated [Repetita eadem]		58° 34¾′

427

Therefore the pole ought [to be moved] toward the east; [they] were exactly 58° 35′, a difference of a quarter part of one minute, almost imperceptible, so the axis departs from the plane of the meridian by only 7″ [Ergo polus deberet verſus ortum, erant præciſe 58 35, differ. quartæ partis vnius Minuti pene inſenſibilis, quare 7 ſecundis ſaltem variat axis a plano Meridiej.][428]

Reading	Instrument	Value
Declination of the highest [star] in the Chair of Cassiopeia [Declin. Supremæ in Cathedra Caßiopeæ]		56° 53′
	with the other pinnule [alt. pinnacid.]	56° 53¼′

429

[425]printed without heads; "Reading", "Instrument" and "Value" are this edition's. The first label runs over two lines, the value on the second; *Declin. Lucidæ in □ Vrſæ minoris* stands on a line of its own, and *per Armill. ſubterr. maiores* is indented on the next with the value. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[426]this sentence is printed right-aligned in the column directly under the row *alt. pinnacid. 75 51*, continuing the declination of the bright star in the □ of Ursa Minor; the English gives it as a line of its own after the table.

[427]printed without heads; "Reading", "Instrument" and "Value" are this edition's. The first label runs over three lines, the value on the third. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[428]58 35 is printed without unit marks and is given as degrees and minutes; *7 ſecundis* is a figure with the unit in words, given as 7″.

[429]printed without heads; "Reading", "Instrument" and "Value" are this edition's. The label runs over two lines, the value on the second. The values are printed without unit marks and are given as degrees and minutes.

from the pole *toward the west*[1] [a polo verſus occaſum[1].][430]

Therefore the axis of the pole ought [to be moved] a little toward the east [Ergo axis poli deberet aliquantulum verſus ortum.]

Reading	West [Occid.]	East [Orient.]
The Chair of Cassiopeia [Cathedra Caßiopeæ]	*56° 52⅔′*	*56° 53′*
	56° 51½′	*56° 53¼′*
The lower is in the □ of Ursa Major [Inferior eſt in □ vrſæ maioris]	*58° 34¾′*	*58° 35′*
	58° 34′ 50″	*58° 35⅙′*

[431]

It is therefore evident that in both cases the upper axis ought [to be moved] a little toward the east and the lower toward the west, but almost imperceptibly, by hardly a quarter part of one minute [or at most by one third part][2] *[Patet itaque quod vtrobique paululum verſus ortum debeat ſuperior axis & inferior verſus occaſum, ſed pene inſenſibiliter vix quarta parte vnius minuti [vel ad ſummum vna tertia parte][2].]*[432]

Meridian altitudes observed this same night by the Tychonic quadrant [Altitudines Meridianæ hac eadem nocte per Q. Tichon obſeruatæ.]

Reading	Instrument	Value
The following [star] in the sole of Perseus [Sequens in planta Perſej]		64° 40¼′
	with the other pinnule [alt. pinnacidio]	64° 40′
The left foot of Erichthonius [Siniſter pes Erichtonij]		66° 30⅔′
	with the other pinnule [altero pinnacidio]	66° 30¾′
The bend of Boötes [Flexura Bootis]		54° 36⅓′
	with the other pinnule [altero pinnacidio]	54° 36½′
Arcturus in the meridian [Arcturus in Meridiano]	with both pinnules [vtroque pinnacidio]	55° 28⅓′
The right shoulder of Boötes [Dexter humerus Bootis]		62° 57⅔′

[430] this phrase is printed right-aligned in the column directly under the row *alt. pinnacid. 56 53¼*, continuing the declination of the highest star in the Chair; *verſus occaſum* is set in italic. The English gives it as a line of its own after the table.

[431] the heads *Occid.* and *Orient.* are printed; "Reading" is this edition's. The label *Inferior eſt in □ vrſæ maioris* runs over two lines, a pair of values on each. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[432] the words *vel ad ſummum vna tertia parte* are enclosed by the edition itself in square-bracket sorts, and the English keeps that enclosure round "or at most by one third part"; footnote 2 is cued after the closing sort.

Reading	Instrument	Value
	with the other pinnule [altero pinnacidio]	62° 57¾′
The bright [star] of the Gnosian Crown [Lucida Coronæ Gnoſiæ]		62° 16′
	with the other pinnule [altero pinnacidio]	62° 15⅝′

433

On 1 February [DIE 1 FEBRUARIJ.]

The bright [star] of the foremost [stars] of Ursa Minor, when it was not far from the meridian below the pole, had the altitude 75° 51′ with one pinnule; with the other it was not possible to see [Lucida anteriorum vrſæ minoris cum non longe abeßet a Meridiano infra polum habuit altitudinem 75 51 vno pinnacidio, altero videre non licuit.][434]

Reading	Instrument	Value	Remark
The lower [star] of the □ of Ursa Major [Inf. □ vrſæ maioris]		*58° 35′ 0″*	*toward the east (for both) [verſus ortum]*
	with the other [altero]	*58° 35′ 5″*	
The Chair of Cassiopeia [Cathedra Caßiopeæ]		*56° 52′*	*toward the west (for both) [verſus occaſum]*
	with the other [altero]	*56° 51⅔′*	
The neck of Canis Minor [Ceruix Canis min.]	*by the old sextant [per Sext. veter.]*	*43° 7′*	
The preceding [star] in Canis Minor [Præcedens in Cane minori]	by the Tychonic quadrant [per Q. Tichon.]	43° 8½′	
Canis Minor [Canis minor]	by the Tychonic quadrant [per Q. Tichon.]	40° 18⅔′	
	by the new sextant [per Sext. nouum]	*40° 19′*	
	by the old sextant [per Sext. veter.]	*40° 18¾′*	
Its declination by the armillae [Declin. eius per Armillas]		*6° 13⅙′*	
	with the other pinnule [altero pinnacidio]	*6° 13′*	
Repeated [Repetita]	*with both pinnules [vtroque pinnac.]*	*6° 13′*	

[433] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Arcturus in Meridiano* stands on a line of its own and *vtroque pinnacidio* on the next with the value. The values are printed without unit marks and are given as degrees and minutes.

[434] 75 51 is printed without unit marks and is given as degrees and minutes.

435

[1] Tycho corrected the observer's words »ad ortum« (”toward the east”) to *verſus occaſum* (”toward the west”) [Tycho verba obſervatoris »ad ortum« in verſus occaſum correxit.].

[2] Struck through with lines [Lineis inducta.].

Reading	Instrument	Value
Minimum meridian altitude of the bright [star] in the shoulder of Cepheus [Alt. Merid. minima lucidæ in humero Cephej]		26° 49′
Minimum altitude of the bright [star] in the belt of Cepheus [Alt. minima lucidæ in Baltheo Cephej]	by the new sextant [per Sext. nouum]	34° 42¾′
Declination of the bright [star] in the shoulder of Cepheus [Decl. Lucid. in humero Cephej]	by the armillae, with both pinnules [per Armill., vtroque pinn.]	60° 54¼′
Declination of the bright [star] in the belt of Cepheus [Decl. Lucidæ in Baltheo Cephej]	with both pinnules [vtroque pinnac.]	68° 48′
Declination of the lower of the preceding [stars] in the □ of Ursa Major, when it was distant from the pole toward the west [Decl. inferioris præcedentium in □ vrſæ maioris cum a polo ad occaſum diſtaret,]	with one pinnule [vno pinn.]	58° 35′
	with the other [altero]	58° 34¾′

436

but [it] was not yet in equilibrium [ſed nondum erat in æquilibrio.]
([It] differs imperceptibly from the truth) [(Inſenſibiliter differt a vero)][437]

Reading	Instrument	Value
Declination of the bright [star] in the □ of Ursa Major [Lucidæ in □ vrſæ maioris declin.,]	with one [vno]	75° 51′
	with the other pinnule [altero pinn.]	75° 50¼′

[435] printed without heads; ”Reading”, ”Instrument”, ”Value” and ”Remark” are this edition's. A brace joins the two values of *Inf.* □ *vrſæ maioris* and *altero*, with *verſus ortum* to the right of it, one word on each line; a second brace joins the two values of *Cathedra Caßiopeæ* and *altero*, with *verſus occaſum* likewise; each remark is given once, on the first row of its pair. *Ceruix Canis min.* and *Præcedens in Cane minori* each stand on a line of their own, the instrument and value on the next. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[436] printed without heads; ”Reading”, ”Instrument” and ”Value” are this edition's. No date heading stands at the head of the page. Each label runs over two or three lines, the value on the last; *per Armill.,* stands at the end of the second line of its label and *vtroque pinn.* on the third, with the value. The values are printed without unit marks and are given as degrees and minutes.

[437] these two lines are printed indented in the column directly under the row *altero 58 34¾*, the first continuing the sentence of the declination above it; the English gives them as lines of their own after the table.

438

[It] was not far from the maximum altitude [Non procul a maxima altitudine aberat.]

On 3 February [DIE 3 FEBRUARIJ.]

Reading	Instrument	Value
The neck of Canis Minor [Ceruix Canis min.,]	with both [vtroque]	43° 8′ 20″
	by the new sextant [per Sext. nou.]	43° 9′
	by the old sextant [per Sext. veterem]	43° 8⅚′

439

[it] was then better set to the meridian [erat tunc melius ad merid. collocatus.][440]

Reading	Instrument	Value
Declination [Declin.]	with both pinnules [vtroque pinn.]	9° 3½′
Canis Minor [Canis minor]	by the Tychonic quadrant [per Q. Tichon.]	40° 17′ 55″
	with the other [altero]	40° 18′
	by the new sextant [per Sext. nou.]	40° 19⅙′
	by the old sextant [per Sext. veterem]	40° 19′
Declination [Declin.]	with one pinnule [vno pinn.]	6° 13′
	with the other [altero]	6° 13½′

441

For the stars of Cassiopeia from the eye of ♉ [Pro ſtellis Caßiopeæ ex oculo ♉]

By the armillae [Per Armillas.]	Difference of right ascension [Differ. Afc. R.]	Declination [Declin.]
The bend of Cassiopeia [Flexura Caßiopeæ]	54° 46′	58° 27¾′
Repeated [Repetita]	54° 46′	58° 27⅚′

[438] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Lucidæ in □ vrſæ maioris* stands on a line of its own and *declin.,* begins the next, followed by *vno* and the value. The values are printed without unit marks and are given as degrees and minutes.

[439] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[440] this sentence is printed flush left across the column between the row *per Sext. veterem 43 8⅚* and the row *Declin. vtroque pinn. 9 3½*; the English breaks the run of rows into two tables, one on each side of it.

[441] printed without heads; "Reading", "Instrument" and "Value" are this edition's. Both lines beginning *Declin.* are printed indented, like the instrument lines around them. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

By the armillae [Per Armillas.]	Difference of right ascension [Differ. Afc. R.]	Declination [Declin.]
The knee of Cassiopeia [Genu Caßiopeæ]	48° 1½′	58° 3½′
Repeated [Repetita]	48° 1½′	58° 3½′

442

On 7 February [DIE 7 FEBRUARIJ.]

Reading	Instrument	Value
Meridian altitude of the left foot of Erichthonius [Alt. Merid. finiſt. pedis Ericht.]	by the Tychonic quadrant, with one pinnule [per Q. Tichon., vno pinn.]	66° 30′ 0″
	with the other [altero]	66° 30′ 5″
The neck of Canis Minor [Ceruix can. min.]	with one [vno]	43° 8′
	by the Tychonic quadrant [per Q. Tich.]; with the other [altero]	43° 8′ 5″
	by the new sextant [per Sext. nou.]	43° 9¼′
	by the old sextant [per Sext. veter.]	43° 9′ 0″

443

Reading	Instrument	Value
Canis Minor [Canis minor.]	by the Tychonic quadrant, with both [per Q. Tich. vtroq.]	40° 17⅔′
	by the new sextant [per Sext. nou.]	40° 19′
	by the old sextant [per Sext. vet.]	40° 19⅙′
The leg of Boötes [Crus Bootis]	by the Tychonic quadrant [per Q. Tich.]	54° 36′ 40″
		54° 36′ 45″
Arcturus	by the Tychonic quadrant [per Q. Tich.]	55° 27′ 55″
		55° 28′ 0″

444

[442] all three heads are printed: *Per Armillas.* stands at the left on the line of the heads, *Differ. Afc. R.* over two lines above the first group of figures and *Declin.* above the second. The values are printed without unit marks and are given as degrees and minutes.

[443] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Ceruix can. min.* stands flush left with *vno* and its value on the same line; *per Q. Tich.* stands indented at the left of the next line, with *altero* and its value on the same line, and is given in that row. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

[444] this table stands at the head of the right column, under no date heading of its own; printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Canis minor.* stands on a line of its own and the instrument lines are indented under it. The values are printed without unit marks and are given as degrees and minutes, and as degrees, minutes and seconds where three figures stand.

Declinations of the stars of Cassiopeia[1] *[Stellarum Caßiopeæ Declinationes[1]]*

Reading		Value	Remark
The bend of Cassiopeia [Flexura Caßiopeæ]	*I*	*58° 27¾′*	
	II	*58° 27⅝′*	
	Set [Pone]	*58° 28′*	
The knee of Cassiopeia [Genu Caßiopeæ]	*I*	*58° 3½′*	
	II	*58° 3½′*	
	Set [Pone]	*58° 4′*	
Schedar of Cassiopeia [Schedir Caßiopeæ]	*I*	*54° 16¼′*	
	II	*54° 16′*	*good (for both) [bonæ]*
	III	*54° 16′*	
	Set [Pone]	*54° 16½′*	
The head of Cassiopeia [Caput Caßiopeæ]	*I*	*51° 37½′*	
	II	*51° 37½′*	
The highest [star] of the Chair [Suprema Cathedræ]	I	56° 53½′	
	II	56° 53⅔′	
Difference of right ascension from the eye of ♉ [Diff. Aſc. R. ab oculo ♉]	I	65° 56½′	
	II	65° 56½′	
The star in the shins of Cassiopeia [Stella in tibijs Caßiopeæ]	I	61° 37′	
	II	61° 37′	
The breast of Cassiopeia [Pectus Caßiopeæ,]	Declination [Decl.]	55° 38′	
	II	55° 38⅙′	

445

On 13 February [DIE 13 FEBRUARIJ.]

Distances of the stars of Cassiopeia by the sextant △ [Diſtantiæ Stellarum Caßiopeæ per Sextantem △.]

Reading		Value
The highest [star] of the Chair of Cassiopeia and Schedar [Suprema Cathedræ Caßiopeæ & Schedir]	I	4° 57½′

[445] printed without column heads under the italic heading; "Reading", "Value", "Remark" and the blank head of the numeral column are this edition's. The rows from the heading to *Caput Caßiopeæ* are set in italic, the rest in roman. *Pone* stands in the place of the numerals. A brace joins the values II and III of Schedar, with *bonæ* to the right of it; the remark is given once, on the first of the two rows. *Diff. Aſc. R. / ab oculo* ♉ is printed over two lines, indented under *Suprema Cathedræ*, a numeral and a value on each line; the label is given whole on the first row. *Stella in tibijs / Caßiopeæ* runs over two lines, the second with I and the value. *Decl.* stands under *Pectus Caßiopeæ,* in the place where the numeral I stands in the rows above, and no numeral I is printed. The values are printed without unit marks and are given as degrees and minutes.

Reading		Value
	II	4° 57½′
The highest [star] of the Chair and the head [Suprema Cathedræ & Caput]	I	6° 31′
	II	6° 31′
The highest [star] of the Chair and the girdle [Suprema Cathedræ & Cingulum]	I	5° 18¼′
	II	5° 18¼′
The highest [star] of the Chair and the bend [Suprema Cathedræ & Flexura]	I	6° 9½′
	II	6° 10′
The highest [star] of the Chair and the knee [Suprema Cathedræ & Genu]	I	9° 41¼′
	II	9° 41¼′
The highest [star] of the Chair and the bright foot [Suprema Cathedræ & lucidus pes]	I	13° 15′
	II	13° 14¾′
The highest [star] of the Chair and 11 [Suprema Cathedræ & 11]	I	4° 43½′
	II	4° 44½′

446

1 The differences of right ascension from the eye of Taurus were also observed, but they were struck through with lines [Etiam differentiæ Aſc. Rectæ ab oculo Tauri obſervatæ ſunt, ſed lineis inductæ ſunt.].

Reading		Value
The highest [star] of the Chair and the other foot [Suprema Cathedræ & alter pes]	I	17° 29′
	II	17° 29′
The bend and the leg [Flexura & Crus]	I	7° 19′
	II	7° 19′
The bend and the knee [Flexura & Genu]	I	3° 36′
	II	3° 36′
The bend and the head [Flexura & Caput]	I	7° 13½′
	II	7° 14′
The bend and Schedar [Flexura & Schedir]	I	4° 21½′
	II	4° 21⅔′
The bend and the girdle [Flexura & Cingulum]	I	3° 2′
	II	3° 1⅔′
Schedar and the head [Schedir & Caput]	I	2° 37¼′
	II	2° 37¼′
Schedar and the girdle [Schedir & Cingulum]	I	1° 39′
	II	1° 39′
Schedar and the knee [Schedir & Genu]	I	6° 53′
	II	6° 53′
Schedar and the bright foot [Schedir & lucidus pes]	I	11° 34′
	II	11° 34⅙′

446 printed without heads; "Reading", "Value" and the blank head of the numeral column are this edition's. Each label runs over two lines, *Suprema Cathedræ* on the first and the second star, with &, on the second, a numeral and a value on each line; each label is given whole on the first row. The figure after & in the last label is printed as the arabic figure 11, not as the roman numeral II of the numeral column. The sign △, a hollow triangle, is kept. The values are printed without unit marks and are given as degrees and minutes.

Reading		Value
The eleventh [star] and the knee [Vndecima & Genu]	I	6° 44′
	II	6° 44′
The eleventh [star] and the bend [Vndecima & Flexura]	I	3° 32′
	II	3° 32′
The eleventh [star] of Cassiopeia from the pole star [Vndecima Caßiopeæ a ſtella Polari]	I	26° 27½′
	II	26° 28′

447

Declinations of the stars of Cassiopeia by the armillae [Stellarum Caßiopeæ Declinationes per Armillas]

Reading		Value
The highest [star] of the Chair [Suprema Cathedræ]	I	56° 53½′
	II	56° 53½′
Schedar [Schedir]	I	54° 17½′
	II	54° 17½′
The eleventh [star] of Cassiopeia [Vndecima Caßiopeæ]	I	60° 40½′
	II	60° 39½′

448

Reading	Value	Remark
The bright [star] in the □ of Ursa Minor [Lucida in □ vrſæ minoris]	75° 50⅓′	
	75° 50¼′	
Equatorial difference from the heart of ♌ [Diff. æquatoria a corde ♌]	76° 21½′	
	76° 19′	
The other, less bright [star] in the □ [Altera in □ minus lucida]	73° 17½′	three times [ter]
Equatorial difference from the heart of ♌ [Diff. æquat. a corde ♌]	83° 37½′	
	83° 36′	
	83° 37⅔′	
The eye of Draco, declination [Oculus Draconis, Decl.]	51° 35′	
	51° 35½′	
Difference of ascension from Spica ♍ [Diff. Aſc. a Spica ♍]	70° 38½′	

[447] printed without heads; "Reading", "Value" and the blank head of the numeral column are this edition's. The page opens with these rows under no heading of its own; they follow the distances of 13 February by the sextant △ at the foot of the right column of p. 119 without a break. Each label runs over two lines, the first star on the first and the second, with &, on the second (the last label *Vndecima Caßiopeæ / a ſtella Polari*, with no &), a numeral and a value on each line; each label is given whole on the first row. The values are printed without unit marks and are given as degrees and minutes.

[448] printed without column heads under the centred heading; "Reading", "Value" and the blank head of the numeral column are this edition's. The values are printed without unit marks and are given as degrees and minutes.

Reading	Value	Remark
	70° 38′	

449

On 4 March [DIE 4 MARTIJ.]

Reading	Instrument	Value
Canis Minor in the meridian [Canis min. in Mer.]	by the Tychonic [quadrant] [per Tich.]	40° 18½′
Its declination [Decl. eius]	by the armillae [per Armill.]	6° 12⅔′
	with the other pinnule [alt. pinnac.]	6° 13¼′

450

For the stars of Cassiopeia [Pro Stellis Caßiopeæ]

Reading		Declination [Declin.]	Difference of right ascension from the heart of ♌ [Diff. Afc. R. a corde ♌]
The bright [star] of the Chair [Lucid. Cathedræ]	I	56° 54′	149° 27′
	II	56° 53⅔′	149° 27′
The bend [Flexura]	I	58° 29′	138° 14¼′
	II	58° 29′	138° 13′
	III	58° 29′	138° 14¼′
Schedar [Schedir]	I	54° 18′	141° 59½′
	II	54° 17½′	141° 59⅓′
The knee of Cassiopeia [Genu Caß.]	I	58° 5½′	131° 27½′
	II	58° 5½′	131° 27½′
The bright foot of Cassiopeia [Luc. pes Caß.]	I	61° 37½′	124° 54⅙′
	II	61° 37½′	124° 54⅙′

451

[449] these rows follow the Cassiopeia declinations directly, with no heading between, and carry no numerals I, II; the English gives them as a table of their own. Printed without heads; "Reading", "Value" and "Remark" are this edition's. *Lucida in □ vrſæ / minoris*, *Diff. æquatoria a / corde* ♌ and *Diff. æquat. a / corde* ♌ each run over two lines, a value on each line, and a third value of the second *Diff. æquat.* stands on the line below with no label; each label is given whole on the first row. *ter* is printed after the value on its row. The values are printed without unit marks and are given as degrees and minutes.

[450] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[451] this table stands at the head of the right column, under no date heading of its own. The heads *Declin.* and *Diff. Afc. R. a corde* ♌ are printed; "Reading" and the blank head of the numeral column are this edition's. The values are printed without unit marks and are given as degrees and minutes.

On 5 March [DIE 5 MARTIJ.]

Reading	Instrument	Value
Canis Minor [Canis minor]	by the Tychonic quadrant [per Q. Tich.]	40° 17⅔′
	by the revolving quadrant [per Q. Volub.]	40° 18′
Declination [Declin.]	by the armillae [per Armill.]	6° 13′
The highest of the two unformed [stars] below the forefeet of Ursa Major [Suprema duarum informium infra pedes priores vrſæ maioris]	by the revolving quadrant [per Q. Volub.]	72° 34⅔′
Declination [Declin.]	by the armillae [per Armillas]	38° 28½′
The following [one] of these below the Bear [Sequens iſtarum infra vrſam]		70° 10½′
Declination [Declin.]	by the armillae [per Armillas]	36° 5′

452

On 8 March [DIE 8 MARTIJ.]

Distances of the stars of Cassiopeia by the sextant [Diſtantiæ Stellarum Caſsiopeæ per Sextantem]

Reading		Value
Between the eleventh [star] and Schedar [Inter vndecimam & Schedir]	I	6° 25¼′
	II	6° 26′
	III	6° 27′
	IV	6° 26′
	V	6° 26′
Between the eleventh [star] and the girdle [Inter vndecimam & cingulum]	I	5° 19′
	II	5° 19¾′
	III	5° 19′
Between the eleventh [star] and the bend [Inter vndecimam & Flexuram]	I	3° 34′
	II	3° 32′
	III	3° 34¼′
	IV	3° 32′
	V	3° 33′
Between 11 and the bright [star] of the Chair [Inter 11 & lucidam Cathedræ]	I	4° 44½′
	II	4° 44′
	III	4° 44′

[452] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The label *Suprema duarum … vrſæ maioris* runs over two lines, and *per Q. Volub.* stands right-aligned on a third with the value. The lines beginning *Declin.* are printed indented. The values are printed without unit marks and are given as degrees and minutes.

Reading	Value

453

These distances are to be repeated, for it was neither exactly clear, nor could the instrument be still on account of the weather [Diſtantiæ hæ ſunt repetendæ, nam neque erat exacte ſerenum, neque inſtrumentum propter tempeſtatem tranquillum eße potuit.]

On 24 June [DIE 24 JUNIJ.]

In the evening [Ad Veſperas.]. Among little clouds [Inter nubeculas.].

Time [H. M.]	Azimuth of Arcturus from the meridian to the west [Arcturi Azim. a merid. ad occ.]	Altitude [Altit.]	Declination [Declin.]	
10^h $33\frac{1}{3}^m$	71° 0′	37° 52½′	21° 23′	21° 22¼′
10^h $38\frac{1}{2}^m$	72° 0′	37° 19½′		
10^h $42\frac{2}{3}^m$	73° 0′	36° 45′		
10^h $46\frac{5}{6}^m$	74° 0′	36° 10½′		
10^h $51\frac{1}{2}^m$	75° 0′	35° 35½′		
	Azimuth of the bright [star] of the Vulture from the meridian to the east [Azim. Luc. Vulturis a merid. ad ort.]			
11^h $1\frac{5}{6}^m$	30° 0′	38° 35′	7° 52½′	
11^h $5\frac{1}{2}^m$	29° 0′	38° 50′		
11^h $7\frac{5}{6}^m$	28° 0′	39° 3′		

454

On 22 September [DIE 22 SEPTEMBRIS.]

Reading	Value
The hand of Antinous in the meridian had an altitude of [Manus Antinoi in Merid. habuit altit.]	32° 7¼′

[453] printed without heads; "Reading", "Value" and the blank head of the numeral column are this edition's. Each label runs over two lines, a numeral and a value on each, and the further numerals stand on the lines below; each label is given whole on the first row. In the last label the figure 11 is printed in arabic figures. The values are printed without unit marks and are given as degrees and minutes.

[454] the heads *H.*, *M.*, *Arcturi Azim. a merid. ad occ.*, *Altit.* and *Declin.* are printed; *Declin.* stands once, centred over two groups of figures, and the fifth column's blank head is this edition's. The head *Azim. Luc. Vulturis a merid. ad ort.* is printed over the azimuth column only, between the fifth and sixth rows; no head is printed again over the other columns, and the English carries the rows below it in the same table. In the rows under it the minutes of the time are printed without a tens figure (*11 1⅚*, *11 5½*, *11 7⅚*). The value 7 52½ stands under the first declination group. The time is given in hours and minutes as headed *H.* and *M.*; the other values are printed without unit marks and are given as degrees and minutes.

455

On 23 September [DIE 23 SEPTEMBRIS.]

Reading	Instrument	Value
Altitude of the bright [star] of the Vulture in the meridian [Altitudo lucidæ Vulturis in Merid.]	by the revolving [quadrant] [per Volub.]	41° 57′
		34° 5½′
		7° 51½′

456

By the greater armillae I found the same declination, 7° 51½′, exactly as before; and that after the armillae had been rectified that same evening, and that with both pinnules [Per Armillas maiores inueni eandem declinationem 7 51½ præciſe vt prius, idque poſt eodem veſperi rectificatas armillas idque vtroque pinnacidio.].[457]

By the greater armillae [Per Armillas maiores]

Reading	Instrument	Value
Schedar of Cassiopeia [Schedir Caßiop.]	*with one [vno]*	*54° 18′*
		54° 18′
The bright [star] of the Chair [Cathedræ lucida]	*with one [vno]*	*56° 54½′*
	with the other [alt.]	*56° 54½′*
	with one [vno]	*56° 54′*
	with the other [alt.]	*56° 53¾′*
The bend [Flexura]	*with one [vno]*	*58° 29½′*
	with the other [alt.]	*58° 30′*

When they were toward the east from the pole [Cum eßent a polo verſus ortum][458]

[455] printed without heads; "Reading" and "Value" are this edition's. The label runs over two lines, the value at the end of the second. The value is printed without unit marks and is given as degrees and minutes.

[456] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The three figures are set as a subtraction: 34 5½ under 41 57, a rule under it, and 7 51½ under the rule; the page labels neither the second nor the third figure. The values are printed without unit marks and are given as degrees and minutes.

[457] the value 7 51½ is printed in the sentence without unit marks and is given as degrees and minutes.

[458] printed without heads; "Reading", "Instrument" and "Value" are this edition's. A single brace joins all eight rows of this table, from *Schedir Caßiop.* to *alt. 58 30*, and the words *Cum eßent a polo verſus ortum* stand to the right of it, one word to a line; the English gives the remark once, after the table, for the whole group. The second row prints no instrument word. The values are printed without unit marks and are given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of the breast of Cygnus [Alt. Merid. pect. Cygni]	by the revolving [quadrant] [per Volub.]	73° 5½′
Meridian altitude of the mouth of Pegasus [Alt. Merid. oris Pegaſi]	*by the revolving [quadrant] [per Volub.]*	*42° 9⅙′*
From this comes out the declination [Hinc prouenit declinatio]		*8° 3½′*
[it] differs from the armillae by [differt ab armillis minuto]		*1′ [1.]*
Declination [Declin.]	*by the armillae [per Armillas]*	*8° 2½′*
	with the other [· alt.]	*8° 2½′*
The head of Pegasus [Caput Pegaſi]	*by the revolving [quadrant] [per Volub.]*	*38° 18½′*
Declination [Declin.]	*by the armillae [per Armill.]*	*4° 14′*
	with the other pinnule [altero pinnac.]	*4° 13¾′*

459

460

Reading	Declination [Declinatio]
Of the bend [Flexuræ]	58° 27′
Of the bright [star] of the Chair [Luc. Cathedræ]	56° 51′
Of Schedar of Cassiopeia [Schedir Caß.]	54° 14¼′

when they were toward the west from the pole [cum a polo eßent verſus occaſum][461]

Toward the east [verſ. ort.]	Toward the west [verſ. occ.]	Difference [diff.]
58° 29¾′	58° 27′	2¾′
56° 53⅚′	56° 51′	2⅚′ [2⅚]
54° 18′	54° 14¼′	3¾′ [3¾]

[459] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The first row is roman, the rest italic. Each of the first two labels runs over two lines, *per Volub.* and the value on the second. *minuto* is printed as a word, and the figure *1.* with a point after it stands in the minutes place; the English gives the minute as ′. A raised point is printed before *alt.* in the sixth row. The other values are printed without unit marks and are given as degrees and minutes.

[460] The page prints no subtraction for the declination 8° 3½′. Taking from 42° 9⅙′ the 34° 5½′ that the page subtracts on the same date for the bright [star] of the Vulture gives 8° 3⅔′, where the page prints 8° 3½′; the next line, *differt ab armillis minuto 1.*, agrees with 8° 3½′ against the armillae's 8° 2½′. No figure has been changed.

[461] this table stands at the head of the right column, under no date heading of its own. *Declinatio* is printed once, centred over the values; "Reading" is this edition's. A single brace joins the three rows, and the words *cum a polo eßent verſus occaſum* stand to the right of it over three lines; the English gives the remark once, after the table, for all three rows. The values are printed without unit marks and are given as degrees and minutes.

462

After the revolving quadrant had been rectified [Poſt rectificatum Q. Volub.]

Reading	Meridian altitude by the quadrant [Alt. mer. per Q.]	Declination: arising [Declinatio proueniens]	Declination: by the armillae [Declinatio per Arm.]
The head of Andromeda [Caput Androm.]	60° 55½′	26° 50′	26° 50′
The far end of the wing of Pegasus [Extrem. alæ Peg.]	46° 59½′	12° 54′	12° 54½′
Of the pole star, maximum altitude [Stellæ Polaris. alt. max.]	58° 51′		
The bend of Cassiopeia [Flexura Caß.]	87° 26¾′	58° 27¾′	

463

On 24 September [DIE 24 SEPTEMBRIS.]

Reading	Instrument	Value
[The star] preceding the bright [star] of the Vulture, meridian altitude [Præc. lucid. Vult. Alt. Merid.]	*by the revolving quadrant [per Q. Volub.]*	*43° 47½′*
Declination [Declin.]	*by the armillae [per Armill.]*	*9° 41¾′*
The bright [star] of the Vulture [Lucida Vulturis]		*41° 57½′*
Declination [Declin.,]	*with both pinnules [vtroque pinn.]*	*7° 51¾′*

464

Examination of the instrument at certain stars of Cassiopeia situated toward the east from the pole [Examinatio inſtrumenti ad ſtellas quasdam Caßiopeæ verſus ortum a polo ſitas]

[462] all three heads are printed; the columns are divided by short vertical rules; the rows carry no labels. The first difference is printed with a prime after it (*2¾′*); the other two differences carry no mark and are given as minutes, like the first; the values of the first two columns are printed without unit marks and are given as degrees and minutes.

[463] the heads *Alt. mer. per Q.*, *proue-niens* and *per Arm.* are printed, *Declinatio* once over the second and third; "Reading" is this edition's. *Stellæ Polaris.* stands on a line of its own and *alt. max.* with the value on the line below; the label is given whole in one row. The values are printed without unit marks and are given as degrees and minutes.

[464] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The first label runs over two lines, *per Q. Volub.* and the value on the second. The values are printed without unit marks and are given as degrees and minutes.

Reading	*With one pinnule [vno pinn.]*	*With the other [altero]*
The bright [star] of the Chair [Lucida Cathedræ]	*56° 52⅔′*	*56° 52¼′*
Schedar of Cassiopeia [Schedir Caβiop.]	*54° 15½′*	*54° 16′*
The bend of Cassiopeia [Flexura Caβiop.]	*58° 28½′*	*58° 28⅙′*
The bright [star] of the □ of Ursa Minor [Luc. □ vrſæ min.]	*75° 50½′*	*75° 50½′*

465

On 27 September [DIE 27 SEPTEMBRIS.]

Reading	Instrument	Value
Meridian altitude of the far end of the lower wing of Cygnus [Alt. Merid. extremæ inferioris alæ Cygni]		62° 41⅔′
From this comes out the declination [Hinc prouenit declinatio]		28° 36⅙′
Declination [Decl.]	by the armillae [per Armillas]	28° 35⅔′
Meridian altitude of the mouth of Pegasus [Altit. oris Pegaſi merid.]		42° 7½′
Declination from the altitude [Decl. ex altit.]		8° 2′
Declination [Decl.]	by the armillae [per Armillas]	8° 2⅓′

466

[It] was not clear enough [Non fuit ſatis ſerenum.]

On 28 September [DIE 28 SEPTEMBRIS.]

Again, for the restoration and correction of the declination instrument [Rurſus pro reſtitutione et correctione inſtrumenti Declin.]

Reading	*With one pinnule [vno pinn.]*	With the other [altero]	
The bright [star] of the Chair [Lucida Cathedræ]	*56° 52½′*	*56° 52′*	*toward the east [Verſus ortum]*
Schedar of Cassiopeia [Schedir Caβiop.]	*54° 16′*	*with both pinnules [vtroque pinn.]*	
The bend of Cassiopeia [Flexura Caβ.]	*58° 28½′ [58.28½]*	*58° 28⅓′*	*Altitude [Alt.]*
Arcturus	*21° 24½′*	*21° 24⅚′*	*16° 37′*

[465] the heads *vno pinn.* and *altero* are printed; "Reading" is this edition's. The values are printed without unit marks and are given as degrees and minutes.

[466] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The first label runs over two lines, the value at the end of the second. The values are printed without unit marks and are given as degrees and minutes.

467

Reading	Instrument	Value	Remark
The little star in the breast of Pegasus, the nearest of the two to Scheat, which we used in the comet of the year 77, from the bright [star] of the Vulture [Stellula in pectore Pegaſi proxima e duabus ad Scheat, qua vſi ſumus in cometa anni 77, a lucida Vulturis]	*by the sextant [per Sextantem]*	*45° 31′*	*taken twice [bis accepta]*
Declination of the little star, twice [Declin. ſtellulæ, bis,]	*with both pinnules [vtroque pinn.]*	*22° 27½′*	
Scheat from the bright [star] of the head of ♈, twice [Scheat a lucida capitis ♈, bis]		*41° 19⅔′*	
Declination of Scheat [Declin. Scheat]		*25° 51½′*	
The highest of the two first [stars] in the Wain of Ursa Major had a meridian altitude [Suprema duarum primarum in plauſtro vrſæ maioris habuit Alt. Mer.]	*by the revolving [quadrant] [per Volub.]*	*29° 52¼′*	
Declination [Declinatio]	*by the armillae, with both [per Armill., vtroq.]*	*63° 59′*	
The other lower [one] in the Bear, minimum meridian altitude [Altera infer. in vrſa, alt. mer. minima]		*24° 30′ or 24° 29⅚′ [24 30 vel 24 29⅚]*	
Declination [Declin.]	*by the armillae [per Armillas]*	*58° 36⅙′*	
	with the other pinnule [alt. pinn.]	*58° 36½′*	

468

[467] the heads *vno pinn.* (italic) and *altero* (roman) are printed; "Reading" and the blank head of the fourth column are this edition's. *Verſus* stands on the line of the heads at the right and *ortum* under it on the first row; the English gives the two words together in the first row. *vtroque pinn.* follows 54 16 on the second row with no space, across the second value column. A small point is printed between 58 and 28½ in the third row. *Alt.* stands at the right of the third row, directly above 16 37 of the fourth row; the English keeps each on its own row. The values are printed without unit marks and are given as degrees and minutes.

[468] printed without heads; "Reading", "Instrument", "Value" and "Remark" are this edition's. The page opens with these rows under no heading of their own. The first label runs over three lines, *per Sextantem* and the value on a fourth, and *bis accepta* stands on a fifth line, right-aligned under the value; it is given in the first row. *Suprema … habuit Alt. Mer. per Volub.* runs over three lines, the value at the end of the third. *Declinatio per Armill.,* stands on one line and *vtroq.* with the value on the next. The values are printed without unit marks and are given as degrees and minutes.

We therefore rectified the armillae so that they showed the declination of the lower [star] in the preceding Wheels of Ursa Major [as] 58° 35½′. And from this the declination of the upper [star] afterwards came out [as] 63° 58′. Afterwards, the observation of the armillae having been turned to the meridian, the far end of the wing was found to have a declination, with one pinnule, of 12° 53½′; with the other, of 12° 53⅔′ [Rectificauimus itaque armillas ita vt oſtenderent declinationem inferioris in præcedentibus Rotis vrſæ maioris 58 35½ Et hinc poſtea proueniebat ſuperioris decl. 63 58. Poſtea conuerſa ad meridiem armillarum obſeruatione inuenta eſt extrema alæ declinare vno pinn. 12 53½ altero 12 53⅔].[469]

Reading	Instrument	Value
The head of Andromeda, declination [Caput Androm. Declin.]		*26° 49½′*
	with the other [altero]	*26° 49′*

470

Reading	Altitude by the revolving quadrant [Alt. per Q. Volub.]	Declination: with one [Declin. vno]	Declination: with the other [Declin. altero]
The head of Andromeda [Caput Androm.]	60° 55′ 5″	26° 49½′	26° 49¼′
The far end of the wing of Pegasus [Extrem. alæ Peg.]	46° 59′ 30″	12° 53½′	12° 53¾′
The preceding [star] in the tail of Ursa Major, minimum altitude [Præced. in cauda vrſæ mai. Alt. min.]	24° 8′ 50″	58° 15¾′	58° 16′
The following [one] in the same, minimum altitude [Seq. in eadem Alt. min.]	23° 2′ 30″	57° 9′	57° 9′

471

Around the last observations it was not clear enough [Circa poſtremas obſeruationes non fuit ſatis ſerenum.]

[469] the value 58 35½ stands at the right of the line *maioris*, and the two last values stand each on a line of their own, right-aligned, with *vno pinn.* and *altero*; the English gives the passage as one paragraph. The values are printed without unit marks and are given as degrees and minutes.

[470] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[471] the heads *Alt. per Q. Volub.*, *Declin.*, *vno* and *altero* are printed, *Declin.* once over the last two columns; "Reading" is this edition's. Each label runs over two to four lines, the values on the last; each label is given whole in one row. The altitudes are printed as three groups of figures without unit marks and are given as degrees, minutes and seconds; the declinations as degrees and minutes.

Reading	Instrument	Value
Distance of that little star in the breast of Pegasus from the bright [star] of ♈ [Diſtantia illius ſtellulæ in pectore Pegaſi a lucida ♈]	by the sextant △ [per Sext. △]	44° 45½′
		44° 45½′

472

On 30 September [DIE 30 SEPTEMBRIS.]

Reading	Instrument	Value
The mouth of Pegasus in the meridian [Os Pegaſi in Merid.]	by the revolving [quadrant] [per Volub.]	42° 8′
Declination [Declin.]	by the armillae [per Armillas]	8° 2′

473

We observed Arcturus near [its] setting on account of refraction [Arcturum obſeruauimus prope occaſum propter refractionem.]

Altitude [Altit.]	*Declination [Declin.]*
4° 48′	*21° 30¾′*
4° 30′	*21° 30⅝′*
4° 10′	*21° 31′*

474

It is therefore clear that at an altitude of 4½° Arcturus makes a refraction of at least 7′ in declination [Patet itaque quod in altit. 4½ partium faciat Arcturus refractionem ad minimum 7 ſcrupulorum in declinatione.]

Reading	Instrument	Value	Remark
Meridian altitude of the head of Pegasus [Alt. merid. capitis Pegaſi]		*38° 19⅓′*	
			[it] agrees moderately [mediocriter quadrat]

[472] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The label runs over two lines, *per Sext.* △ and the value at the end of the second; the second value stands alone on the line below. The values are printed without unit marks and are given as degrees and minutes.

[473] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[474] *Altit.* and *Declin.* are printed in the first row, each before its group of figures, and serve as the heads of the two columns; the rows below carry figures only. The values are printed without unit marks and are given as degrees and minutes.

Reading	Instrument	Value	Remark
Declination [Declin.]	*by the armillae [per Armillas]*	*4° 14′*	
	with the other pinnule [alt. pinn.]	*4° 13½′*	
The upper of the first [stars] in the Bear, lowest altitude [Superior primarum in vrſa altitudo infima]		*29° 52¼′*	
Declination [Declin.]	*by the armillae [per Armillas]*	*63° 59′*	
	with the other pinnule [alt. pinn.]	*63° 59½′*	
[it] ought to be [debet eße]		*63° 57¾′*	
The lower of the first [stars] in the Bear [Inferior primarum in vrſa]		*24° 29⅔′*	
Declination [Declin.]		*58° 36⅙′*	
	with the other [altero]	*58° 36⅓′*	
[it] ought to be [debet eße]		*58° 35⅓′*	
Repeated declination of the lower of the first [stars] in Ursa Major [Repetita declinatio inferioris primarum in vrſa maiore]		58° 35½′	
	with the other [altero]	58° 35¾′	
The lower of the hind [stars] in the Wain of Ursa Major [Poſteriorum inferior in plauſtro vrſæ maioris]	by the quadrant [per Quadr.]	21° 54⅔′	
Declination of the same [Declin. eiusdem]	by the armillae [per Armill.]	56° 0½′	
	with the other [altero]	56° 0½′	
Declination arising from the altitude [Decl. proueniens ex altit.]		56° 0⅙′	
The head of Andromeda [Caput Andromedæ]		60° 55′	
Declination from the altitude [Decl. ex altit.]		26° 49½′	
Declination [Decl.]	by the armillae, with both [per Armill. vtroq.]	26° 50′	
The far end of the wing of Pegasus [Extrema alæ Pegaſi]		46° 59′	
Declination from the altitude [Decl. ex altit.]		12° 53½′	
Declination [Decl.]	by the armillae [per Armillas]	12° 54⅓′	
Maximum altitude of the pole star [Altit. Stellæ Polaris maxima]	by the revolving quadrant [per Q. Volub.]	58° 50¾′	
The preceding [star] in the tail of Ursa Major [Præced. in cauda vrſæ mai.]		24° 8¾′	
Declination from the altitude [Decl. ex altit.]		58° 14′ 15″	
Declination [Decl.]	by the armillae, with one [per Armillas vno]	58° 14⅙′	
	with the other pinnule [alt. pinn.]	58° 14½′	

Reading	Instrument	Value Remark
The following [star] in the tail of Ursa Major [Sequens in cauda vrſæ mai.]		23° 1½′
Declination from the altitude [Decl. ex altit.]		57° 7′
Declination [Decl.]	by the armillae [per Armillas]	57° 7½′
The last [star] of the tail of Ursa Major [Poſtrema caudæ vrſæ mai.]		17° 20′
Declination from the altitude [Decl. ex altit.]		51° 25½′
Declination [Decl.]	by the armillae, with one [per Armill., vno]	51° 25½′
	with the other [altero]	51° 25⅚′

475

On 19 October [DIE 19 OCTOBRIS.]

Reading		Value
The place of the Vulture at [Vulturis locus in]		26° 0′ ♑
The mouth of Pegasus was being observed at [Os Pegaſi obſeruabatur in]		26° 7′ ♒
		observing twice [bis obſeruando]
The bright [star] of the Vulture at [Vulturis lucida in]		26° 0′ ♑
The far end of the wing of Pegasus [Extrema alæ Pegaſi]	I	3° 23½′ ♈
	II	3° 23′ ♈

476

On 31 October [DIE 31 OCTOBRIS.]

The hand of Antinous [Manus Antinoi]

[475] printed without heads; "Reading", "Instrument", "Value" and "Remark" are this edition's. The rows down to the second *debet eße* are italic, the rest roman. *mediocriter quadrat* stands on a line of its own, right-aligned under the value 38 19⅓; the English gives it a row of its own. Each *debet eße* is printed right-aligned under the values above it, in the place of the instrument words, and is given in the first column. *Superior primarum in vrſa / altitudo infima*, *Repetita declinatio inferioris / primarum in vrſa maiore*, *Poſteriorum inferior in plauſtro / vrſæ maioris per Quadr.*, *Declin. eiusdem / per Armill.* and *Altit. Stellæ Polaris maxima / per Q. Volub.* each run over two lines, the value on the second; each label is given whole in one row. The lines beginning *Declin.* and *Decl.* are printed indented. The value 58 14 15 is printed as three groups and is given as degrees, minutes and seconds; the other values are printed without unit marks and are given as degrees and minutes.

[476] printed without heads; "Reading" and "Value" are this edition's. *bis obſeruando* stands on a line of its own, right-aligned under the value 26 7 ♒; the English gives it a row of its own in the value column. The Roman numerals I and II stand before the two values of the last label. The values are printed without unit marks and are given as degrees and minutes.

Reading	Value
Declination of the hand of Antinous [Decl. Manus Antinoi]	1° 56¼′ south [1 56¼ M.]

477

The bright [star] of ♈ [Lucida ♈]	*The hand of Antinous [Manus Antinoi]*	*Difference of ascension [Diff. aſc.]*
55° 11½′	*33° 22′*	*88° 33½′*
54° 20½′	*34° 12′*	*88° 32½′*
53° 59′	*34° 34½′*	*88° 33½′*
53° 28½′	*35° 5′*	*88° 33½′*
Therefore set the difference of ascension [as] [Pone itaque Aſcenſ. different.]		*88° 33½′*

478

The mouth of Pegasus [Os Pegaſi]

Reading	Value
Declination [Declin.]	*8° 2′ north [8 2 B.]*

479

The bright [star] of ♈, east [Lucida ♈ or.]	*The mouth of Pegasus, west [Os Pegaſi occ.]*	*Ascensional differences [Diff. aſcenſionales]*
40° 48¼′	*24° 12½′*	*65° 0′ 45″*
40° 14½′	*24° 45′*	*64° 59½′*
39° 36′	*25° 24′*	*65° 0′*
	Therefore set [it as] [Pone itaque]	*65° 0′*

480

The bright [star] of the neck of Pegasus [Lucida colli Pegaſi]

[477] printed without heads; "Reading" and "Value" are this edition's. The value is printed without unit marks and is given as degrees and minutes.

[478] the three heads are printed. *Pone itaque Aſcenſ.* stands flush left on one line and *different.* with the value on the next, the value under the third column; the English gives the words whole in the first cell of the last row. The values are printed without unit marks and are given as degrees and minutes.

[479] printed without heads; "Reading" and "Value" are this edition's. The value is printed without unit marks and is given as degrees and minutes.

[480] the three heads are printed, the third divided *aſcen- / ſionales* over two lines. *Pone itaque* stands under the second column and its value under the third. The first value of the third column is printed as three groups and is given as degrees, minutes and seconds; the other values are printed without unit marks and are given as degrees and minutes.

Reading	Value
Declination of the bright [star] in the neck of Pegasus [Declin. Luc. in collo Peg.]	8° 42′ north [8 42 B.]

481

The bright [star] of ♈, east [Luc. ♈ or.]	The bright [star] of the neck of Pegasus, west [Luc. colli Pegaſi occ.]	Equatorial distance [Diſt. æquat.]
35° 34′	15° 10′	50° 44′
34° 57′	15° 47¾′	50° 44¾′
34° 27½′	16° 17½′	50° 45′
34° 2¼′	16° 43′	50° 45¼′
33° 25′	17° 20′	50° 45′
Set the ascensional difference [as] [Pone different. aſcenſional.]		50° 45′ 0″

482

The first [star] of the wing [Prima Alæ.]

Reading	Value
Declination of the first [star] of the wing of Pegasus, north [Declin. primæ alæ Pegaſi B.]	13° 1′

483

The bright [star] of ♈, east [Lucida ♈ or.]	The first [star] of the wing of Pegasus, west [Prima alæ Pegaſi occid.]	Equatorial distance [Diſt. æquat.]
32° 45¾′	12° 8½′	44° 54¼′
32° 15′	12° 38½′	44° 53½′
31° 40′	13° 14½′	44° 54½′
31° 13⅓′	13° 41½′	44° 54⅚′
30° 32′	14° 22½′	44° 54½′
Set this difference of ascension [as] [Pone hanc different. Aſc.]		44° 54½′

484

[481] printed without heads; "Reading" and "Value" are this edition's. The value is printed without unit marks and is given as degrees and minutes.

[482] the three heads are printed. *Pone different. aſcenſional.* stands flush left across the first two columns; the English gives it in the first cell of the last row. Its value is printed as three groups, the last figure 0 standing beyond the third column, and is given as degrees, minutes and seconds; the other values are printed without unit marks and are given as degrees and minutes.

[483] printed without heads; "Reading" and "Value" are this edition's. *B.* is printed after *Pegaſi*, before the value. The value is printed without unit marks and is given as degrees and minutes.

[484] the three heads are printed. *Pone hanc different. Aſc.* stands flush left across the first two columns; the English gives it in the first cell of the last row. The values are printed without unit marks and are given as degrees and minutes.

On 1 November [DIE 1 NOUEMBRIS.]

Reading	Value
Declination of the bright [star] of the Vulture [Declinatio lucidæ Vulturis]	7° 51′ north [7 51 B.]
Declination of the mouth of Pegasus [Declinatio oris Pegaſi]	8° 2⅓′ north [8 2⅓ B.]

485

The left hand of Antinous [Manus Antinoi ſiniſtra]

Reading	Value
Declination [Declinatio]	1° 56½′ south [1 56½ M.]

486

The bright [star] of ♈, east [Lucida ♈ orient.]	*The hand of Antinous, west [Manus Ant. occid.]*	
57° 13¾′	*31° 20′*	*88° 33¾′*
56° 20½′	*32° 13′*	*88° 33½′*

487

Time [H M]	The bright [star] of the Vulture, west [Lucida Vult. occ.]	The mouth of Pegasus, west [Os Pegaſi occ.]	Equatorial distance [Diſt. æquat.]
$7^h\ 29^m$	46° 2½′	17° 43½′	28° 19′
$7^h\ 32^m$	46° 48′	18° 28¾′	28° 19¼′
$7^h\ 34^m$	47° 18¾′	19° 0′	28° 18¾′
$7^h\ 37^m$	47° 59½′	19° 40¼′	28° 19¼′
Set the ascensional difference [as] [Pone different. aſcenſional.]			28° 19′
The bright [star] in the neck of Pegasus [Lucida in collo Pegaſi]			
$7^h\ 44⅔^m$	49° 50⅙′	7° 17′	42° 33⅙′
$7^h\ 47⅓^m$	50° 34¾′	8° 0¾′	42° 34′
$7^h\ 50^m$	51° 18′	8° 45′	42° 33′
$7^h\ 54¾^m$	52° 23⅙′	9° 50′	42° 33⅙′
$7^h\ 57^m$	52° 56½′	10° 23½′	42° 33′
$7^h\ 59^m$	53° 24½′	10° 52′	42° 32½′

[485] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[486] printed without heads; "Reading" and "Value" are this edition's. The value is printed without unit marks and is given as degrees and minutes.

[487] the heads over the first two columns are printed; the third column has no head. The values are printed without unit marks and are given as degrees and minutes.

Time [H M]	The bright [star] of the Vulture, west [Lucida Vult. occ.]	The mouth of Pegasus, west [Os Pegaſi occ.]	Equatorial distance [Diſt. æquat.]
Set this difference of ascension [as] [Pone hanc different. Aſc.]			42° 33′
The first [star] of the wing of Pegasus [Prima alæ Pegaſi]			
	The bright [star] of the Vulture, west [Luc. Vult. occ.]	The first [star] of the wing of Pegasus, west [Prima alæ Peg. occ.]	
8^h $2½^m$	54° 24½′	6° 0¾′	48° 23¾′
8^h $6½^m$	55° 16′	6° 52½′	48° 23½′
8^h $9½^m$	56° 2½′	7° 38½′	48° 24′
Set this difference of ascension [as] [Pone hanc differ. Aſc.]			48° 23⅔′

488

Time	Reading		Value
8^h 33^m	Declination of Scheat of Pegasus [Declin. Scheat Pegaſi]		25° 52½′
8^h 36^m	Distance between the bright [star] of the Vulture and the right knee of Pegasus by the sextant [Diſt. inter lucidam Vulturis & dextrum genu Pegaſi per Sext.]	I	45° 30′
		II	45° 29⅚′
	Declination of the right knee of Pegasus [Declin. dextri genu Peg.]		28° 6¼′

489

Time	The head of Pegasus, west [Caput Pegaſi occid.]	The bright [star] of ♈, east [Lucida ♈ orient.]	
9^h 23^m	39° 39′	18° 59½′	58° 38½′
9^h 25^m	40° 12½′	18° 28¼′	58° 40¾′

[488] the heads *H*, *M*, *Lucida Vult. occ.*, *Os Pegaſi occ.* and *Diſt. æquat.* are printed; "Time" is this edition's gloss of *H M*. The labels *Lucida in collo Pegaſi* and *Prima alæ Pegaſi* stand centred across the column; under the first no heads are printed again, and under the second the heads *Luc. Vult. occ.* and *Prima alæ Peg. occ.* stand over the second and third columns only, given as an inner head row. The English carries all these rows in one table. Each *Pone …* line stands across the first columns with its value under the last column. The time is given in hours and minutes as headed *H* and *M*; the other values are printed without unit marks and are given as degrees and minutes.

[489] printed without heads; "Time", "Reading" and "Value" are this edition's. These lines stand below the table above, the times 8 33 and 8 36 in its time column and the words after them; the English breaks them out as a table of their own. The label *Diſt. inter lucidam / Vulturis & dextrum / genu Pegaſi per Sext.* runs over three lines, with I 45 30 at the end of the second and II 45 29⅚ at the end of the third; it is given whole on the first of its rows. The times are printed as bare pairs of figures and are given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes.

Time	The head of Pegasus, west [Caput Pegaſi occid.]	The bright [star] of ♈, east [Lucida ♈ orient.]	
$9^h\ 27^m$	40° 50′	17° 50′	58° 40′
$9^h\ 30^m$	41° 30′	17° 9′	58° 39′
$9^h\ 33^m$	42° 12¼′	16° 26½′	58° 38¾′
Set the equatorial distance [as] [Pone diſt. æquatoriam]			58° 39½′

490

Time	Reading	Value
$10^h\ 30^m$	Declination of the head of Pegasus ♈ [Declin. cap. Pegaſi ♈]	4° 14½′ north [4 14½ B.]
	Declination of the far end of the wing of Pegasus [Declin. extremæ alæ Pegaſi]	12° 53½′

491

On 6 November [DIE 6 NOUEMBRIS.]

The bright [star] in the □ of Ursa Minor was being observed, and that only for the correction, if need be, and the investigation of the meridian, in this way, at noted azimuths [Obſeruabatur lucida in □ vrſæ mimoris idque ſaltem pro emendatione, ſi opus fuerit, & inquiſitione Meridiani in hunc modum in notatis Azimutis] [recte: minoris].

Time	*Altitude [Altitudo]*	*Morning [Mane]*
$5^h\ 29⅓^m$ [H.5 29⅓′]	*53°*	*Of the star [Stellæ] $5^h\ 2⅙^m$ [H.5 M.2⅙]*
$5^h\ 38¾^m$	*52½°*	*Repeated [Repetita] $4^h\ 53^m$ [H.4 M.53]*
$5^h\ 46^m$	*52°*	
$5^h\ 54¾^m$	*51½°*	

490 the heads over the second and third columns are printed; "Time" is this edition's, and the fourth column has no head. *Pone diſt. æquatoriam* stands across the first columns, its value under the last. The times are printed as bare pairs of figures and are given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes.

491 printed without heads; "Time", "Reading" and "Value" are this edition's. These lines stand below the table above, the time 10 30 in its time column; the English breaks them out as a table of their own. The sign ♈ is printed after *Pegaſi*, before the value. The label *Declin. extremæ / alæ Pegaſi* runs over two lines, the value at the end of the second. The time is printed as a bare pair of figures and is given as hours and minutes; the values are printed without unit marks and are given as degrees and minutes.

492

Afterwards, again in the morning, the same star was being observed at a definite altitude, as follows [Poſtea denuo mane eadem ſtella obſeruabatur in certa altitudine vt ſequitur]

Time	Reading	Value
$5^h\ 35^m$ [$5^H 35^M$]	*In the morning [it] was at an altitude [of] [Fuit mane in altitudine]*	55° 0′
$5^h\ 42½^m$		55½°
$5^h\ 51^m$		56° 0′
$6^h\ 6½^m$		57° 0′
$6^h\ 10½^m$		57¼°
$6^h\ 14^m$		57½°

493

The pole star also was being observed again this evening at its greatest distance from the pole, for examining and delimiting the meridian line [Stella polaris etiam denuo obſeruabatur hoc veſperi in maxima ſua remotione a Polo pro examinanda limitandaque Meridiani linea]

Time	Value
$6^h\ 22^m$ [H. 6 M. 22]	58° 0′

494

The head of Pegasus [Caput Pegaſi]

Time	The Vulture, west [Vultur occ.]	The head of Pegasus, west [Caput Pegaſi occ.]	Difference of ascension [Diff. Aſc.]
$7^h\ 5^m\ 25^s$ [7^H 5′25″]	47° 37′	12° 57¾′	34° 39¼′
$7^h\ 9^m\ 20^s$	48° 38⅓′	13° 58′	34° 40⅓′
$7^h\ 12^m\ 8^s$	49° 25′	14° 44⅙′	34° 40⅝′

492 "Time" is this edition's head. *Altitudo* is printed in the first row, set close before 53, and serves as the head of the altitude column; *Mane* stands above *Stellæ H.5 M.2⅙* at the right and is given as the head of that column. The first time is printed *H.5 29⅓* followed by a raised mark like a prime, the others as bare pairs of figures, and all are given as hours and minutes. The altitudes are printed as single figures, two with a fraction, without unit marks, and are given as degrees. The times at the right are printed with *H.* and *M.*

493 printed without heads; "Time", "Reading" and "Value" are this edition's. The first time is printed with small raised *H* and *M*, the others as bare pairs of figures, and all are given as hours and minutes. The values of the first, third and fourth rows are printed as two figures without unit marks and are given as degrees and minutes; those of the second, fifth and sixth rows as a single figure with a fraction, standing under the degrees, and are given as degrees.

494 printed without heads; "Time" and "Value" are this edition's. The value is printed without unit marks and is given as degrees and minutes.

Time	The Vulture, west [Vultur occ.]	The head of Pegasus, west [Caput Pegaſi occ.]	Difference of ascension [Diff. Aſc.]
$7^h\ 15^m\ 25^s$	50° 13⅓′	15° 34′	34° 39⅓′
$7^h\ 17^m\ 50^s$	50° 52¾′	16° 12½′	34° 40¼′
Set here the equatorial difference [as] [Pone hic differentiam æquatoriam]			*34° 40′*

and you will err imperceptibly [& inſenſibiliter aberrabis.][495]
The far end of the wing of Pegasus [Extrema alæ Pegaſi]

Time	*The Vulture, west [Vultur occ.]*	*The far end of the wing, east [Extrema alæ or.]*	*Equatorial difference [Diff. æquator.]*
$7^h\ 21⅔^m$	*51° 52½′*	*13° 25′*	*65° 17½′*
$7^h\ 23½^m$	*52° 20½′*	*12° 58¼′*	*65° 18¾′*
$7^h\ 25½^m$	*52° 53½′*	*12° 25′*	*65° 18½′*
Set the equatorial distance [as] [Pone diſtantiam æquatoriam]			*65° 18¼′*

496

Time	*The Vulture, west [Vultur occ.]*	*The first [star] of the wing, west [Prima alæ occ.]*	
$7^h\ 32^m\ 25^s$	*54° 43′*	*6° 18⅓′*	*48° 24′ 40″*
$7^h\ 34^m\ 40^s$	*55° 17′*	*6° 55′*	*48° 22′*
$7^h\ 36^m\ 30^s$	*55° 46′*	*7° 22′*	*48° 24′*
$7^h\ 38^m\ 15^s$	*56° 13½′*	*7° 50′*	*48° 23½′*
$7^h\ 41⅓^m$	*56° 55′*	*8° 32′*	*48° 23′*
Set the equatorial distance [as] [Pone diſtantiam æquat.]			*48° 24′*

[495] the heads over the three value columns are printed; "Time" is this edition's. The first time is printed with a small raised *H* after 7 and marks like a prime after 5 and a double prime after 25; the others are printed as three bare figures; all are given as hours, minutes and seconds. In the second row the fraction after 40 has numerator 1, and its denominator is not settled on the scan between 2 and 3. *Pone hic differentiam* stands flush left and *æquatoriam* with the value 34 40 on the next line, the value under the fourth column; the words *& inſenſibiliter aberrabis.* stand on a third line, below the value, and are given after the table. The values are printed without unit marks and are given as degrees and minutes.

[496] the heads over the three value columns are printed; "Time" is this edition's. *Pone diſtantiam* stands flush left and *æquatoriam* with the value on the next line, right-aligned; the English gives the words whole in the first cell of the last row. The times are printed as bare pairs of figures and are given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes.

497

The altitude of the Vulture [was] about 25° [Altitudo Vulturis quaſi 25 graduum]

Time	*The bright [star] of the Vulture, west [Luc.Vult. occ.]*	*The bright [star] of the neck of Pegasus, west [Luc. colli Pegaſi occ.]*	*Equatorial distance [Diſt. æquat.]*
7^h 48^m	*58° 41⅙′*	*16° 8′*	*42° 33⅙′*
7^h $49½^m$	*59° 6¾′*	*16° 34′*	*42° 32¾′*
7^h $51⅓^m$	*59° 42¼′*	*17° 8′*	*42° 34¼′*
Set the difference of ascension [as] [Pone different. aſc.]			*42° 33½′*

498

Afterwards the declinations of the same stars were being observed, and that in this way [Poſtea obſeruabantur declinationes earundem ſtellarum, idque in hunc modum.]

Reading	Value
Declination of the head of Pegasus [Declinatio Capitis Pegaſi]	*4° 13′*
Repeated declination of the head of Pegasus [Repetita Decl. Cap. Peg.]	*4° 13⅙′*
The bright [star] of the neck of Pegasus, declination [Lucida colli Pegaſi declin.]	*8° 43′*
The same repeated [Eadem repetita]	*8° 43′*

Reading	Value
The first [star] of the wing of Pegasus [Prima alæ Pegaſi]	*13° 6′*
The same repeated [Eadem repetita]	*13° 6′*

uncertain (for both) [incertæ]

Reading	Value
The far end of the wing of Pegasus [Extrema alæ Pegaſi]	*12° 53½′*
The same repeated [Eadem repetita]	*12° 53½′*
Scheat of Pegasus, declination [Scheat Pegaſi declin.]	*25° 53′*

[497] this table stands at the head of the right column, under no date heading of its own, after the table for the far end of the wing at the foot of the left column. The heads over the first two value columns are printed; "Time" is this edition's, and the fourth column has no head. The first four times are printed as three bare figures and are given as hours, minutes and seconds; the fifth as two figures with a fraction, given as hours and minutes. The first value of the fourth column is printed as three groups and is given as degrees, minutes and seconds; the other values are printed without unit marks and are given as degrees and minutes.

[498] the heads over the three value columns are printed; "Time" is this edition's. The times are printed as bare figures and are given as hours and minutes; the other values are printed without unit marks and are given as degrees and minutes.

Reading	Value
The same repeated [Eadem repetita]	*25° 53⅙′*
The mouth of Pegasus has a declination [of] [Os Pegaſi habet declin.]	*8° 2½′*
Repeated [declination] of the same [Repetita eiusdem]	*8° 2½′*

499

On 7 November [DIE 7 NOUEMBRIS.]

Reading	Instrument	Value
Declination of the head of Ophiuchus, north [Declin. capitis Ophiuchi B.]		12° 57′
	with the other pinnule [altero pinn.]	12° 56⅚′
Declination of the right shoulder of Ophiuchus, north [Decl. dextri humeri Oph. B.]		4° 50⅙′
	with the other [altero]	4° 50⅙′
Declination of the left shoulder of Ophiuchus, north [Decl. ſin. humeri Ophiuchi B.]		9° 35½′
	with the other [altero]	9° 35¾′

500

On 13 November [DIE 13 NOUEMBRIS.]

Reading	Value
Declination of the head of Ophiuchus [Declin. capitis Ophiuchi]	12° 57½′
Declination of the right shoulder of Ophiuchus [Decl. dextri hum. Oph.]	4° 51¼′
Declination of the left shoulder of Ophiuchus [Decl. ſin. hum. Oph.]	9° 36½′

501

[499] printed without heads; "Reading" and "Value" are this edition's. These twelve lines stand as one run on the page; the English splits them into three tables so as to give the remark *incertæ* with the two lines it belongs to. A single brace joins the two lines for the first star of the wing, whose values stand to the left of the others, and *incertæ* stands to the right of the brace; the English gives the remark once, after those two rows, for both. The values are printed without unit marks and are given as degrees and minutes.

[500] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *B.* is printed after each star name, before the value. The *altero* lines are printed right-aligned under the lines above them. The values are printed without unit marks and are given as degrees and minutes.

[501] printed without heads; "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

The head of Ophiuchus, west [Caput Ophiuchi occ.]	The bright [star] of the Vulture, west [Lucida Vult. occ.]	
68° 34½′	34° 53½′	33° 41′
69° 12′	35° 29½′	33° 42½′
69° 37′	35° 54¾′	33° 42¼′
70° 1′	36° 19′	33° 42′

502

The right shoulder of Ophiuchus, west [Dext. hum. Oph. occ.]		
69° 20½′	37° 27′	31° 53½′
69° 47′	37° 54′	31° 53′

503

On 16 November [DIE 16 NOUEMBRIS.]

The bright [star] of Lyra [Lucida Lyræ]

Declination [Declin.]	Equatorial distance from the bright [star] of ♈, east [Dist. æquat. a lucida ♈ or.]
38° 28′	110° 10′
38° 28¼′	110° 10′
38° 28⅙′	110° 10′
The mouth of Cygnus [Os Cygni]	
27° 11′	97° 24′
27° 11′	97° 24′
The breast of Cygnus [Pectus Cygni]	
38° 59½′	84° 5′
38° 59¾′	84° 4½′
38° 59½′	84° 5′
The tail of Cygnus [Cauda Cygni]	
43° 51½′	79° 7½′
43° 51½′	79° 8′ twice [bis]

504

[502] the heads over the first two columns are printed, the first divided *Ophi- / uchi*; the third column has no head. The values are printed without unit marks and are given as degrees and minutes.

[503] this table stands at the head of the left column, under no date heading of its own. The head is printed over the first column only; the second and third columns have no head on this page. The values are printed without unit marks and are given as degrees and minutes.

[504] the heads are printed once, under the centred label *Lucida Lyræ*; the labels *Os Cygni*, *Pectus Cygni* and *Cauda Cygni* stand centred on lines of their own within the same run of figures, and the English gives them as label rows of one table. The values are printed without unit marks and are given as degrees and minutes.

On 17 November [DIE 17 NOUEMBRIS.]

The tail of the Vulture [Cauda Vulturis]

The tail of the Vulture, west [CaudaVult. occ.]	The bright [star] of ♈, east [Luc. ♈ or.]	Difference of ascension [Diff. Afc.]
54° 19½′	45° 31′	99° 50½′
54° 44′	45° 4′	99° 48′
55° 12¾′	44° 35′	99° 47¾′
55° 36¼′	44° 12′	99° 48¼′
Set this equatorial distance [as] [Pone hanc diſtantiam æquat.]		99° 48½′
Declination of the tail of the Vulture, north [Declin. caudæ Vulturis B.]		2° 25′

505

The left shoulder of Ophiuchus, west [Siniſter humerus Ophiuchi occ.]	The bright [star] of the Vulture, west [Luc. Vult. occ.]	
71° 11½′	45° 31′	25° 40½′
71° 57′	46° 17½′	25° 39½′
72° 45⅓′	47° 5′	25° 40⅓′
		Set [it as] [Pone] 25° 40′

506

Reading	Value
With the place of the bright [star] of ♈ set at 1° 55′ ♉, the bright [star] of the Vulture was being observed by the armillae of the zodiac at [Poſito loco lucidæ ♈ in 1 55 ♉ obſeruabatur Lucida Vulturis per Armillas Zodiaci in]	26° 2′ ♒
Again [Rurſus]	26° 2⅔′ ♒

507

The other way round: with the place of the bright [star] of the Vulture set at 26° 0′ ♒, the bright [star] of ♈ was being observed at 1° 53′ ♉ [Viceverſa, poſito loco luc. Vult. in 26 0 ♒ obſeruabatur Luc.♈in 1 53 ♉.].

505 the heads are printed. The *Pone* line and the declination line are printed from the left margin across the first two columns, with their values under the third column; *B.* stands after the star name, before the value. The values are printed without unit marks and are given as degrees and minutes.

506 the heads over the first two columns are printed; the third column has no head. *Pone* stands right-aligned with its value under the third column. The values are printed without unit marks and are given as degrees and minutes.

507 printed as a paragraph of three lines with the first value at the end of the third, and *Rurſus* with the second value right-aligned on a fourth line; "Reading" and "Value" are this edition's. The figures within the sentence and the values are printed without unit marks and are given as degrees and minutes.

[At] 8^{h} 38^{m} 20^{s} [8ʜ38′20] the far end of the wing of Pegasus passed through the meridian and had an altitude [of] 47° 0′ [tranſiuit extrema alæ Pegaſi per Merid. & habuit Alt. 47 0].[508]

On 23 November [DIE 23 NOUEMBRIS.]

Time	Reading	Instrument	Value
6^{h} 0^{m} [H. 6 0′]	Minimum altitude of the lower of the two preceding [stars] in the □ of Ursa Major [Alt. minima inferioris duarum præcedentium in □ vrſæ maioris]		24° 29′ 35″
	Declination of the same [Declin. eiusdem]	with one pinnule [vno pinn.]	58° 37′ 0″
		with the other [altero]	58° 37′ 15″
	Minimum altitude of the upper of the two preceding [stars] in the □ of the Wain [Altit. minima ſuperioris duarum in □ Plauſtri præcedentium]	by the revolving quadrant [per Q. Volub.]	29° 52′
	Declination of the same [Declin. eiusdem]	by the armillae [per Armill.]	63° 59′
		with the other pinnule [altero pinn.]	63° 58′ 45″
$6⅓^{h}$ [H. 6⅓]	Declination of the eye of Draco [Declin. oculi Draconis]		52° 39′
		with the other pinnule [alt. pinn.]	52° 38¾′
	Declination of the throat of Draco [Declin. faucis Draconis]		51° 35′
		with the other pinnule [alt. pinn.]	51° 34¾′

509

These two bright stars in the head of Draco were distant from the pole toward the west [Diſtabant hæ duæ ſtellæ in capite Draconis lucidæ a Polo ad occaſum.].

[508] the figures in these two sentences are printed without unit marks and are given as degrees and minutes. The time is printed with a small raised *H* after 8 and a mark like a prime after 38; the bare 20 is given as seconds. In the three places of the bright star of the Vulture above (26 2, 26 2⅔, 26 0) the sign is printed ≈ (confirmed on a native-resolution crop), where the same star's place, about 26°, is printed with ♒ on p. 126 and on p. 123; the sign is given as printed, and no correction is made.

[509] printed without heads; "Time", "Reading", "Instrument" and "Value" are this edition's. Each instrument phrase stands on the line of the reading it belongs to, or right-aligned on the line below; the English gives both on the same row as the value printed with them. The first reading runs over three lines with its value at the end of the third, and the reading of the upper star over three lines with its value at the end of the third. The first time is printed *H. 6* with a mark like a prime after 0, and is given as hours and minutes; *H. 6⅓* as hours. Values printed as three groups are given as degrees, minutes and seconds, pairs as degrees and minutes; none carries unit marks.

Time	Reading	Instrument	Value
$6^h\ 54^m$ [H. 6 54′]	Minimum altitude of the lower of the following [stars] in the □ of the Wain [Alt. minima inferioris ſequentium in □ Plauſtri]	by the revolving azimuthal quadrant [per Q. volub. Azimuthalem]	21° 54′ 30″
	Declination of the same [Declin. eiusdem]	with one [vno]	56° 0′ 30″
		with the other pinnule [altero pinn.]	56° 0′ 40″
$7\frac{1}{3}^h$ [H. 7⅓]	Minimum altitude of the upper of the two following [stars] in the □ of the Wain [Altit. minima ſuperioris duarum ſequentium in □ Plauſtri]		25° 15′ 30″
	Declination of the same [Decl. eiusdem]	by the armillae, with both [per Arm., vtroq.]	59° 21½′
$8^h\ 0^m$ [H. 8 0′]	Minimum altitude of the first [star] in the tail of Ursa Major [Altit. minima primæ in Cauda Vrſæ maioris]	by the revolving azimuthal quadrant [per Q. Volub. Azimuthalem]	24° 8′ 55″
	Declination of the same [Decl. eiusdem]	by the armillae [per Arm.]	58° 15′
		with the other [altere] [recte: altero]	58° 15½′
$8^h\ 28^m$ [H. 8 28′]	Minimum altitude of the middle [star] of the tail of Ursa Major [Alt. min. Mediæ caudæ vrſæ mai.]		23° 1′ 55″
	Declination of the same [Decl. eiusdem]	by the armillae [per Armill.]	57° 7¾′
		with the other [altero]	57° 7½′
$8^h\ 54^m$ [H. 8 54′]	Minimum altitude of the last [star] in the tail of the same [Altitudo minima poſtremæ in cauda eiusdem]		17° 21⅓′
	Declination of the same [Decl. eiusdem]	by the armillae [per Armill.]	51° 27½′
		with the other pinnule [altero pinn.]	51° 27⅓′

510

With the bright [star] of ♈ placed at 1° 55′ ♉, the place of the mouth of Pegasus was at [Poſita ♈ lucida in 1 55 ♉ fuit locus Oris Pegaſi in]

Observation	Place
I	26° 14′ ♒
II	26° 13¾′ ♒
III	26° 13¾′ ♒

510 printed without heads; "Time", "Reading", "Instrument" and "Value" are this edition's. In the rows at $6^h\ 54^m$ and $8^h\ 0^m$, *per Q. volub.* (*per Q. Volub.*) ends a line and *Azimuthalem* stands on the next line with the value; the English gives the instrument whole on one row with that value. At $7\frac{1}{3}^h$ the declination line ends *per Arm.,* and *vtroq.* stands right-aligned on the next line with the value; the English gives both on one row. The times printed *H.* with a figure and a mark like a prime after the minutes are given as hours and minutes; *H.* 7⅓ as hours. Values printed as three groups are given as degrees, minutes and seconds, pairs as degrees and minutes; none carries unit marks.

With the place of the bright [star] of ♈ set as before at 1° 55′ ♉, the head of Pegasus was being observed at [Poſito loco lucidæ ♈ vt antea in 1 55 ♉ obſeruabatur caput Pegaſi in]

Observation	Place
I	1° 7½′ ♓
II	1° 7½′ ♓

511

On 24 November, A. M. [DIE 24 NOUEMBRIS A. M.]

Reading	Value
Maximum altitude of the brighter of the following [stars] in the □ of Ursa Major [Altitudo maxima lucidioris ſequentium in □ Vrſæ maioris]	89° 57′ 20″

512

Reading	Instrument	Value
Declination of the eye of Draco [Declin. oculi Draconis,]	with one [vno]	52° 38½′
	with the other pinnule [alt. pinn.]	52° 39′
Declination of the throat of Draco [Declin. faucis Draconis]	with one [vno]	51° 35′
	with the other pinnule [alt. pinn.]	51° 35′

513

[It] was then distant from the pole toward the east [Diſtabat tunc a Polo ad ortum.].

Reading	Value
Maximum altitude of the other of the following [stars] in the □ of the Wain [Altit. maxima alterius ſequentium in □ Plauſtri]	86° 35′

511 "Observation" and "Place" are this edition's. In the first passage the value I stands at the end of the sentence's second line, and II and III stand right-aligned on the two lines below; in the second passage I and II stand at the ends of its second and third lines. The figures in the sentences and the values are printed without unit marks and are given as degrees and minutes.

512 printed without heads; "Reading" and "Value" are this edition's. The value is printed as three groups without unit marks and is given as degrees, minutes and seconds.

513 this table stands at the head of the left column, under no date heading of its own. Printed without heads; "Reading", "Instrument" and "Value" are this edition's. *vno* stands on the line of each star, *alt. pinn.* right-aligned on the line below. The values are printed without unit marks and are given as degrees and minutes.

514

But this [was] not exact enough. Because of the dawn it was not possible to observe more [stars] in Ursa Major [ſed hæc non ſatis exacta. Plures in vrſa maiori propter auroram obſeruare non licuit.].

In the evening [Ad Veſperas.]

Reading	Value
With the place of the bright [star] of ♈ set at 1° 55′ ♉, the place of the bright [star] of the Vulture was being observed at [Poſito loco lucidæ ♈ in 1 55 ♉ obſeruabatur locus lucidæ Vulturis in]	26° 1′ ♑
	26° 0′ ♑
	26° 1½′ ♑
	25° 59′ ♑

515

The star of the Vulture was obscured by clouds [Erat Vulturis ſtella nubibus offuſcata.].

Reading	Value
With the place of the bright [star] of ♈ set at 1° 55′ ♉, the place of the far end of the wing of Pegasus was being observed [at] [Poſito loco lucidæ ♈ in 1 55 ♉ Extremæ alæ Pegaſi locus obſeruabatur]	I 3° 24′ ♈
	II 3° 24¼′ ♈
Maximum altitude of the pole star [Alt. max. ſtellæ Polaris]	58° 50½′
Maximum altitude of Schedar of Cassiopeia [Alt. max. Schedir Caßiop.]	88° 23′
Maximum altitude of the bend of Cassiopeia [Alt. max. Flexuræ Caß.]	87° 27½′

516

Declinations of the three fixed [stars] of Cassiopeia when they were toward the east and west from the pole this year [Declinationes trium fixarum Caßiopeæ cum eßent verſus ortum & occaſum a Polo hoc anno.]

Reading	Value
The bright [star] of the Chair [Lucida Cathedræ]	*56° 52′ 20″*
Schedar of Cassiopeia [Schedir Caßiopeæ]	*54° 16′ 0″*

[514] printed without heads; "Reading" and "Value" are this edition's. The value is printed without unit marks and is given as degrees and minutes.

[515] printed without heads; "Reading" and "Value" are this edition's. The words stand on four lines at the left; the figures *1 55* ♉ of the sentence stand at the right end of its first line, in the value position, and the four values at the right of the next four lines. All figures are printed without unit marks and are given as degrees and minutes.

[516] printed without heads; "Reading" and "Value" are this edition's. The figures *1 55* ♉ of the first sentence stand at the right end of its first line, in the value position; the numerals I and II stand before the two values. All figures are printed without unit marks and are given as degrees and minutes.

Reading	Value
The bend of Cassiopeia [Flexura Caßiopeæ]	*58° 28′ 20″*

517

And these agree well enough with those which they were found, by the armillae, to have near the zenith. From this, one errs imperceptibly in the position of the instrument and the altitude of the pole; but the creeping-in of refraction in a low position is evident from this [Atque hæ ſatis bene conueniunt cum ijs, quas iuxta verticem habere per Armillas deprehenſæ ſunt. Vnde in ſitu inſtrumenti & Poli Altitudine inſenſibiliter aberratur, ſed refractionis in decliui ſitu inſinuatio hinc patet.].

On 28 November [DIE 28 NOUEMBRIS.]

Afterwards[1] the head of Draco was being observed toward the west, for rectifying [and] testing the armillae in the meridian [Poſtea[1] obſeruabatur Caput Draconis verſus occaſum pro rectificandis armillis in meridiano explorandis.].

Reading	Instrument	Value
Of the brighter [star] in the head of Draco, near the left eye [Lucidioris in capite Draconis iuxta oculum ſiniſtrum]: declination [Decl.]	*with one [vno]*	*51°34⅚′*
	with the other [altero]	*51°34¼′*
Set the declination [as] [Pone declinationem]		*51°34½′*
Of the other, in the throat of Draco [Alterius in fauce Draconis]	*with one [vno]*	*52°39′*
	with the other [altero]	*52°38½′*

518

Afterwards these two stars were being observed again, because they were appearing better, the evening twilight already departing [Poſtea denuo obſeruabantur hæ duæ ſtellæ quia melius apparebant, crepuſculo veſpertino iam diſcedente.].

Reading	Instrument	Value
[At] about 5^h 19^m the brighter [star] in the head of Draco, toward the west from the pole, had a declination as before [Circa horam 5 M. 19 lucidior in capite draconis verſus occaſum a polo declinabat vt prius]	*with one [vno]*	*51°34½′*

[517] printed without heads; "Reading" and "Value" are this edition's. The values are printed as three groups without unit marks and are given as degrees, minutes and seconds.

[518] printed without heads; "Reading", "Instrument" and "Value" are this edition's. *Lucidioris … ſiniſtrum* stands on a line and a half with no value; *Decl. vno* and its value stand right-aligned on the next line, and the English gives the label and *Decl.* together on that row. *Alterius in fauce* and *Draconis* stand at the left of two lines, with *vno* and *altero* and their values at the right of the same two lines; the English gives the label whole on the first row. The values are printed without unit marks and are given as degrees and minutes.

Reading	Instrument	Value
	with the other [altero]	*51° 34′*

Set [it as] 51° 34¼′, more exactly than before [Pone 51 34¼ exactius quam prius.].

Reading	Instrument	Value
[At] about 5^h 25^m the other [star] in Draco, near the throat, was being observed, and it had a declination, [by] pinnule [Circa horam 5 M. 25 obſeruabatur altera in dracone iuxta faucem, et habuit declinationem pinnac.]	*with one [vno]*	*52° 39½′*
	with the other [altero]	*52° 38′*

519

For rectifying the clock, the bright [star] of ♈ was being observed distant from the meridian 47° 14′, at 5^h 30^m 30^s [Pro rectificando horologio obſeruabatur lucida ♈ diſtans a meridiano 47ᵍ 14′ Hora 5 30′ 30″].[520]

In the morning the declination of the stars in the head of Draco toward the east was being repeated, and the upper of them was found [Mane repetebatur declinatio ſtellarum in draconis capite verſus ortum et inueniebatur ſuperior illarum]

Reading	Instrument	Value
	with one [vno]	*52° 39½′*
	with the other [altero]	*52° 39¾′*
the other, the lower [altera inferior]	*with one [vno]*	*51° 35′*
	with the other [altero]	*51° 35½′*

521

From this it will be possible to examine the position of the instrument in the meridian [Hinc poterit examinari ſitus inſtrumenti in meridiano.].

[519] printed without heads; "Reading", "Instrument" and "Value" are this edition's. In each passage *vno* and its value stand at the right of the last line of the sentence (the second passage: of its second-last line), and *altero* with its value right-aligned below (the second passage: at the right of the line ending *pinnac.*). The times are printed *horam 5 M. 19* and *horam 5 M. 25* and are given as hours and minutes; the values, and the figures in the *Pone* sentence, are printed without unit marks and are given as degrees and minutes.

[520] the distance is printed with a small raised *g* after 47 and a mark like a prime after 14; the time is printed *Hora 5* with marks like a prime and a double prime after the two 30s, and is given as hours, minutes and seconds.

[521] printed without heads; "Reading", "Instrument" and "Value" are this edition's. The first two values stand right-aligned on the two lines below the sentence; *altera inferior* stands at the left of the third line with *vno* and its value at the right. The values are printed without unit marks and are given as degrees and minutes.

There follow observations of the stars of Ursa Major as they were passing through the meridian below the pole at their minimum altitude [Sequuntur obſeruationes Stellarum Vrſæ maioris cum tranſirent per Meridianum infra polum in minima ſua altitudine.]

On 28 November [DIE 28 NOUEMBRIS.]

Names of the stars [Nomina ſtellarum]	Clock time [Tempus horol.]	Distance of the bright [star] of ♈ from the meridian, east [Diſt. Lucidæ ♈ a Merid. or.]	Altitude of the star [Altit. Stellæ]	Declination by the greater armillae [Declinatio per armillas maiores]: with one pinnule [vno pin.]	with the other [alt.]
The lower [star] in the □ of the Bear [Inferior in □ vrſæ]	was not being observed [non obſerua-batur]	47° 0½′	24° 29⅚′	58° 37′	58° 36⅚′
The upper [star] in the □ of the Bear [Superior in □ Vrſæ]	$5^h\ 36^m\ 25^s$ [$5^H\ 36^M\ 28^S$][1]		29° 52¼′	63° 59′	63° 59′
The lower of the following [stars] [Inf. ſequentium]	$6^h\ 39^m\ 10^s$	uncertain [incerta]	21° 54½′	56° 1′	56° 1¼′
The upper of the following [stars] [Sup. ſequentium]			25° 15′	59° 22′	59° 22⅓′
The preceding [star] of the tail [Præcedens caudæ]	$7^h\ 34^m\ 50^s$	17° 8½′	24° 9′	58° 15½′	58° 16′
The middle [star] of the tail [Media caudæ]	$8^h\ 6^m\ 0^s$	9° 21′	23° 2⅙′	57° 9½′	57° 9′
The far end of the tail [Extrema caudæ]			17° 21′	51° 28½′	51° 28¼′

522

[1] After the observation of Venus made at $4^h\ 51^m$ [Poſt obſeruationem Veneris H. 4 M. 51 factam.].

[522] the heads are printed. *Declinatio* and *per armillas maiores* stand once over the fifth and sixth columns, with *vno pin.* and *alt.* below them; the English gives the shared head once, in the fifth column. *Tempus horol.* is a single line. In the rows for the upper of the following [stars] and the far end of the tail, the second and third columns are blank. The first time is printed with small raised *H*, *M* and *S*; the others as three bare figures, given as hours, minutes and seconds. The other values are printed without unit marks and are given as degrees and minutes.

Reading	*The lower [star] in the □ [Inf. in □]*	*The upper [star] in the □ [Sup. in □]*	*The lower of the following [stars] [Inf. ſequ.]*	*The upper of the following [stars] [Sup. ſequ.]*
Declination [Declinatio]	*58° 33′ 55″*	*63° 56′ 30″*	*55° 58′ 30″*	*59° 19′ 38″*
Altitude of the pole [Alt. poli]	*55° 55′ 55″*	*55° 55′ 45″*	*55° 56′ 0″*	*55° 55′ 22½″*
Observed declination [Decl. obſeruata]	*58° 37′ 0″*	*63° 59′ 0″*	*56° 1′ 15″*	*59° 22⅓′*

523

On the same day, in the evening [Eodem die, veſperi.]

Maximum altitudes of the stars of Cassiopeia above the pole [Altitudines maximæ ſtellarum Caßiopeæ ſupra polum.]

Time	Star	The bright [star] of ♈, east [Luc. ♈ or.]	Alti-tude [Alt.]	Declination [Declin.]: with one pinnule [vno pin.]	with the other [altero]
$6^h\ 47^m$	2 The bright [star] of the Chair [Lucida Cathedræ]	29° 7′	89° 3½′	56° 52′	56° 51¾′
$7^h\ 14^m$	16 The head of Cassiopeia [Caput Caßiopeæ]	22° 9′	85° 43¾′	51° 36′	51° 35¾′
$7^h\ 17^m$	5 Schedar [Schedir]	21° 26½′	88° 22¾′	54° 16¼′	54° 16′
$7^h\ 31^m$	23 The bend [Flexura]	17° 50′	87° 28¼′	58° 28′	58° 27½′
$7^h\ 57^m$	56 The knee [Genu]	11° 1½′	87° 51⅔′	58° 3½′	58° 3⅓′
$8^h\ 25^m$	08 The foot [Pes]	4° 32½′	84° 20⅓′	61° 36′	61° 36′

524

At their minimum altitude [In minima ſua altitudine.]

Time	Star	The heart of ♌, west [Cor ♌ occid.]	Alti-tude	Declination: with one pinnule	with the other
$6^h\ 43^m$	57 The bright [star] of the Chair [Lucida Cathedræ]	30° 6¼′	22° 49′	56° 57′	56° 57½′
$7^h\ 14^m$	15 Schedar [Schedir]	37° 43′	20° 12′	54° 19½′	54° 20′

523 the page opens with this table under no date heading of its own. The four column heads are printed; "Reading" is this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds where three groups stand, and as degrees and minutes in the last cell, where two stand.

524 the heads of the third to sixth columns are printed, *Declin.* once over the last two; "Time" and "Star" are this edition's. The times are printed as three bare figures and are given as hours, minutes and seconds; the other values are printed without unit marks and are given as degrees and minutes.

525

Star	Reading	Value
The bright [star] of the Chair [Luc. Cathedræ]	*Maximum [Max.]*	*89° 3′ 30″*
	Minimum [Min.]	*22° 49′*
	Declination [Declin.]	*56° 52′ 45″*
	Altitude of the pole [Alt. poli]	*55° 56′ 15″*
Schedar [Schedir]	*[Maximum]*	*88° 22′ 45″*
	[Minimum]	*20° 12′*
	[Declination]	*54° 17′ 23″*
	[Altitude of the pole]	*55° 54′ 37″*

526

And this fits better in the altitude of the pole, because the quadrant was seeing on both sides [Atque hoc melius quadrat in polari altitudine quia quadrans vtrinque videbat.].

Reading	Value
Distance between the more southern [star] in the hand of Andromeda and the knee of Pegasus, by the new sextant [Diſtantia inter auſtraliorem in manu Andromedæ et Genu Pegaſi per Sext. nouum]	16° 58½′
	16° 59½′
	16° 59′
	16° 59½′

527

But the sextant was restless because of the wind [Sed Sextans vento irrequiebatur.]

Declination of the hinder [star] in the tail of Draco, when it was around the meridian below the pole, 75° 25′, with a single pinnule [Declinatio poſterioris in cauda Draconis cum circa Meridianum infra polum eßet 75 25 vnico pinnacidio.].[528]

[525] only the third head, *Cor ♌ occid.*, is printed over this table; the other columns stand under the heads of the table above, and the English repeats those heads here. "Time" and "Star" are this edition's. Times given as hours, minutes and seconds, the other values as degrees and minutes, all printed without unit marks.

[526] the page sets these figures in three blocks on the same four lines: at the left the labels *Luc. Cathedræ Max.*, *Min.*, *Declin.* and *Alt. poli* with the values of the bright [star] of the Chair; in the middle *Schedir*, on the first line only, with its four values on the same four lines; at the right the sentence that follows the table here. The English breaks the Schedar values out into rows of their own under the labels of the left block. Heads "Star", "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees, minutes and seconds, or degrees and minutes where two groups stand.

[527] the label is printed over two lines, with the first two values on those lines and the last two on lines of their own below; the English gives the label whole on the first row. A short horizontal mark stands just to the left of the third value; it is not settled whether it is printed. Heads "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

[528] 75 25 is printed without unit marks and is given as degrees and minutes.

On 29 November, A. M. [DIE 29 NOUEMBRIS A. M.]

As they were passing through the meridian at their maximum altitude above the pole [Cum tranſirent per Meridianum in maxima ſua altitudine ſupra polum.]

Time	Star	The heart of ♌, west [Cor ♌ occid.]	Maximum altitude [Altit. max.]	Declination [Declinatio]: with one [vno]	with the other [altero]
$5^h\ 33^m$	The lower preceding [star] in the □ [Inferior præced. in □]	12° 31′	87° 22′	58° 34½′	58° 34½′
$5^h\ 35^m$	The following [star] of the preceding [stars of the] □ [Sequens ex præced. □]	12° 57′	81° 59¼′	63° 57′	63° 56½′
$6^h\ 29^m$	The lower of the following [stars of the] □ [Inferior ex ſequ. □]	26° 21′	89° 57½′	55° 59½′	55° 59½′
$6^h\ 51^m$	The upper of the following [stars] [Superior e ſequ.]	32° 3′	86° 35¾′	59° 20′	59° 19⅝′
$7^h\ 32^m$	The preceding [star] of the tail [Præcedens caudæ]	42° 18′	87° 42⅔′	58° 12½′	58° 12′

529

On the same day, toward evening [Eodem die ad veſperas.]

The following observations were made a little differently than before, the armillae having been rectified [Sequentes obſeruationes factæ ſunt paulo aliter quam antea, rectificatis armillis.].

Observations of the stars of Ursa Major at their minimum altitude [Obſeruationes ſtellarum vrſæ maioris in minima ſua altitudine.]

Time	Star	*The bright [star] of ♈, east [Lucid. ♈ or.]*	*Minimum altitude [Alt. min.]*	*Declination [Declinatio]: with one [vno]*	*with the other [altero]*
$5^h\ 29^m$	The lower preceding [star of the] □ [Infer. præced. □]	47° 2½′	24° 29½′	58° 37⅙′	58° 37½′
$5^h\ 30^m$	The upper preceding [star of the] □ [Sup. præced. □]	46° 46½′	29° 52¼′	64° 0′	64° 0⅙′
$6^h\ 47^m$	The lower following [star] of the quadrangle [Inferior ſeq. quad.]	27° 31½′	25° 14⅝′	59° 22½′	59° 22¾′
$5^h\ 58^m$	*The outermost of the bright [stars] in the tail of Draco [Extrema lucidarum in cauda Draconis]*	*39° 45′*	*37° 31½′*		

530

529 the heads of the third to sixth columns are printed, *Declinatio* once over the last two; "Time" and "Star" are this edition's. Times given as hours, minutes and seconds, the other values as degrees and minutes, all printed without unit marks.

530 the heads of the third to sixth columns are printed, *Declinatio* once over the last two; "Time" and "Star" are this edition's. The label of the last row is printed over two lines, given whole; that row's declination cells are blank. Times given as hours, minutes and seconds, the other values as degrees and minutes, all printed without unit marks.

On the same evening the declination of the two stars in the head of Draco was being repeated in this way [Repetebatur eodem veſperi declinatio duarum ſtellarum in Capite Draconis in hunc modum.].

Star	Value	Remark
Of the throat of Draco [Faucis Draconis]	*52° 39¼′*	*toward the west (for both) [verſus occaſum]*
	52° 38⅝′	
The far end of the tail of Draco, the other, following [star] [Extrema caudæ Draconis, altera ſequens]	*51° 35′*	
	51° 34¾′	

[531]

Set [it as] 52° 39′, and you will err imperceptibly [Pone 52 39 et inſenſibiliter aberrabis.].

On the same evening the transit through the meridian of the stars in the tail of Draco was being observed in this way [Obſeruabatur eodem veſperi ſtellarum in cauda Draconis tranſitus per Meridianum in hunc modum.].

The outermost of the bright [stars] in the tail of Ursa Major passed the meridian at $5^h\ 58^m\ 22^s$, when the distance of the bright [star] of ♈ from the meridian was 39° 45′, the altitude 37° 31½′ [Extrema lucidarum in cauda vrſæ maioris tranſiuit Merid. $5^H 58^M 22''$, cum diſtantia lucidæ ♈ eßet a Meridiano $39^g 45'$, altitudo $37^g 31½'$.].

Evening observations of the stars of Cassiopeia at the maximum meridian altitude, as follows [Obſeruationes ſtellarum Caßiopeæ veſpertinæ in maxima altitudine Meridiana vt ſequitur.].

Note. Schedar of Cassiopeia and the head pass the meridian almost with the pole star, and have [their] maximum meridian altitude [Nota. Schedir Caßiopeæ & Caput tranſeunt Meridianum fere cum polari ſtella & habent altitudinem maximam meridionalem.].[532]

Time	*Star*	*The bright [star] of ♈, east [Luc. ♈ or.]*	*Maximum altitude [Alt. max.]*	*Declination [Declinatio]: with one [vno]*	*with the other [altero]*
$6^h\ 40^m$	*The bright [star] of the Chair [Lucida Cathedræ]*	*29° 1′*	*89° 3⅙′*	*56° 53′*	*56° 52½′*
$7^h\ 3^m\ 18^s$	*The eleventh [star] of Cassiopeia [Vndecima Caßiop.]*	*23° 24½′*	*85° 16$\frac{1}{12}$′*	*60° 40′*	*60° 39½′*

[531] printed without heads; "Star", "Value" and "Remark" are this edition's. A brace joins the two values of the throat of Draco to *verſus occaſum*, printed over two lines to its right. The sentence *Pone … aberrabis.* stands as a separate block at the right of those two lines and is given below the table; the two values of the far end of the tail stand under it, in its column, the second on a line with no label. The values, and the figure in the *Pone* sentence, are printed without unit marks and are given as degrees and minutes.

[532] the page writes *meridionalem* here, not *Meridiana* as two lines above; *meridionalis* may also mean "southern".

Time	*Star*	*The bright [star] of ♈, east [Luc. ♈ or.]*	*Maximum altitude [Alt. max.]*	*Declination [Declinatio]: with one [vno]*	*with the other [altero]*
	The head of Cassiopeia [Caput Caßiop.]		*85° 44⅙′*	*51° 36½′*	*51° 36½′*

533

The following observations were made with the instruments again well verified on the level, both the revolving horizontal quadrant and the greater equatorial armillae, and each carefully checked [Sequentes obſeruationes factæ ſunt rurſus bene in libella verificatis inſtrumentis, tam Quadrante Volubili horizontali quam armillis maioribus æquatorijs & diligenter trutinatis ſingulis.].

On 1 December [DIE 1 DECEMBRIS.]

Evening observations of the stars of Ursa Major as they were passing through the meridian, at their minimum altitude [Obſeruationes Stellarum Vrſæ maioris cum per Meridianum tranſirent Veſpertinæ in minima ſua altitudine.]

Names of the stars [Nomina Stellarum]	Clock time [Tempus Horologij]	The bright [star] of ♈ from the meridian [Luc. ♈ a mer.]	Mini-mum altitude [Alt. min.]	Declination [Declinatio]: with one pinnule [vno pin.]	with the other [altero]
The lower preceding [star] in the □ of the Bear [Infer. præced. in □ vrſæ]	*5^h 21^m 55^s*	*47° 4¾′*	*24° 29′*	*58° 36¼′*	*58° 36½′*
The following [star], but middling [Sequens ſed mediocris]	*5^h 24^m 5^s*		*29° 52′*	*64° 0′*	*64° 0⅙′*
The lower of the following [stars of the] □ [Inferior ſequent. □]	*6^h 16^m 45^s*	*33° 16½′*	*21° 55½′*	*56° 1¼′*	*56° 1⅓′*
The upper of the following [stars of the] □ [Super. ſequent. □]	*6^h 39^m 27^s*	*27° 33¾′*	*25° 15½′*	*59° 22½′*	*59° 23′*
The preceding [star] of the tail [Præced. caudæ]	*7^h 20^m 20^s*	*17° 12′*	*24° 8⅚′*	*58° 15′*	*58° 14¾′*
The middle [star] of the tail [Media caudæ]	7^h 51^m 50^s	9° 20′	23° 2¼′	57° 8¾′	57° 9′
The far end of the tail [Extrema caudæ]	8^h 15^m 30^s	3° 22′	17° 21′	51° 27½′	51° 27¼′

533 the heads of the third to sixth columns are printed, *Declinatio* once over the last two; "Time" and "Star" are this edition's. The last row has no time and no value under *Luc. ♈ or.* Times given as hours, minutes and seconds, the other values as degrees and minutes, all printed without unit marks.

534

Morning [observations], at their maximum altitude [Matutinæ in maxima ſua altitudine.]

Names of the stars	Clock time	The heart of ☋, west [Cor ☋ occ.]	Maximum altitude [Alt. max.]	Declination: with one pinnule	with the other
The lower preceding [star of the] □ [Infer. præced. □]			87° 22¼′	58° 34½′	58° 34′
The following preceding [star] [Sequens præced.]		13° 0′	81° 59½′	63° 56′	63° 56′
		The tail of ☋, west [Cauda ☋ occ.]			
The brighter following [star of the] □ [Lucidior ſeq. □]	*6h 12m*	*0° 57½′*	*89° 58¼′*	*65° 59½′*	*65° 59¾′*
		The heart of ☋ [Cor ☋]			
The following [star] of the quadrangle of the Bear [Sequens quad. vrſæ]	*6h 34m*	*43° 2½′*	*86° 36 1/12′*	*59° 20′*	*59° 20 1/6′*
The preceding [star] of the tail [Præced. caudæ]	*7h 15m*	*28° 21′*	*87° 43 1/12′*		

535

Note. The tail of ☋ was 0° 57½′ beyond the meridian when the brighter [star] in the □ passed the meridian above the pole; therefore let the meridian altitude of each, and the distance by the sextant, be observed tomorrow, D. V.; if these, added together, make 90, the quadrant and the sextant, both instruments, are in good order, nor does refraction change anything in so high a position [Nota. Cauda ☋ erat vltra Merid. 0° 57½′ quando lucidior in □ tranſiuit Meridianum ſupra polum, ergo obſeruetur cras D. V. vtriusque altitudo merid. & diſtantia per Sex. quæ ſi ſimul addita efficiunt 90, Quadrans & Sextans ambo inſtrumenta bene ſe habent, nec refractio in tam ſublimi ſitu aliquid variat.][536]

[534] all heads are printed, *Declinatio* once over the last two columns. The second row has no value under *Luc. ♈ a mer.* The times are printed as three bare figures and are given as hours, minutes and seconds; the other values are printed without unit marks and are given as degrees and minutes.

[535] only *Cor ☋ occ.* and *Alt. max.* are printed over this table, over the third and fourth columns; the other columns stand under the heads of the table above, and the English repeats those heads here. *Cauda ☋ occ.* and *Cor ☋* are printed further down as heads over the third column only, and are given as rows of their own where they stand. The first two rows have no time, and the first no value in the third column; the last row has no declination values. Times given as hours, minutes and seconds, the other values as degrees and minutes, all printed without unit marks.

[536] *D. V.* is not expanded on the page; it is the usual abbreviation of *Deo volente*, "God willing". The *90* is printed bare, without a unit.

Evening observations of the stars in the tail of Draco at their minimum altitude [Obſeruationes veſpertinæ ſtellarum in cauda Draconis in minima ſua altitudine.]

Star	Time	*The bright [star] of ♈, east [Luc. ♈ or.]*	[Altitude]	[Declination: with one]	[with the other]
The far end of the tail [Extrema caudæ]	*5h 50m 55s*	*39° 50⅙′*	*37° 31⅓′*	*71° 37′*	*71° 37½′*
The [star] following the end [star] [Sequens extrem.]	*7h 0m 7s*	*22° 24′*	*38° 0′*	*72° 7¼′*	*72° 7½′*
		west [occ.]			
The third [star] in the tail [Tertia in cauda]	8h 37m 10s	2° 4½′	32° 18¼′	66° 24⅙′	66° 24½′

537

Morning observations at their maximum altitude [Obſeruationes matutinæ in maxima ſua altitudine.]

Star	Time	The heart of ♌, west [Cor ♌ occ.]	[Altitude]	[Declination: with one]	[with the other]
The far end of the tail [Extrema caudæ]	*5h 45m*	*40s 19° 42½′*	*74° 20 1/12′*	*71° 36′*	*71° 35¾′*
The [star] following the end [star] [Sequens extremam]	*5h 55m*	*0s 37° 11½′*	*73° 51⅓′*	*72° 4½′*	*72° 4′*

538

Reading	*The far end of the tail [Extrema caudæ]*	*The following [star] [Sequens]*
Declination [Declin.]	*71° 35′ 37″*	*72° 4′ 20″*
The pole [Polus]	*55° 55′ 45″*	*55° 55′ 40″*

539

Evening observations of the stars of Cassiopeia at their maximum altitude [Obſeruationes ſtellarum Caßiopeæ veſpertinæ in maxima ſua altitudine.]

537 only *Luc. ♈ or.* is printed over this table, over the third column, and *occ.* further down over the same column, given as a row of its own where it stands. The other heads are this edition's; "Altitude" and "Declination: with one / with the other" follow the layout of the headed tables on this page and the one before. Times printed as three bare figures and given as hours, minutes and seconds; the other values printed without unit marks and given as degrees and minutes.

538 only *Cor ♌ occ.* is printed over this table, over the third column; the other heads are this edition's, as in the table above. Times given as hours, minutes and seconds, the other values as degrees and minutes, all printed without unit marks.

539 the two star heads and the two row labels are printed; "Reading" is this edition's. *Polus* is printed alone as the label of its row. The values are printed as three bare figures and are given as degrees, minutes and seconds.

Star	Time	*The bright [star] of ♈ from the meridian [Luc. ♈ a Mer.]*	[Alti-tude]	[Declination: with one]	[with the other]
The bright [star] of the Chair [Lucida Cathedræ]	*6h 33m 35s*	*28° 59½′*	*89° 3′*	*56° 52½′*	*56° 52⅓′*
The eleventh [star] of Cassiopeia [XIa Caßiopeæ]	*6h 55m 55s*	*23° 27′*	*85° 16⅓′*	*60° 39′*	*60° 39½′*
The bend of Cassiopeia [Flexura Caßiop.]	*7h 18m 0s*	*17° 48′*	*87° 28′*	*58° 28′*	*58° 28½′*
The knee of Cassiopeia [Genu Caßiop.]	7h 45m 0s	11° 5′	87° 52′	58° 3½′	58° 4′
The bright foot of Cassiopeia [Lucidus pes Caß.]	8h 10m 45s	4° 34′	84° 20⅔′	61° 35⅚′	61° 36′

540

As they were passing through the meridian at their minimum altitude [Cum per Meridianum tranſirent in minima ſua Altitudine.]

Star	Time	Reference star	[Al-ti-tude]	[Declina-tion: with one]	[with the other]
The bright [star] of the Chair [Lucida Cathedræ]	*6h 27m 10s*	*The tail of* ♌, west [*Cauda* ♌ occ.]: *4° 44′*; the heart of ♌, west [Cor ♌ occ.]: *30° 8′*	*22° 49⅓′*	*56° 55′*	*56° 55′*
Schedar of Cassiopeia [Schedir Caßiop.]	*almost 6h 57m [6 57 fere]*	*37° 36′*	*20° 13′*	*54° 19′*	*54° 19¼′*
The bend of Cassiopeia [Flexura Caßiop.]	*7h 12m 0s*	*41° 28½′*	*24° 24⅓′*	*58° 29½′*	*58° 30′*

541

At the following noon the clock was going slower than it should by 5m 8s, an error which had been arising from the preceding noon up to then; and the quadrant seemed in the morning to have lost something on the level, so that it showed the altitudes lower by about ½′ [Horologium in Meridie ſequente iuſto tardius ibat 5 M. 8 S., qui error e Meridie antecedente hucusque proueniebat, et videbatur quadrans mane aliquid amiſiße in libella, ita vt altitudines quaſi ½ ſcrupulo decliuiores oſtenderet.].

540 only *Luc. ♈ a Mer.* is printed over this table, over the third column; the other heads are this edition's, as above. Times given as hours, minutes and seconds, the other values as degrees and minutes, all printed without unit marks.

541 no head is printed over this table; all heads are this edition's, "Reference star" included. For the bright [star] of the Chair the page sets two readings in the third column, *Cauda* ♌ *occ.* with 4 44 below it and *Cor* ♌ *occ.* with 30 8 below it, enclosed between braces that join them to that one row. For Schedar the time is printed 6 57 with *fere* in the place of the seconds. Times given as hours, minutes and seconds, the other values as degrees and minutes, all printed without unit marks.

On 2 December [DIE 2 DECEMBRIS.]

Observations of the stars of Ursa Major as they were passing through the meridian at their minimum altitude [Obſeruationes ſtellarum Vrſæ maioris cum per meridianum tranſirent in minima ſua altitudine.]

Clock time [Tempus Horol.]	Names of the stars [Nomina ſtell.]	The bright [star] of ♈, east [Luc. ♈ or.]	Altitude [Altit.]	Declination [Declinatio]: with one [vno]	with the other [altero]
$5^h\ 10^m\ 55^s$	The lower preceding [star] in the □ [Infer. præc. in □]	47° 4½′	24° 29¼′	58° 36¼′	58° 36¼′
$5^h\ 11^m\ 59^s$	The upper of the preceding [stars] in the □ [Super. ex præc. in □]	46° 47′	29° 51⅚′	63° 59½′	63° 59′
$6^h\ 5^m\ 55^s$	*The lower following [star of the] □ [Inferior ſeq. □]*	*33° 12½′*	*21° 55¼′*	*56° 1½′*	*56° 1¾′*
$6^h\ 28^m\ 20^s$	*The upper following [star of the] □ [Superior ſeq. □]*	*27° 33′*	*25° 15½′*	*59° 22′*	*59° 22½′*
$7^h\ 9^m\ 10^s$	*The first [star] of the tail [Prima caudæ]*	*17° 16′*	*24° 8¾′*	*58° 15′*	*58° 15′*
	The middle [star] of the tail [Media caudæ]		23° 1½′	57° 9′	57° 9′
	In the tail of Draco [In Cauda Draconis]		Minimum altitude [Alt. minima]		
$5^h\ 40^m\ 4^s$	*The far end of the tail [Extrema caudæ]*		*37° 30⅔′*	*71° 36¾′*	*71° 37′*
$6^h\ 52^m\ 0^s$	*The following [star] [Sequens]*		*37° 59⅚′*	*72° 7½′*	*72° 7⅓′*
	[Stars] of Cassiopeia [Caßiopeæ]	*In the evening [Veſperi]*			
$6^h\ 22^m\ 30^s$	*The bright [star] of the Chair [Luc. Cathedræ]*	*29° 4′*	*89° 2 3/[?]′*	*56° 52½′*	*56° 52¾′*
	Schedar of Cassiopeia [Schedir Caßiop.]		*88° 23⅓′*	*54° 16½′*	*54° 16¼′*

542

Observations of the stars in the head of Draco for the position of the armillae *with respect to the meridian* [Obſeruationes ſtellarum in capite Draconis pro ſitu Armillarum *quo ad Meridianum.*]

542 all heads are printed, *Declinatio* once over the last two columns. *In Cauda Draconis* and *Alt. minima*, and *Caßiopeæ* and *Veſperi*, are printed as sub-heads within the table, *Alt. minima* over the fourth column and *Veſperi* over the third, and are given as rows of their own where they stand. In the fourth column of the row of the bright [star] of the Chair the page prints 89, then 2 followed by a small raised 3 in the position of a fraction's numerator; beneath it only the left half of a fraction bar is inked and no denominator is printed (native-resolution crop); the fraction is not completed on the page. In the next cell a raised point stands between 56 and 52½. Times printed as three bare figures and given as hours, minutes and seconds; the other values printed without unit marks and given as degrees and minutes.

Star	Date	Declination [Declinatio], in the evening, toward the west [Veſperi ad occ.] (over both value columns)	
Of the brighter [star] near the eye [Lucidioris iuxta oculum]	*1 December [Dec. die 1]*	*51° 35′*	*51° 35′*
	[December] 2 [die 2]	*51° 35′ with both [vtroque]*	
Of the other [star], in the knee of Draco [Alterius in genu Draconis]	*[December] 1 [die 1]*	*52° 38¾′*	*52° 39′*

In the morning, toward the east [Mane ad or.][543]

Note. Take the distance between Schedar of Cassiopeia and the pole star exactly with both sextants; if this, added to the observed altitude of each, exactly completes a semicircle, it proves that the quadrant is correct, for these two stars pass the meridian almost at the same time, the difference in the equator being only ⅔′, which changes the line imperceptibly [Nota. Cape diſtantiam inter Schedir Caßiopeæ et ſtellam polarem exacte vtroque Sextante, quæ addita altitudini obſeruatæ vtriusque ſi complet exacte ſemicirculum probat quadrantem recte ſe habere, nam hæ duæ ſtellæ fere ſimul meridianum tranſeunt, differentia ſaltem in æquatore ⅔ minuti quod inſenſibiliter lineam variat.].

The same can be done in [the case of] one of the stars of Ursa Major with the tail of ♌, for these also pass almost at the same time [Idem poteſt fieri in vna ex vrſæ maioris ſtellis cum cauda ♌, nam hæ etiam fere ſimul tranſeunt.].

On 6 December, in the evening [DIE 6 DECEMBRIS, VESPERI.]

Star	Value	Value
The first [star] of the □ of Ursa Major [Prima □ Vrſæ mai.]	*38° 36½′*	*58° 36¾′*
The second [star] of the □ [Secunda □]	*63° 59½′*	*63° 59¾′*

[544]

N. B. After the level of the quadrant was exactly verified [N. B. Poſt exacte verificatam libellam Quadrantis.].

[543] *Declinatio* and *Veſperi ad occ.* are printed once over the two value columns, so the second column has no head of its own; "Star" and "Date" are this edition's. *Mane ad or.* with its footnote cue stands to the right of the table beyond a vertical rule, on the line of the first row, with nothing beneath it. The values are printed without unit marks and are given as degrees and minutes.

[544] printed without heads; "Star" and "Value" are this edition's. The first value of the first row is printed 38 36½, the value beside it 58 36¾. The values are printed without unit marks and are given as degrees and minutes.

Time	Star	*The bright [star] of ♈ [Luc. ♈]*	[Alti-tude]	[Declination: with one]	[with the other]
8^h 6^m 17^s	*The far end of the tail [Extrema caudæ]*	*3° 23′*	*17° 20′*	*51° 27¼′*	*51° 27½′*

From this let the clock also be verified, which had not been corrected for a long time [Hinc verificetur etiam horologium quod non erat diu correctum.].

Time	Star	*The bright [star] of ♈ [Luc. ♈]*	[Alti-tude]
5^h 40^m 20^s	*The far end of the tail of Draco [Extr. caudæ Drac.]*	*39° 44¾′*	*37° 31′*

545

546

On 15 December [DIE 15 DECEMBRIS]

Reading	Value
5^h 31^m 42^s: the bright [star] of the Chair of Cassiopeia [Luc. Cathed. Caß.]	
Meridian altitude [Alt. mer.]	*89° 3′*
Declination [Declin.], with one [vno]	*56° 52′*
with the other [altero]	*56° 52½′*
The bright [star] of ♈, east [*Luc.* ♈ or.]	*29° 1½′*

547

Note. The head of Andromeda passes the meridian almost together with the bright [star] of the Chair. Let their distance therefore be observed [Nota. Caput Andromedæ tranſit Meridianum vna cum lucida Cathedræ fere. Obſeruetur itaque earum diſtantia.].

Reading	Value
Declination of Arcturus near the meridian [Decl. Arcturi iuxta Merid.], with one [vno]	*21° 22′*
with the other pinnule [altero pinn.]	*21° 22¾′*
The same declination, repeated [Repetita eadem Declinatio]	*21° 22½′*

545 only *Luc.* ♈ is printed, over the third column of the first of these two rows; the sentence *Hinc verificetur …* stands between them, and the values of the second row stand in the same columns as the first two values of the first. The other heads are this edition's, as on p. 129. Times printed as three bare figures and given as hours, minutes and seconds; the other values printed without unit marks and given as degrees and minutes.

546 below this point the page is set in two columns divided by a vertical rule: 15 December on the left, 16 December on the right. The English gives the left column first.

547 the time is printed 5ʰ31′ 42″, with the minutes and seconds of time marked ′ and ″; given as 5^h 31^m 42^s. *Luc.* ♈ *or. 29 1½* stands at the left of the line that carries *altero 56 52½* at the right, and is given as a row of its own. "Reading" and "Value" are this edition's. The values are printed without unit marks and are given as degrees and minutes.

Reading	Value
	21° 22⅙′

[548]

and this observation [is] better than the former [one] [atque hæc obſeruatio melior priori.].

[At] 7^h 22^m 12^s by the lesser clock Arcturus passed through the meridian; then its altitude was 55° 29¾′ [H. 7 22′ 12″ per minus horolog. Arcturus tranſiuit per merid., tunc fuit eius altit. 55 29¾].

7^h 22^m 3^s by the greater clock, by the mural [quadrant] 55° 28′ [7 22 3 per maius Horologium per Muralem 55 28][549]

The greater clock had not yet been sufficiently corrected [Maius horologium nondum erat ſatis correctum.].

The declination by the armillae agrees well enough with the altitude of Arcturus by the mural [quadrant] [Declin. per Armillas ſatis bene conuenit cum altitudine Arcturi per Muralem.].

On 16 December [DIE 16 DECEMBRIS.]

Time	Star	The bright [star] of ♈, west [Luc. ♈ occ.]	Alti-tude [Alt.]	Decli-nation [Decl.]
5^h 3^m 30^s	*The brighter following [star] in the □ of Ursa Major [Lucidior ſeq. in □ vrſ. mai.]*		*21° 54⅚′*	
6^h 37^m 37^s	The middle [star] of the tail [Media caudæ]	9° 18½′	23° 1½′	57° 8′; 57° 7½′
6^h 31^m 35^s	The knee of Caſſiopeia [Genu Caßiop.]	11° 0′	87° 52′	58° 3½′; 58° 3′
6^h 45^m	Maximum altitude of the middle [star] of the tail of Ursa Major [Alt. max. mediæ caudæ vrſ. mai.]		88° 50½′	
6^h 57^m 20^s	*The bright foot [Luc. pes]*		*84° 19¾′*	
7^h 10½^m	Maximum meridian altitude of the far end of the tail of Ursa Major, toward the south [Alt. Mer. Max. extremæ caudæ vrſæ mai. verſus auſtr.]			85° 31′
7^h 15^m	Meridian altitude of the preceding [star] in the foot of Boötes [Alt. Mer. Præc. in pede Boot.]			54° 37⅔′
	Declination of the far end of the tail in the morning, with one pinnule [Decl. extremæ caudæ mane vno pin.]			*51° 23′*

[548] *Decl. Arcturi iuxta Merid.* stands on a line of its own, with *vno 21 22* on the line below; given whole on the first row. "Reading" and "Value" are this edition's. Values printed without unit marks, given as degrees and minutes.

[549] the first time is printed H. 7 22′ 12″ and the second 7 22 3, bare; both are given as hours, minutes and seconds. The altitudes 55 29¾ and 55 28 are printed without unit marks and are given as degrees and minutes.

550

Time	Clock	Remark	Value
$7^h\ 34^m\ 6^s$	*Mi.*	*Arcturus passed the meridian (for both times), having altitude [Tranſiuit Arcturus Merid. habens Alt.]*	*55° 29⅓′*
$7^h\ 34^m\ 6^s$	*Ma.*		*55° 28⅓′*
			55° 28⅙′

551

Then, for the clock [Deinde pro horologio]

The lesser [clock] [Minus]	The greater [clock] [Maius]	Arcturus, west [Arctur. occ.]
$7^h\ 46^m\ 21^s$	$7^h\ 46^m\ 5^s$	3° 8½′
$7^h\ 47^m\ 35^s$	$7^h\ 47^m\ 13^s$	3° 29′
$7^h\ 48^m\ 52^s$	$7^h\ 48^m\ 27^s$	3° 47′
$7^h\ 50^m\ 8^s$	$7^h\ 49^m\ 40^s$	4° 6¼′

552

1 [There are] no observations toward the east in the manuscript [Nullæ obſeruationes ad ortum in codice.].

___553

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550 the heads *Luc.* ♈ *occ.*, *Alt.* and *Decl.* are printed; "Time" and "Star" are this edition's. Each label is printed over two lines and is given whole on its first row; the time stands on the first line and most values on the second. In the *Decl.* column the page prints two values for the middle [star] of the tail (57 8 on its second line, 57 7½ one line lower, level with *6 31 35 Genu*) and two for the knee (58 3½ on its second line, 58 3 one line lower, level with *6 45 Alt. max. mediæ*); the English gives each pair with the star under whose label it begins. The altitudes 85 31 and 54 37⅔ and the declination 51 23 stand at the right, in the *Decl.* column, at the end of their labels; they are given in that column as printed. The time of the first row is printed 5ᴴ, 3′ 30″, with a small low mark after ᴴ. The times 6 45, 7 10½ and 7 15 are printed with two figures and are given as hours and minutes; the others, printed with three, as hours, minutes and seconds. The other values are printed without unit marks and are given as degrees and minutes.

551 a brace joins the two times, marked *Mi.* and *Ma.*, to *Tranſiuit Arc- / turus Merid.*, printed over two lines; *habens Alt.* stands on a third line below them. The three values stand one on each of the three lines. The remark is given whole on the first row. *Mi.* and *Ma.* are not expanded on the page; the table below heads its clock columns *Minus* and *Maius*. "Time", "Clock", "Remark" and "Value" are this edition's. Times printed as three bare figures and given as hours, minutes and seconds; the values printed without unit marks and given as degrees and minutes.

552 all three heads are printed. Times printed as three bare figures and given as hours, minutes and seconds; the values under *Arctur. occ.* printed without unit marks and given as degrees and minutes.

553 this page is set in two columns divided by a vertical rule. The English gives the left column first.

On 26 December [DIE 26 DECEMBRIS.]

Time	Reading	Value
$5^h\ 10^m\ 2/3^s$	*Schedar was in the meridian and had altitude [Fuit Schedir in Meridiano habuitque altitud.]*	*88° 22½′*
	The bright [star] of ♈ was then distant toward the east [Diſtabat tunc lucida ♈ verſus ortum]	*21° 37′*
$5^h\ 13^m\ 37^s$	*The pole star passed the meridian and had maximum altitude [Stella polaris tranſiuit Meridianum & habuit alt. max.]*	*58° 51⅙′*
	Distance of the bright [star] of ♈ from the meridian [Diſt. lucidæ ♈ a merid.]	*20° 51′*
$5^h\ 25^m\ 2^s$	*Maximum altitude of the bend of Cassiopeia [Flexuræ Caß. alt. max.]*	*87° 27½′*
	Distance of the bright [star] of ♈ from the meridian [Diſt. luc. ♈ a merid.]	*17° 54½′*
	Minimum altitude of the first [star] of the tail of Ursa Major [Alt. min. primæ caudæ vrſ. mai.]	*24° 8¾′*
	Declination of Schedar near the meridian, above the pole, by the equatorial armillae [Declin. Schedir iuxta merid. ſupra Polum per Armillas æquatorias]	*54° 16′*
	with the other pinnule [alt. pinn.]	*54° 16¼′*
	Declination of the bend of Cassiopeia [Flexuræ Caßiopeæ Declin.]	*58° 28′*
	with the other pinnule [altero pinn.]	*58° 27¾′*
$5^h\ 52^m\ 30^s$	*The knee of Cassiopeia, maximum altitude [Genu Caßiop. alt. max.]*	*87° 52′*
	The first [star] of the tail of Ursa Major, declination by the armillae [Prima caudæ vrſæ mai. decl. per Arm.]	*58° 20½′*
	with the other [altero]	*58° 20¼′*
$5^h\ 58^m\ 40^s$	*The middle [star] of the tail of the Bear, through the meridian, minimum altitude [Med. caudæ vrſæ per Merid. alt. minima]*	*23° 1′*
	The bright [star] of ♈, east [Lucid. ♈ or.]	*9° 31½′*
	Declination by the armillae, with both [Decl. per Arm., vtroque]	*57° 8½′*
	The bright [star] of Erichthonius, toward the east, with both [Lucid. Erichton. verſ. ort., vtroq.]	*45° 27¾′*
	The other [star] in the shoulder of Erichthonius, east [Altera in humero Ericht. or.]	*44° 48′*
		44° 48⅙′
$6^h\ 18^m\ 0^s$	*The bright foot of Cassiopeia [Lucidus pes Caßiop.]*	*84° 19′*
	The bright [star] of ♈, east [Lucida ♈ orient.]	*4° 4′*
$6^h\ 22^m\ 35^s$	*The far end of the tail of Ursa Major, minimum altitude [Extrema caudæ Vrſæ maioris altit. minima]*	*17° 20′*
	The bright [star] of ♈, east [Lucida ♈ or.]	*3° 29½′*
	Declination [Declin.] of the far end of the tail [Extremæ caudæ], with one [vno]	*51° 27′*
	with the other pinnule [alt. pinn.]	*51° 27¼′*
	The bright foot of Cassiopeia, declination at maximum altitude [Lucidus pes Caßiopeæ Declin. in alt. max.]	*61° 35′*
		61° 35½′
	Below the pole, the bright [star] of the □ of Ursa Minor [Infra polum luc. □ vrſ. min.]	*75° 51¾′*
	With one pinnule, for the other could not be taken [Vno pin. nam. alt. accipi non potuit.]	
	The other, less bright [star] in the □ [Altera minus lucida in □], with one [vno]	*73° 21′*
	with the other [alt.]	*73° 21½′*
	Both were then below the pole [Erant tunc ambæ infra polum.]	
$7^h\ 43^m\ 15^s$	*The bright [star] of the □ of Ursa Minor, through the meridian, altitude [Lucida □ vrſæ min. per Merid., Alt.]*	*41° 45⅓′*
	The bright [star] of ♈, west [Lucid. ♈ occ.]	*16° 57′*
$8^h\ 12^m\ 25^s$	*The following [star] in Ursa Minor, through the meridian, altitude [Sequens in vrſa minore per Merid., alt.]*	*39° 13′ 25″*
	The bright [star] of ♈ from the meridian [Lucida ♈ a merid.]	*24° 7′*

554

Reading	Value
Declination of the bright [star] of Perseus about the meridian [Declin. lucidæ Perſei circa Merid.], with one [vno]	48° 19′
with the other [altero]	48° 19′

555

Afterwards, for the verification of the instruments, the distance of the stars was observed as follows [Poſtea pro verificatione inſtrumentorum obſeruabatur diſtantia ſtellarum vt ſequitur]

Reading	No.	Distance
First, by the old sextant, between Schedar and the pole star [Primo per Sextantem veterem inter Schedir & Polarem]	*I*	*32° 48¼′*
	II	*32° 48¼′*
	III	*32° 48⅓′*
With the new pinnule [Nouo pinn.]	*I*	*32° 47¾′*
	II	*32° 48′*
	III	*32° 48⅙′*
Second, by the new sextant [Secundo per Sextantem nouum]	*I*	*32° 48⅓′*
	II	*32° 48¼′*
	III	*32° 48′*
	IIII	*32° 48⅙′*

556

554 no heads are printed; "Time", "Reading" and "Value" are this edition's. The first time is printed H. 5 10⅔′, the minutes of time marked with a single stroke, and is given as 5^{h} $10⅔^{m}$; the other times are printed as three bare figures and are given as hours, minutes and seconds. Most labels are printed over two lines, the value standing at the end of the second; each is given whole on its row. Where a label runs over two value lines (Schedar's declination; the first [star] of the tail; the far end of the tail; the bright foot of Cassiopeia; the other [star] in the shoulder of Erichthonius; the other, less bright [star] in the □), it is given whole on the first row: the page sets *Extremæ caudæ* on the first line and *Declin.* on the second, and *Altera minus luci- / da in* □ over the two lines, with *vno* and *alt.* at the right before the values. The value of the following [star] in Ursa Minor is printed as three bare figures, 39 13 25, and is given as degrees, minutes and seconds; the other values are printed without unit marks and are given as degrees and minutes.

555 the label is printed over two lines, *Declin. lucidæ Per- / ſei circa Merid.*, with *vno 48 19* and *altero 48 19* at the right; given whole on the first row. "Reading" and "Value" are this edition's. Values printed without unit marks, given as degrees and minutes.

556 no heads are printed; "Reading", "No." and "Distance" are this edition's. Each label is printed over two or three lines and is given whole on its first row. The roman numerals are printed before the values. Values printed without unit marks, given as degrees and minutes.

Afterwards the distance between the bright [star] of the Chair and the head of Andromeda was taken by the same sextant, as follows [Poſtea accipiebatur diſtantia inter lucidam Cathedræ & caput Andromedæ per eundem Sextantem vt ſequitur.].

Reading	No.	Dis-tance
By the new sextant. Between the bright [star] of the Chair and the head of Andromeda [Per Sext. nouum. Inter lucidam Cathedræ & caput And.]		*30° 1⅙′*
		30° 1¼′
By the old sextant [Per Sextantem veterem]	*I*	*30° 1¾′*
	II	*30° 1½′*
	III	*30° 1½′*

557

Hence let the instruments be verified [Hinc verificentur inſtrumenta.].

Toward the west [Verſus occaſum]

Reading	Value
Declination of the bright [star] of Perseus, with one [Declin. lucidæ Perſei vno]	48° 19½′
with the other pinnule [alt. pinn.]	48° 19¼′
Declination of the head of Medusa, with one [Declin. capitis Meduſæ vno]	39° 18′
with the other pinnule [alt. pinn.]	39° 18⅙′

Toward the east [Verſus ortum]

Time	Reading	Value
	Declination of the bright [star] in the □ of Ursa Major [Decl. lucidæ in □ vrſæ maioris], with one [vno]	75° 51¾′
	with the other [altero]	75° 51½′
	Declination of the other, less bright [star] [Decl. alterius minus lucidæ], with one [vno]	73° 21′
	with the other pinnule [alt. pinn.]	73° 20¾′
	Distance between the brighter of the following [stars] in the □ of Ursa Major and the tail of ♌, by the old sextant [Diſt. inter lucidiorem ex ſequentibus in □ Vrſæ maioris & caudam ♌ per Sextant. veterem]	39° 6⅙′
		39° 6¼′
		39° 6⅙′
$3^h\ 26^m$ 2[illegible]	The upper of the leading [stars] in the □ of Ursa Major had maximum altitude in the meridian [Superior ex prioribus in □ Vrſæ maioris habuit in Meridiano altit. maximam]	81° 59⅓′
	Declination of the same by the armillae [Declin. eiusdem per Armillas], with one [vno]	63° 56′
	with the other pinnule [alt. pinn.]	63° 56′
$3^h\ 28^m$ 2[illegible]	The lower of the preceding [stars] in the □ of the same [Ursa Major], maximum altitude [Inferior præcedentium in □ eiusdem Alt. max.]	87° 21½′
	Declination of the same, with one pinnule [Declin. eiusdem vno pinn.]	58° 33¾′
	with the other [altero]	58° 33⅔′

557 no heads are printed; "Reading", "No." and "Distance" are this edition's. The two readings by the new sextant carry no numeral. Values printed without unit marks, given as degrees and minutes.

Time	Reading	Value

558

___559

Time	Reading	Value
$4^h\ 17^m\ 10^s$	The tail of ♌ passed through the meridian, altitude [Tranſiuit cauda ♌ per Merid., Alt.]	50° 59′
	Distance of the heart of ♌ then from the meridian, west [Diſt. tunc cor ♌ a merid. occ.]	25° 20½′
$4^h\ 20^m\ 49^s$	The bright [star] of the following [stars] in the □ of Ursa Major, through the meridian, altitude [Lucida ſequentium in □ vrſæ mai. per Merid., alt.]	89° 57⅙′
	the heart of ♌ was then distant from the meridian [Diſtabat tunc cor ♌ a Merid.]	26° 16½′
	Declination of the same in the □ of the Bear [Declin. eiusdem in □ Vrſæ], with one [vno]	55° 58½′
	with the other [alt.]	55° 58′
$4^h\ 35^m\ 40^s$	Minimum altitude of the bright [star] of the Chair in the meridian [Lucidæ Cathedræ in Merid. altit. minima]	22° 49⅙′
	the heart of ♌ was distant from the meridian, west [Diſtabat cor ♌ a Mer. occ.]	30° 1¼′
	Its declination, with one pinnule [Declin. eius vno pinn.]	56° 55′
	with the other [alt.]	56° 55⅙′
$4^h\ 43^m\ 45^s$	The following [star] in the □ of Ursa Major in the meridian, maximum altitude [Sequens in □ vrſæ maioris in Merid., Alt. max.]	86° 36⅙′
	the heart of ♌ was then distant, west [Diſtabat tunc cor ♌ occ.]	32° 5′
	Declination of that [star], with one pinnule [Declin. illius vno pinn.]	59° 20½′
	with the other [altero]	59° 20′
$5^h\ 7^m\ 50^s$	Schedar of Cassiopeia in the meridian had minimum altitude [Schedir Caßiopeæ in Merid. habuit Alt. minim.]	20° 12′
	Its declination [Declin. eius], with one [vno]	54° 19′
	with the other pinnule [alt. pinn.]	54° 19½′
$5^h\ 10^m\ 58^s$	Minimum altitude of the pole star [Altit. ſtellæ Pol. min.]	52° 59½′
	the heart of ♌ was distant from the meridian, west [Diſtabat cor ♌ a Mer. occ.]	38° 43′
$5^h\ 21^m\ 18^s$	The bend of Cassiopeia through the meridian, minimum altitude [Flexura Caßiopeæ per Merid., altit. minima]	24° 23⅓′
	The heart of ♌, west [Cor ♌ occ.]	41° 22′
	Declination of the preceding [star] in the tail of Ursa Major [Declin. præcedentis in cauda vrſæ mai.], with one [vno]	58° 12′
	with the other [alt.]	58° 12⅓′
$5^h\ 25^m\ 0^s$	The preceding [star] of the tail of Ursa Major at maximum altitude [Præcedens caudæ vrſæ maioris in altit. max.]	87° 43¼′

558 no heads are printed; "Reading", "Value" and, in the second table, "Time" are this edition's. *Verſus occaſum* and *Verſus ortum* are printed centred, each on a line of its own, above the rows they head. Labels printed over two or more lines are given whole on their first row, with *vno* on that row: the page sets *vno* at the right of the first line and *altero* or *alt. pinn.* under it, and for Perseus and the head of Medusa toward the west, and the declinations of the lower of the preceding [stars], the label and *vno* stand on one line. The distance by the old sextant is printed over four lines with its three values on the last three. The first time is printed $3^H 26' 20''$, the minutes and seconds of time marked ′ and ″, the second 3 28 25, bare; both are given as hours, minutes and seconds. The other values are printed without unit marks and are given as degrees and minutes.

559 this page is set in two columns divided by a vertical rule, with a footnote below them. The English gives the left column first.

Time	Reading	Value
	The heart of ♌, west [Cor ♌ occ.]	42° 22½′
	Declination of the bend of Cassiopeia [Flexuræ Caßiopeæ declin.], with one pinnule [vno pin.]	58° 31′
	with the other [alt.]	58° 30¾′
$5^h\ 47^m\ 44^s$	The knee of Cassiopeia at minimum altitude [Genu Caßiopeæ in Alt. minima]	23° 59⅓′
	at which time the heart of ♌ was distant from the meridian [quo tempore diſtabat cor ♌ a mer.]	48° 2¼′
$5^h\ 56^m\ 8^s$	Maximum altitude of the middle [star] in the tail of Ursa Major [Altit. mediæ in cauda vrſæ mai. maxima]	88° 50′
	The heart of ♌, west [Cor ♌ occ.]	50° 4′
	Declination of the middle [star] of the tail in Ursa Major [Declin. mediæ caudæ in vrſa maiore], with one [vno]	57° 6′
	with the other [alt.]	57° 6¼′
	Declination of the knee of Cassiopeia [Declin. genu Caßiopeæ]	58° 6½′
$6^h\ 13^m\ 58^s$	Minimum altitude of the bright [star] of the foot of Cassiopeia [Alt. min. lucid. pedis Caßiop.]	27° 30⅔′
	The heart of ♌, west [Cor ♌ occ.]	54° 29½′
$6^h\ 20^m\ 35^s$	Maximum altitude of the far end of the tail of Ursa Major, south [Extremæ caudæ Vrſæ maioris auſtr. altit. maxima]	85° 30½′
	The heart of ♌ from the meridian, toward the west [Cor ♌ a mer. occ. verſus]	56° 9′
$6^h\ 24^m\ 2^s$	Meridian altitude of the bright [star] in the foot of Boötes [Altit. lucidæ in pede Bootis meridiana]	54° 36′
	The heart of ♌, west [Cor ♌ occ.]	57° 5½′
	Declination of the end [star] in the tail of Ursa Major [Declin. extrem. in cauda vrſæ mai.], with one [vno]	51° 53½′
	with the other [alt.]	51° 23¼′
	Declination of the bright foot of Cassiopeia [Declin. lucidi pedis Caßiop.], with one [vno]	61° 37½′
	with the other [alt.]	61° 38′

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Reading	No.	Dis-tance
Distance between the far end of the tail of Ursa Major and the preceding [star] in the foot of Boötes [Diſt. inter extremam caudæ vrſæ maioris & præced. in pede Bootis]	I	30° 53½′
	II	30° 53′
	III	30° 52½′
	IIII	30° 53¼′

560 no heads are printed; "Time", "Reading" and "Value" are this edition's. The rows from $6^h\ 20^m\ 35^s$ on stand at the head of the right column. The times are printed as three bare figures and are given as hours, minutes and seconds. Most labels are printed over two lines, the value at the end of the second; each is given whole on its row. Where a label runs over two value lines it is given whole on the first row, with *vno* (or *vno pinn.*, *vno pin.*) there; the page sets *vno* at the right of the first line and *alt.*, *altero* or *alt. pinn.* under it. The declination of the end [star] in the tail of Ursa Major is printed 51 53½ with one [pinnule] and 51 23¼ with the other, as given. The values are printed without unit marks and are given as degrees and minutes.

Reading	No.	Dis-tance
	V	30° 53½′

561

On 26 December [DIE 26 DECEMBRIS.]

Time	Reading	Value
$12^h\ 7^m\ 31^s$	*Canis Minor through the meridian, its altitude [Canis minor per merid. altit. ipſius]*	*40° 18⅔′*
	Declination [Declin.], with one [vno]	*6° 12′*
	with the other [altero]	*6° 12½′*

562

On 27 December, A. M. [DIE 27 DECEMBRIS A. M.]

To examine the clock and to verify the motion of the Sun, Arcturus was observed from the meridian in this way [Pro Horologio examinando & Solis motu verificando obſeruabatur arcturus a Merid. in hunc modum.].

Time	Star	Value	Remark
$7^h\ 49^m\ 55^s$	*Arcturus, west [Arcturus occident.]*	*15° 54¾′*	*doubtful, by the lesser [clock] (for all five times) [dubia per minus]*
$7^h\ 51^m\ 10^s$		*16° 14′*	
$7^h\ 52^m\ 17^s$		*16° 30½′*	
$7^h\ 53^m\ 12^s$		*16° 43½′*	
$7^h\ 55^m\ 5^s$		*17° 11′*	

563

Afterwards, with both clocks [Poſtea vtroque Horologio]

561 the label is printed over five lines, one beside each value, and is given whole on the first row. "Reading", "No." and "Distance" are this edition's. The roman numerals are printed before the values. Values printed without unit marks, given as degrees and minutes.

562 the time is printed 12ʰ7′ 31″, the minutes and seconds of time marked ′ and ″, and is given as $12^h\ 7^m\ 31^s$. "Time", "Reading" and "Value" are this edition's. Values printed without unit marks, given as degrees and minutes.

563 a brace joins the five times; *dubia per minus* stands to the left of it, one word to a line. *Arcturus* and *occident.* are printed one under the other beside the first two times and are given whole on the first row. The first time is printed 7ʰ49′ 55″ and the first value 15ᵍ54¾′, with their unit marks; the other times are printed as three bare figures and are given as hours, minutes and seconds, the other values printed without unit marks and given as degrees and minutes. "Time", "Star", "Value" and "Remark" are this edition's.

The lesser [clock] [Minus]	*The greater [clock] [Maius]*	*Arcturus, west [Arcturus occ]*
$7^h\ 56^m\ 35^s$	$7^h\ 57^m\ 10^s$	*17° 34′*
$7^h\ 57^m\ 56^s$	$7^h\ 58^m\ 40^s$	*17° 55′*
$7^h\ 59^m\ 29^s$	$8^h\ 0^m\ 24^s$	*18° 16′*
$8^h\ 1^m\ 12^s$	$8^h\ 2^m\ 15^s$	*18° 40′*
$8^h\ 2^m\ 51^s$	$8^h\ 4^m\ 8^s$	*19° 13½′*
$11^h\ 55^m\ 25^s$	$11^h\ 50^m\ 52^s$	*⊙ passed the meridian[1] [⊙ tranſiuit merid.[1]]*

564

On 27 December, P. M. [DIE 27 DECEMBRIS P. M.]

Time	Reading	Value
$5^h\ 3^m\ 20^s$	Maximum altitude of Schedar of Cassiopeia toward the south [Altit. maxima Schedir Caßiopeæ verſus Auſtrum]	88° 22¼′
	The bright [star] of ♈ was then distant from the meridian [Tunc lucida ♈ diſtabat a M.]	21° 28⅚′
$5^h\ 6^m\ 10^s$	Maximum altitude of the pole star [Alt. max. ſtellæ Polaris]	58° 51′
	The bright [star] of ♈ from the meridian [Lucida ♈ a Mer.]	20° 41′

565

[1] The equatorial distances of Venus from the meridian are found above, p. 75 [Diſtantiæ æquatoriæ Veneris a meridiano ſupra p. 75 reperiuntur.].

___[566]

Time	Reading	Value
$5^h\ 17^m\ 48^s$	Maximum altitude of the bend of Cassiopeia [Alt. max. Flexuræ Caß.]	87° 28′
	The bright [star] of ♈ from the meridian [Lucida ♈ a Merid.]	17° 45½′
$5^h\ 21^m\ 50^s$	Minimum altitude of the first [star] of the tail of Ursa Major [Alt. minima primæ caudæ vrſæ maioris]	24° 8⅓′
$5^h\ 45^m\ 0^s$	Maximum altitude of the knee of Cassiopeia [Alt. max. genu Caßiop.]	87° 52′
$5^h\ 52^m\ 38^s$	Minimum altitude of the middle [star] of the tail of Ursa Major [Alt. minima mediæ caudæ vrſæ maioris]	23° 1¼′
$6^h\ 11^m\ 30^s$	Maximum altitude of the foot of Cassiopeia [Alt. max. pedis Caß.]	84° 20′
$6^h\ 17^m\ 55^s$	Minimum altitude of the far end of the tail of Ursa Major [Altit. minima extremæ caudæ vrſæ mai.]	17° 20⅙′
$6^h\ 23^m\ 45^s$	The bright foot of Andromeda through the meridian, whose altitude was [Lucidus pes Androm. per Merid., cuius Altit. erat]	74° 24⅚′

[564] all three heads are printed. In the last row ⊙ *tranſiuit* follows the second time and *merid.* with the footnote cue stands on the line below, at the right. Times printed as three bare figures and given as hours, minutes and seconds; the values under *Arcturus occ* printed without unit marks and given as degrees and minutes.

[565] the first time is printed $5^H\ 3'\ 20''$, with its unit marks; the second, 5 6 10, bare; both are given as hours, minutes and seconds. "Time", "Reading" and "Value" are this edition's. Values printed without unit marks, given as degrees and minutes.

[566] this page is set in two columns divided by a vertical rule. The English gives the left column first.

Time	Reading	Value
	Declination of Schedar of Cassiopeia [Declin. Schedir Caßiop.], with one [vno]	54° 16′
	with the other [alt.]	54° 16¼′
	Declination of the bend of Cassiopeia [Declin. Flexuræ Caßiop.], with one [vno]	58° 28′
	with the other [alt.]	58° 28½′
	Declination of the knee of Cassiopeia [Declin. genu Caßiopæ], with one [vno]	58° 3½′
	with the other [alt.]	58° 3¼′
	Declination of the foot of Cassiopeia [Declin. pedis Caßiopeæ], with one [vno]	61° 35′
	with the other [alt.]	61° 35¼′
$7^h\ 26^m\ 0^s$	Meridian altitude of the bright [star] of the head of Medusa [Alt. mer. Lucidæ Capitis Medufæ]	73° 23¾′
$7^h\ 39^m\ 43^s$	Meridian altitude of the bright [star] of the side of Perseus [Altit. merid. lucidæ lateris Perſei]	82° 26′

567

Note. All the altitudes taken on this day are still in excess by ½′; therefore Schedar was 88° 21′ 45″, the pole star 58° 50′ 30″ [Nota. Altit. omnes hoc die acceptæ adhuc dimidio ſcrupulo abundant, ergo Schedir erat 88 21 45 Polaris 58 50 30].[568]

On 30 December, A. M. [DIE 30 DECEMBRIS A. M.]

The lesser [clock] [Minus]	*The greater [clock] [Maius]*	*Arcturus, west [Arctur. occ.]*
$7^h\ 50^m\ 12^s$	$7^h\ 50^m\ 0^s$	18° 8½′
$7^h\ 51^m\ 17^s$	$7^h\ 51^m\ 6^s$	18° 27¼′
$7^h\ 52^m\ 27^s$	$7^h\ 52^m\ 8^s$	18° 44′
$7^h\ 53^m\ 32½^s$	$7^h\ 53^m\ 5^s$	19° 0½′
$7^h\ 55^m\ 19^s$	$7^h\ 54^m\ 49^s$	19° 26¼′
$7^h\ 56^m\ 25^s$	$7^h\ 55^m\ 36^s$	19° 44⅙′
$7^h\ 57^m\ 35^s$	$7^h\ 56^m\ 38^s$	20° 2¼′
$7^h\ 58^m\ 47^s$	$7^h\ 57^m\ 40^s$	20° 17½′
$7^h\ 59^m\ 56^s$	$7^h\ 58^m\ 48^s$	20° 36′
$8^h\ 0^m\ 43^s$	$7^h\ 59^m\ 31^s$	20° 48¾′

569

[567] no heads are printed; "Time", "Reading" and "Value" are this edition's. These rows stand at the head of the page under no date heading. The times are printed as three bare figures and are given as hours, minutes and seconds; the values are printed without unit marks and are given as degrees and minutes. Labels printed over two lines are given whole on their row: the page sets *Alt. max.* after the time and *Flexuræ Caß.* (or *genu Caßiop.*) on the next line before the value. Where a declination runs over two value lines it is given whole on the first row, with *vno* there; the page sets the label on a line of its own (for the knee of Cassiopeia, with *vno* at its right) and *vno* and *alt.* at the right of the value lines.

[568] the two values are printed at the right as three bare figures each, 88 21 45 and 58 50 30, and are given as degrees, minutes and seconds.

[569] all three heads are printed. The first two times are printed $7^h 50′ 12″$ and $7^h 50′ 0″$, with their unit marks; the other times are printed as three bare figures and are given as hours, minutes and seconds. The values under *Arctur. occ.* are printed without unit marks and are given as degrees and minutes.

Note. The clock was verified at about the hour 7^h 45^m, and that against Arcturus, setting its right ascension 209° 15⅓′ [Nota. Horologium verificabatur iuxta horam 7^H 45^M, idque ad Arct., ponendo ipſius Aſc. R. 209 15⅓,], ⊙ [?] 289° 50′.[570]

On 31 December, A. M. [DIE 31 DECEMBRIS A. M.]

Clock	Time	Reading	Value
The lesser [clock] [Minus]	7^h 27^m 52^s	Arcturus, west [Arctur. occ.]	11° 4′ (for both times)
The greater [clock] [Maius]	7^h 38^m 0^s		

[571]

To examine the right ascension of Arcturus and the clock together [Pro Aſc. Recta Arcturi & horologio ſimul examinando.].

By the lesser [clock] [Per minus]	The heart of ♌, west [Cor ♌ occ.]	Arcturus, west [Arct. occ.]	
7^h 34^m 15^s	75° 58′	13° 19′	62° 39′
7^h 43^m 15^s	78° 13⅙′	15° 34′	62° 39⅙′
7^h 45^m 25^s	78° 43½′	16° 3⅔′	62° 39⅚′
7^h 48^m 12^s	79° 25½′	16° 47¼′	62° 38¼′

[572]

Set this ascensional difference between Arcturus and the heart of ♌ at 62° 39′ [Pone hanc different. aſcenſionalem inter Arcturum & cor ♌ 62 39].

Time	Reading	Value
7^h 50^m 6^s	Arcturus, west [Arcturus occ.]	17° 16¼′
7^h 50^m 45^s		17° 26′
7^h 51^m 38^s		17° 39′
7^h 52^m 26^s		17° 52′
7^h 53^m 16^s		18° 4′
7^h 54^m 27^s		18° 21′
7^h 55^m 6^s		18° 30½′

[570] the note begins at the foot of the left column and ends at the head of the right column; it is given whole here. After ⊙ the page sets three small raised italic sorts — ı, then a sort that is either ı or t, then s — which are not construed here. The values 209 15⅓ and 289 50 are printed without unit marks and are given as degrees and minutes.

[571] a brace joins the two times, and *Arctur. occ. 11 4* stands once to the right of it. The first time is printed $7^H27'52''$, with its unit marks; the second, 7 38 0, bare; both are given as hours, minutes and seconds. The value is printed without unit marks and is given as degrees and minutes. "Clock", "Time", "Reading" and "Value" are this edition's.

[572] the first three heads are printed; the fourth column carries no head. The first time is printed $7^H34'15''$, with its unit marks; the others are printed as three bare figures and are given as hours, minutes and seconds. The values are printed without unit marks and are given as degrees and minutes.

Time	Reading	Value
$7^h\ 56^m\ 40^s$		18° 54½′
$7^h\ 57^m\ 25^s$		19° 6′

573

On 31 December, P. M. [DIE 31 DECEMBRIS P. M.]

After the revolving azimuthal quadrant was verified [Poſt verificatum Q. vol. azimuthalem.].

Time	Reading	Value
	The knee of Cassiopeia, maximum altitude [Genu Caßiopeæ altit. max.]	87° 51′
	Declination of the same by the armillae [Declin. eiusdem per Armillas]	58° 3½′
	with the other [altero]	58° 4′
	Minimum altitude of the middle [star] of the tail of Ursa Major [Mediæ caudæ vrſæ mai. alt. min.]	23° 0¾′
	Declination [Declin.], with one [vno]	57° 8½′
	with the other [altero]	57° 8¼′
	Maximum altitude of the foot of Cassiopeia [Pedis Caßiopeæ alt. max.]	84° 19½′
$7^h\ 36^m$	Minimum altitude of the brighter [star] in the □ of Ursa Minor [Lucidioris in □ vrſæ min. alt. min.]	41° 44¾′
	Its declination [Declin. eius], with one [vno]	75° 52′
	with the other [altero]	75° 51½′
	Meridian altitude of the bright [star] of the side of Perseus [Altit. merid. lucidæ later. Perſei]	82° 24⅚′
	Its declination by the armillae [Declin. eius per Armill.]	48° 18½′
	with the other pinnule [alt. pin.]	48° 18⅓′
$8^h\ 6^m\ 0^s$	Minimum altitude of the other [star] in the □ of Ursa Minor [Alterius in □ vrſæ min. alt. min.]	39° 12¾′
	Its declination [Declin. eius], with one [vno]	73° 20′
	with the other [altero]	73° 20¼′

574

Maximum and minimum altitudes of the pole star [Stellæ polaris maximæ & minimæ Altitudines]

573 no heads are printed; "Time", "Reading" and "Value" are this edition's. *Arcturus occ.* stands on the first line only. The value 62 39 of the sentence above and the values of this series are printed without unit marks and are given as degrees and minutes; the times are printed as three bare figures and are given as hours, minutes and seconds.

574 no heads are printed; "Time", "Reading" and "Value" are this edition's. The first time is printed H. 7 36′, the minutes of time marked with a single stroke, and is given as $7^h\ 36^m$; the second, 8 6 0, bare, is given as hours, minutes and seconds. Labels printed over two lines are given whole on their row: the page sets *Declin. eiusdem* on a line of its own and *per Armillas* at the right of the value line; *Mediæ caudæ vrſæ mai.*, *Lucidioris in* □ *vrſæ min.* and *Alterius in* □ *vrſæ min.* on one line and *alt. min.* at the right of the next, before the value; *Altit. merid. lucidæ* on one line and *later. Perſei* on the next. The values are printed without unit marks and are given as degrees and minutes.

In the evening [Veſperi] — In the month of December [Menſe Decembri] — In the morning [Mane]

Day [Die]	Clock time [Tempus Horologij]	The bright [star] of ♈ from the meridian [Lucida ♈ a Mer.]	Maximum altitude [Alt. max.]	Clock time [Tempus Horol.]	The heart of ♌, west [Cor ♌ occ.]	Minimum altitude [Alt. min.]
1	$7^h\ 6^m\ 20^s$	20° 47½′	58° 51′	$6^h\ 4^m\ 20^s$	39° 32′	…
2	$7^h\ 0^m$	19° 35′	58° 50⅚′			
15	$6^h\ 5^m$	20° 15′	58° 51¼′			
16	$5^h\ 55^m$	20° 15′	58° 51 1/[?]′			

575

For the position of the armillae toward the meridian line [Pro ſitu Armillarum verſus Meridiej lineam.]

Reading	*On 6 December, in the evening [Die 6 Decembris veſperi]*	*15 December [15 Decemb.]*
The bright [star] of Perseus, east [Lucida Perſej orientalis], with one pinnule [vno pinnac.]	*48° 18′ 15″*	*48° 18½′*
with the other [altero]	*48° 17′ 45″*	*48° 18¼′*
Repeated with the smaller pinnules [Repetita minoribus pinnacidijs]	*48° 18′ 30″ — better (for both rows) [meliores]*	
twice [bis]	*48° 18′ 5″*	
Set at [Pone]	*48° 18¼′ or ⅓, good [vel ⅓, bona]*	
The head of Medusa [Caput Meduſæ], with one [vno]	*39° 16′ 40″*	*On 15 December [Die 15 Dec.]*
with the other [altero]	*39° 16′ 20″*	*39° 17′, with both [vtroque]*
Set at [Pone]	*39° 16′ 30″*	

576

575 all seven heads are printed. *Veſperi* stands over the first columns (the clock time, the bright [star] of ♈ and the maximum altitude), *Mane* over the last three (the clock time, the heart of ♌ and the minimum altitude), and *Menſe Decembri* between them. The first row is printed with unit marks, $7^H\ 6^M\ 20''$, $20^G 47½^M$, $58^G 51^M$, $6^H\ 4^M\ 20''$, $39^G 32^M$; the other rows print two bare figures in the time column, given as hours and minutes, and two in each value column, given as degrees and minutes. The last three columns carry entries in the first row only; the minimum altitude there is printed as three points. In the last row the fraction after 51 has the numerator 1; its denominator is either 5 or 8 on the scan.

576 "Reading" is this edition's head; *Die 6 Decembris veſperi* stands over the middle of the block and *15 Decemb.* over a second value column at the right. A brace joins 48 18 30 and 48 18 5, with *meliores* (hyphenated over the two lines) to the right of it. *Die 15 Dec.* and *39 17 vtroque* stand in the right-hand column, level with the two readings for the head of Medusa. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. The ⅓ after *vel* is printed without a whole number.

On 26 December [Die 26 Decembris]

Reading	*Value*
The bright [star] of Perseus toward the west [Lucida Perſej verſus occaſum], with one [vno]	*48° 19½′*
with the other [altero]	*48° 19¼′*
The head of Medusa [Caput Meduſæ], with one [vno]	*39° 18′*
with the other [altero]	*39° 18⅙′*

577

N. B. The difference in both places is therefore about 1′, and so the armillae are to be rectified in the meridian line by ½′. So let these stars have: the bright [star] of Perseus 48° 19′ and the head Algol 39° 17½′, when they are toward the east or the west; and the same corresponds to the bright [star] of Perseus about the meridian [N. B. Differentia itaque vtrobique eſt quaſi vnius minuti, ideoque in dimidio ſcrupulo armillæ in linea meridiana rectificandæ. Ita habeant hæ ſtellæ lucida Perſej 48 19 & Caput Algol 39 17½ quando verſus ortum vel occaſum fuerint, eademque reſpondet Perſej lucidæ circa meridiem.][578]

Observations of stars in the southern constellations outside the zodiac [OBSERUATIONES STELLARUM IN ASTERISMIS AUSTRALIBUS EXTRA ZODIACUM.][579]

On 13 January [DIE 13 JANUARIJ.]

Reading	Value
The left foot of Orion in the meridian had altitude, by the quadrant [Siniſter pes Orionis in Meridie habuit altitudinem per Quadr.]	25° 21′
South declination of the same [Merid. Decl. eiusdem] by the armillae, with one [per Arm., vno]	8° 42′
with the other pinnule [altero pinnac.]	8° 42¼′
by the quadrant [per Quadr.]	8° 42½′
The left shoulder of Orion, by the quadrant [Siniſter humerus Orionis per Quadr.]	39° 59′
Declination of the same by the armillae [Declin. eiusdem per Armillas]	5° 55½′
Altitude of the bright [star] at the end of Eridanus, by the quadrant [Alt. lucidæ in extremitate Eridani per Quadr.]	28° 23⅚′
Declination of the same by the armillae [Declin. eiusdem per Armill.]	5° 39½′
with the other pinnule [altero pinn.]	5° 39¼′
by the quadrant [per Quadr.]	*5° 41⅔′*

577 "Reading" and "Value" are this edition's heads. The label for Perseus is printed on a line of its own, with *vno* and *altero* on the two value lines below; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

578 the values 48 19 and 39 17½ are printed without unit marks and are given as degrees and minutes.

579 below this heading the page is set in two columns divided by a vertical rule. The English gives the left column first.

580

It is therefore evident that the quadrant still differs from the armillae in declination by about 2′ [Patet itaque quod adhuc differat Quadrans ab Armillis in Declin. quaſi per 2 Minuta.].

On 14 January [DIE 14 JANUARIJ.]

Reading	*Value*
The upper of the two [stars] in the pelt of ♉ which Orion holds, by the revolving quadrant [Superior duarum in exuvijs ♉ quas tenet Orion per Quadr. Volub.]	*40° 14′ 45″*
by the sextant [per Sext.]	*40° 16′ 0″*
Declination of the same by the armillae, with one [Eiusdem declin. per Armill., vno]	*6° 10′ north [B.]*
with the other pinnule [altero pinnac.]	*6° 9¾′*

581

But here, by the new sextant, the declination [Sed hic per Sext. nouum declinatio] … appeared greater by ½′, although by the armillae it was at other times greater than it should be; but because the star was so small, not much is to be attributed to this observation [viſa eſt ½ ſcrupulo maior, cum tamen per Armillas alias maior fuerit debito, ſed quia ſtella erat tam parua, non multum huic obſeruationi tribuendum].[582]

Reading	*Value*
Meridian altitude of the first [star] of Eridanus, by the new sextant [Primæ Eridani alt. merid. per Sext. nouum]	*28° 25′*
by the revolving quadrant [per Q. Volub.]	*28° 24¼′*
Declination by the armillae [Declin. per Armillas]	*5° 40′*
with the other pinnule [alt. pinnac.]	*5° 40¼′*
The bright foot of Orion, by the quadrant [Luc. pes Orionis per Quadr.]	*25° 20¾′*
by the sextant [per Sext.]	*25° 21½′*
Declination [Declin.]	*8° 43½′*
with the other pinnule [alt. pinnac.]	*8° 43¼′*
by the sextant [per Sext.]	*8° 44′*

[580] "Reading" and "Value" are this edition's heads. Each label printed over two lines is given whole on its row: the page sets the star, or *Merid. Decl. eiusdem* / *Declin. eiusdem*, on one line and the instrument (with *vno*) at the right of the next, before the value. The last two rows stand at the head of the right column, the last of them in italic; the declination of the bright [star] at the end of Eridanus thus runs over the column break. Values printed without unit marks, given as degrees and minutes.

[581] "Reading" and "Value" are this edition's heads. The page names no quantity for the first two values. Labels printed over two or three lines are given whole on their row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

[582] the sentence begins at the foot of the previous page, *But here, by the new sextant, the declination*; it runs on at the head of the left column of this page. The page is set in two columns divided by a vertical rule; the English gives the left column first.

Reading	*Value*
Meridian altitude of the left shoulder of Orion, by the sextant [Alt. merid. Sinift. humeri Orionis per Sext.]	*40° 0′*
by the revolving quadrant [per Q. Volub.]	*39° 59′*
Declination by the new sextant [Decl. per Sext. nou.]	*5° 54′ 30″*
by the armillae [per Armill.], with both [vtroque]	*5° 54′*

583

It is therefore evident that the new sextant almost everywhere shows the declination greater by ½′ than the armillae themselves, although yesterday, before they were corrected, the armillae showed more than was right in declination. The quadrant has less by almost 1′ [Patet itaque quod Sextans nouus vbique fere declinationem ½ Minuto maiorem oſtendat quam armillæ ipſæ, licet Armillæ heri antequam corrigerentur plus iuſto in declinatione exhiberent. Quadrans minus habet fere vno ſcrupulo.].[584]

Reading	Value
The bright shoulder of Orion in the meridian, by the revolving quadrant [Lucidus humerus Orionis in merid. per Q. Volub.]	41° 20′
by the sextant [per Sext.]	41° 21′
Its declination by the armillae [Declin. eius per Armill.]	7° 15′
with the other pinnule [alt. pinnac.]	7° 16½′

585

[It] was not clear enough [Non erat ſatis ſerenum.].

On 15 January [DIE 15 IANUARIJ.]

Reading	Value
The first [star] of Eridanus in the meridian, by the sextant △ [Prima Eridani in mer. per Sext. △]	28° 25¼′
by the revolving quadrant [per Q. Vol.]	28° 25′
Declination by the armillae [Declin. per Armill.,] with both pinnules [vtroque pinn.]	5° 40½′
The left shoulder of Orion, by the revolving quadrant [Sinift. hum. Orion. per Q. Vol.]	40° 0′
by the sextant [per Sext.]	40° 1′
Declination by the greater subterranean armillae [Decl. per Armill. mai. ſubterr.], with both pinnules [vtroque pinn.]	5° 54′
The first [star] of the belt of Orion, by the revolving quadrant [Prima Balthei Orion. per Q. Vol.]	33° 25½′
[it] agrees exactly with the declination [exquiſite conuenit cum declinatione]	
by the sextant [per Sext.]	33° 26′

583 "Reading" and "Value" are this edition's heads. Labels printed over two lines are given whole on their row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

584 in *fere vno ſcrupulo* the first letter is inked without the top hook of an f and has the shape of a t on this copy (native-resolution crop); the word is read *fere* by sense.

585 "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes.

Reading	Value
South declination by the armillae [Declin. Merid. per Arm.,] with both [vtroque]	0° 40′
The second [star] in the belt, by the quadrant [Secunda in Baltheo per Quadr.]	32° 33¼′
by the sextant [per Sext.]	32° 34′
Declination by the armillae with a single pinnule only [Decl. per Arm. vnico tantum pin.]	1° 30½′
The third [star] in the belt, by the quadrant [Tertia in Baltheo per Quadr.]	31° 51⅓′
by the new sextant [per Sext. nou.]	31° 52⅓′
Declination of the same by the armillae [Declin. eiusdem] [per Armill.], with one pinnule [vno pinn.]	2° 13′
with the other pinnule [alt. pinn.]	2° 12⅚′
The bright shoulder of Orion in the meridian [Lucid. humer.] [Orion. in] [Merid.], by the revolving quadrant [per Q. Volub.]	41° 21′
by the sextant [per Sext.]	41° 21¾′
by the Tychonic quadrant [per Q. Tich.]	41° 20⅔′
Declination of the same by the armillae [Declin. eiusdem] [per Armill.], with one pinnule [vno pinn.]	7° 15′
with the other pinnule [alt. pinn.]	7° 14½′

586

If, therefore, the right shoulder of Orion has a meridian altitude of 41° 21′, its declination was 7° 15½′, although the armillae did not give as much. Hence the revolving quadrant here exceeds the armillae themselves in northern declination [Si itaque dexter humerus Orionis habet altit. Meridianam 41 21, fuit ipſius declin. 7 15½, cum tamen armillæ tantum non dederint. Vnde Quadrans Volubilis hoc loco ipſas Armillas exſuperat in Borea declinatione.].[587]

On the same day, 15 January, in the evening, these observations were made by the Tychonic quadrant [Eodem die 15 Januarij ad Veſperas factæ ſunt hæ obſeruationes per Q. Tichonicum.].

Reading	Value
Meridian altitude of the third & bright [star] in the pelt of ♉ which Orion holds [Altit. merid. tertiæ & lucidæ in exuvio ♉ quod tenet Orion]	40° 15⅓′
The bright [star] of Eridanus above the foot of Orion [Lucida Erid. ſupra pedem Orion.]	28° 24⅔′
The bright foot of Orion [Lucidus pes Orionis]	25° 21½′
The left shoulder of Orion [Siniſter humerus Orionis]	39° 59½′
The first [star] in the belt [Prima in Baltheo]	33° 24½′
The middle [star] in the belt [Media in Baltheo]	32° 33½′
The last [star] in the belt [Vltima in Baltheo]	31° 51½′

[586] "Reading" and "Value" are this edition's heads. The rows through "by the sextant", 33° 26′, stand in the left column; the rest in the right. *exquiſite conuenit cum declinatione* is printed as a line of its own between the values 33° 25½′ and 33° 26′; the page names no subject for it. The south declination, 0° 40′, stands at the head of the right column, after the first [star] of the belt of Orion; the entry thus runs over the column break. Where a star label is printed over two or three lines at the left and the instrument words at the right, level with each value, the label is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

[587] 41 21 and 7 15½ are printed without unit marks and are given as degrees and minutes.

Reading	Value
The right foot of Orion [Dexter pes Orionis]	24° 14′
Canis Major in the meridian, by the revolving quadrant [Canis maior in Merid. per Q. Volub.]	17° 54½′
by the new sextant [per Sext. Nou.]	17° 55′
Declination of the same [Declin. eiusdem], with one [vno]	16° 10½′
with the other pinnule [alt. pinn.]	16° 11′
Altitude of the bright [star] of Hydra, by the sextant △ [Alt. lucidæ hydræ per Sext. △]	27° 13′
Its declination by the armillae [Declin. eius per Armill.]	6° 53⅚′
with the other pinnule [alt. pinn.]	6° 54′

588

On 16 January [DIE 16 JANUARIJ.]

Reading	*Value*
The first [star] of Eridanus, by the revolving quadrant [Prima Eridani per Q. volub.]	*28° 24½′*
by the new sextant [per Sext. nou.]	*28° 25′ 30″*

589

___590

Reading	Value
Declination by the armillae [Declin. per] [Armillas], with one pinnule [vno pin.]	*5° 40½′ — well enough (for both rows) [satis bene]*
with the other pinnule [alt. pinn.]	*5° 41′*
Altitude by the Tychonic quadrant [Alt. per Q. Tich.]	28° 24⅓′
by the old sextant [per Sext. vet.]	28° 25′
The bright [star] in the pelt, by the Tychonic quadrant [Lucida in exuvio per Q. Tich.]	40° 14½′
The bright foot of Orion, by the Tychonic quadrant [Lucidus pes Orionis per Q. Tich.]	25° 21¼′
by the old sextant [per Sext. vet.]	25° 21 1/[?]′
by the revolving quadrant [per Q. Volub.]	*25° 21¼′*
by the new sextant [per Sext. nou.]	*25° 21′ 50″*
Declination [Declin.], with one [vno]	*8° 43¾′ — middling (for both rows) [mediocris]*
with the other [alt.]	*8° 43⅔′*

588"Reading" and "Value" are this edition's heads. The value of the first row stands alone on the line below its label. In the first two rows the fraction's numerator is 1 and 2 respectively; the denominator does not settle between 3 and 8 on the scan. Values printed without unit marks, given as degrees and minutes.

589"Reading" and "Value" are this edition's heads. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

590the page is set in two columns divided by a vertical rule; the English gives the left column first. The entries at the head of the page continue those of 16 January begun on the previous page.

Reading	Value
The left shoulder of Orion, by the Tychonic quadrant [Sinifter humer. Orion. per Q. Tich.]	39° 59¼′
by the old sextant [per Sext. vet.]	40° 0½′
by the revolving quadrant [per Q Volub.]	*39° 59′ 50″*
by the new sextant [per Sext. nou.]	*40° 0′ 10″*
Declination by the armillae, first pinnule [Declin. per Armill. I pinn.]	*5° 53½′*
second pinnule [II pinn.]	*5° 53′*
The first [star] of the belt of Orion, by the old sextant [I Balthei Orion. per Sext. vet.]	33° 26′
by the revolving quadrant [per Q. Volub.]	*33° 25⅙′*
by the new sextant [per Sext. nou.]	*33° 25½′*
Declination by the greater armillae [Declin. per Armillas maiores]	*0° 40′*
with the other pinnule [alt. pinnac.]	*0° 39′ 45″*
The second [star] of the belt of Orion, by the Tychonic quadrant [II Balthei Orion. per Q. Tich.]	32° 33⅛′
by the old sextant [per Sext. vet.]	32° 34′
by the new sextant [per Sext. nou.]	*32° 34′ 30″*
by the revolving quadrant [per Q. Volub.]	*32° 33′ 15″*
Declination with one pinnule [Declin. vno pinnac.]	*1° 31′ 0″*
with the other [altero]	*1° 30′ 50″*
The third [star] of the belt of Orion, by the Tychonic quadrant [III Balthei Orion. per Q. Tich.]	31° 51½′
by the old sextant [per Sext. vet.]	31° 51⅓′
by the new sextant [per Sext. nou.]	*31° 52⅓′*
by the revolving quadrant [per Q. Volub.]	*31° 51⅔′*
Declination by the greater subterranean armillae [Declin. per Armill.] [fubterr. maiores], first pinnule [I pinn.]	2° 13¾′
second pinnule [II pinn.]	2° 13⅙′
The right foot of Orion, by the Tychonic quadrant [Dexter pes Orionis per Q. Tich.]	24° 13′
by the old sextant [per Sext. vet.]	24° 13′
by the revolving quadrant [per Q. Volub.]	*24° 13′*
by the new sextant [per Sext. nou.]	*24° 14′*
Declination [Declin.], first pinnule [I pinnac.]	9° 52′
second pinnule [II pinnac.]	9° 51½′
The right shoulder of Orion, by the Tychonic quadrant [Dexter humer. Orion. per Q. Tich.]	41° 20½′
by the old sextant [per Sext. vet.]	41° 21⅓′
by the revolving quadrant [per Q. Volub.]	*41° 20 [?]/4′*
by the new sextant [per Sext. nou.]	*41° 21⅔′*
Declination [Declin.], first pinnule [I pinnac.]	7° 15′ 0″
second pinnule [II pinnac.]	7° 16′
The foot of Canis Major, by the Tychonic quadrant [Pes Canis maioris per Q. Tich.], with both pinnules [vtroque pinnacid.]	16° 18′
by the old sextant [per Sext. vet.]	16° 19½′
by the revolving quadrant [per Q. Volub.]	16° 18¼′
by the new sextant [per Sext. nou.]	16° 19′
Declination by the armillae [Declin. per Armill.]	17° 46½′
Canis Major, by the Tychonic quadrant [Canis maior per Q. Tich.], with both pinnules [vtroque pinnac.]	17° 54′

Reading	Value
by the old sextant [per Sext. vet.]	17° 55¼′

591

On 21 January [DIE 21 JANUARIJ.]

Reading	Value
The bright [star] of Cetus in the meridian, by the Tychonic quadrant [Lucida Ceti in Merid. per Q. Tich.]	36° 30′
The left foot of Orion, by the Tychonic quadrant [Sinister pes Orion. per Q. Tich.], with both pinnules [vtroque pinn.]	25° 21⅓′
The left shoulder of Orion, Tychonic quadrant [Sinister humer. Orion. Q. Tich.]	39° 59¾′
with the other pinnule [altero pinnac.]	40° 0′
by the old sextant [per Sext. vet.]	39° 59′
by the new sextant [per Sext. nou.]	39° 59⅔′
Declination by the armillae [Declin. per Armill.,] with both [vtroque]	5° 54′
The first [star] of the belt of Orion, by the Tychonic quadrant [I Balthei Orion. per Q. Tich.]	33° 25½′
with the other pinnule [alt. pinn.]	33° 25⅓′
by the old sextant [per Sext. vet.]	33° 25′
The second [star] of the belt of Orion, by the Tychonic quadrant [II Balthei Orion. per Q. Tich.]	32° 33½′
with the other pinnule [alt. pinn.]	32° 33½′
by the new sextant [per Sext. Nou.]	32° 33¾′
by the old sextant [per Sext. Vet.]	32° 33⅙′
The third [star] in the belt, by the Tychonic quadrant [III in Baltheo per Q. Tich.]	31° 52¼′
with the other pinnule [alt. pinn.]	31° 52⅙′
by the old sextant [per Sext. vet.]	31° 51¼′
by the new sextant [per Sext. nou.]	31° 52′
The right foot of Orion, by the Tychonic quadrant [Dexter pes Orion. per Q. Tich.]	24° 13′
with the other pinnule [alt. pinnac.]	24° 13½′
The brightness of the ☾ in the centre produced the variation in the observation [Varietatem obseruationis peperit ☾ splendor in centro.]	

[591] "Reading" and "Value" are this edition's heads. Rows in italic are set in italic on the page: within each entry through the right shoulder of Orion the lines for the revolving quadrant and the new sextant are italic, those for the Tychonic quadrant and the old sextant roman; from the declination 7° 15′ 0″ onward every row is roman. The rows through "by the old sextant", 41° 21⅓′, stand in the left column; the rest in the right, so the entry for the right shoulder of Orion runs over the column break. A brace joins 5° 40½′ and 5° 41′, with *satis* and *bene* to the right of it on the two lines; another joins 8° 43¾′ and 8° 43⅔′, with *mediocris* (hyphenated) to the right. Labels printed over two lines, or at the left with the pinnule words at the right, are given whole on their first row. In the value for the revolving quadrant at the head of the right column the numerator of the fraction over 4 does not settle on the scan; in one value in the left column (25° 21 1/[?]′) the denominator of the fraction after the minutes does not settle between 3 and 8; that of the Tychonic quadrant's 28° 24⅓′ at the head of the column is read as 3 on a native-resolution crop. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Reading	Value
by the new sextant [per Sext. nou.]	24° 14′
The right shoulder of Orion, Tychonic quadrant [Dexter humer. Orion. Q. Tich.]	41° 21′
with the other pinnule [alt. pinnac.]	41° 20¾′
by the new sextant [per Sext. nou.]	41° 22′

592

___593

Reading	Value
The foot of Canis Major in the meridian [Pes Canis maior. in Mer.], by the Tychonic quadrant [per Q. Tich.,] uncertain [incerta]	16° 10′
Canis Major in the meridian [Canis maior in Mer.]	17° 54¼′
with the other pinnule [alt. pinnac.]	17° 54⅓′
by the new sextant [per Sext. nou.]	17° 54⅔′

594

On 23 January [DIE 23 JANUARIJ.]

Reading	Value
The bright [star] of Cetus, by the Tychonic quadrant [Lucida Ceti per Q. Tich.]	36° 30⅔′
with the other pinnule [alt. pinn.]	36° 30½′
The first [star] of Eridanus, by the Tychonic quadrant [Prima Eridani per Q. Tich.], with both pinnules [vtroque pinn.]	28° 24½′
The left foot of Orion [Sinifter pes Orion.], by the Tychonic quadrant [per Q. Tich.]	25° 21⅓′
with the other pinnule [alt. pinn.]	25° 21½′
The left shoulder of Orion [Sinift. hum. Orion.], by the Tychonic quadrant [per Q. Tich.]	39° 59⅓′
with the other pinnule [alt. pinnac.]	39° 59¼′
The first [star] of the belt of Orion [I Balthei Orionis]	33° 26¼′
The second [star] of the belt, by the Tychonic quadrant [II Balthei per Q. Tich.]	32° 33⅓′
The third [star] of the belt of Orion [III Balthei Orionis]	31° 51⅔′

592 "Reading" and "Value" are this edition's heads. *vtroque pinn.* stands alone on the line below the value 25° 21⅓′. The sentence on the ☾ is printed as two lines of its own between the value 24° 13½′ and the new sextant's 24° 14′. In three values the fraction looked unsettled on the scan (two denominators between 3 and 8, one numerator over 4); on native-resolution crops they read 39° 59⅔′, 33° 25⅓′ and 32° 33¾′, each 3 open on the left. Values printed without unit marks, given as degrees and minutes. The lower part of the page is blank.

593 the upper part of the page is set in two columns divided by a vertical rule; the English gives the left column first. Below the columns a table runs across the full width of the page. The entries at the head of the left column continue those of 21 January begun on the previous page.

594 "Reading" and "Value" are this edition's heads. The label of the first row stands alone on its line, the instrument words, *incerta* and the value on the line below; the label is given whole on the row. Values printed without unit marks, given as degrees and minutes.

Reading	Value
The foot of Canis Major, by the Tychonic [quadrant] [Pes Canis maioris per Tichon.]	16° 18⅔′
with the other pinnule [alt. pinnac.]	16° 18½′
Canis Major, by the Tychonic quadrant [Canis maior per Q. Tichon.]	17° 54⅓′
with the other pinnule [alt. pinnac.]	17° 54½′
by the new sextant [per Sext. nou.]	17° 54′
by the old sextant [per Sext. vet.]	17° 55′

595

On 1 February [DIE 1 FEBRUARIJ.]

Reading	Value
The bright [star] at the end of Eridanus [Lucida in extremitate Eridani], by the Tychonic quadrant [per Q. Tichon.]	28° 24⅓′
with the other pinnule [altero pinn.]	28° 24½′
The left foot of Orion, by the Tychonic [quadrant] [Sinister pes Orion. per Tich.], with both pinnules [vtroque pinn.]	25° 21′ 10″
The left shoulder of Orion [Sinister humer. Orionis]	39° 59′ 25″
The first [star] of the belt, by the Tychonic quadrant [Prima Balthei per Q. Tich.]	33° 25′ 10″
The middle [star] of the belt [Media Balthei]	32° 33′ 20″
The third [star] of the belt [III Balthei], with one pinnule [vno pinnac.]	31° 51′ 30″
with the other [altero]	31° 51′ 35″
Its declination by the armillae [Declin. eius per Armill.]	2° 13′ 20″
The right foot of Orion [Dexter pes Orion.], by the Tychonic quadrant [per Q. Tich.]	*24° 13¼′*
by the new sextant [per Sext. nou.]	24° 13⅓′
Its declination by the armillae [Declin. eius per Armill.]	9° 52′
with the other pinnule [alt. pinnac.]	9° 51¾′
The bright shoulder of Orion, by the Tychonic quadrant [Luc. humerus Orionis per Q. Tich.], with both pinnules [vtroque pinn.]	41° 20¼′
by the new sextant [per Sext. nou.]	41° 20¼′
by the old sextant [per Sext. vet.]	41° 20⅙′
Its declination by the armillae [Declin. eius per Armill.]	7° 15¼′
with the other pinnule [altero pinnac.]	7° 15½′

596

595 "Reading" and "Value" are this edition's heads. *vtroque pinn.* stands alone on the line below the value 28° 24½′. Where a star label is printed on one line and the instrument words with the value on the next, the label is given whole on the row. Values printed without unit marks, given as degrees and minutes.

596 "Reading" and "Value" are this edition's heads. The row in italic is set in italic on the page (label, instrument words and value); every other row is roman. *vtroque pinn.* stands alone on the line below the value 25° 21′ 10″; in the row for the bright shoulder the label stands on one line and *vtroque pinn.* with the value on the next. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

On 3 February, in the evening [DIE 3 FEBRUARIJ AD VESPERAS.]

Star	By the Tychonic quadrant [Per Q. Tichon.], with one [vno]	with the other [al-tero]	By the new sextant [Per Sext. nou.]	By the old sextant [Per Sext. vet.]	Declination by the armillae [Decl. per Armill.], with one [vno]	with the other [al-tero]
The bright foot of Orion [Lucid. pes Orion.]	25° 21′ 5″	with both [vtroque]	25° 22′	25° 21′ 55″	8° 44′	with both [vtroque]
The left shoulder of Orion [Sinist. hum. Orion.]	39° 59′ 25″	with both [vtroque]	40° 0′	39° 59⅚′	5° 53½′	5° 54′
The first [star] of the belt of Orion [Prima Balth. Orion.]	33° 25′ 0″	with both [vtroque]	33° 26½′	33° 26′	0° 40′	with both [vtroque]
The middle [star] of the belt [Media Balthei]	32° 33′ 25″		32° 34¾′	32° 34′ 0″	1° 31¼′	with both [vtroque]
Repeated [Repetita]					1° 31′ 0″	1° 32′
The third [star] of the belt of Orion [III Balth. Orion.]	31° 51′ 30″	with both [vtroque]	31° 52′ 50″	31° 52′ 0″	2° 13¾′	with both [vtroque]
Repeated [Repetita]					2° 14′	2° 14′ south [M.]
The right foot of Orion [Dexter pes Orion.]	24° 13′ 10″	24° 13′ 5″				
The right shoulder of Orion [Dext. humer. Orion.]	42° 20′ 10″	with both [vtroque]	41° 21′	41° 20⅔′	7° 14½′	7° 15′
The foot of Canis Major [Pes Canis maioris]	16° 18⅓′	16° 18½′	16° 19⅚′	16° 19¾′	17° 47½′	17° 47¼′
Canis Major [Canis maior]	17° 54′ 5″	17° 54′ 10″	17° 55⅔′	17° 55¼′ *	16° 10′	16° 10¼′

*[It] was not well placed at the meridian [*Non erat bene ad Merid. collocatus.][597]

On 7 February [DIE 7 FEBRUARIJ.]

Star	By the Tychonic quadrant [Per Q. Tichon.], with one [vno]	with the other [altero]	By the new sextant [Per Sext. nou.]	By the old sextant [Per Sext. vet.]	At the right of the line
The bright [star] of Eridanus [Lucida Eridani]	28° 24′ 40″	28° 24′ 45″	28° 25′	28° 24½′	
The left foot of Orion [Sin. pes Orionis]	25° 21′	with both [vtroque]	25° 22½′	25° 21¾′	
The left shoulder of Orion [Sin. hum. Orion.]	39° 59′ 20″	39° 59′ 25″	40° 0′	39° 59′	
The first [star] of the belt [Prima Balthei]	33° 25′		33° 26′	33° 25′	
The second [star] of the belt [Secunda Balthei]	32° 33′ 5″		32° 34⅓′	32° 33¾′	
The third [star] [Tertia]	31° 51′ 35″	with both [vtroque]	31° 52½′	31° 51½′	
The right foot of Orion [Dexter pes Orion.]	24° 13′ 5″	24° 13′	24° 14¾′	24° 14′	
The right shoulder [Dexter humerus]	41° 20′ 20″	41° 20′ 15″	41° 21½′	41° 21′	
The foot of Canis Major [Pes Canis maioris]	16° 18′	with both [vtroque]	16° 19¾′	16° 19½′	
Canis Major [Canis maior]	17° 54′ 30″	17° 54′ 35″	17° 55⅚′	17° 54⅚′	
The eye of Hydra [Oculus Hydræ]	41° 57′ 30″	41° 57′ 40″			

[597]"Star" is this edition's head; the page prints no head over the star column. The column heads are printed over two lines (*Per Sext. / nou.*, *Per Sext. / vet.*; *vno* and *altero* under the Tychonic quadrant and under the declination by the armillae). The asterisk stands after the old sextant's value for Canis Major; the note it cues is printed below the table at the right and names no subject. "Repeated" is printed indented under the star labels, with values only in the declination columns. *M.* after the last value of the second "Repeated" row is rendered "south", as elsewhere after a declination. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. In the row of the right shoulder of Orion the Tychonic quadrant's value is printed 42 20 10 (the 42 confirmed on a native-resolution crop), where the new and old sextants on the same line give 41 21 and 41 20⅔; it is given as printed, and no correction is made.

Star	By the Tychonic quadrant [Per Q. Tichon.], with one [vno]	with the other [altero]	By the new sextant [Per Sext. nou.]	By the old sextant [Per Sext. vet.]	At the right of the line
The ear of Hydra [Auris Hydræ]	41° 32′ 50″	with both [vtroque]			
The bright [star] of Hydra [Lucida Hydræ]	27° 11′ 25″	27° 11′ 20″			
In the Crow, the left wing [In coruo, ala finiſt.]	18° 51′ 10″				
In the Crow, the right wing [In coruo, ala dext.]	19° 54′	19° 54′ 5″			
In the foot of the Crow [In pede corui]	13° 1′ 40″				Declination by the armillae [Decl. per Arm.] 21° 13⅔′

598

On 13 February [DIE 13 FEBRUARIJ.]

Star	By the Tychonic quadrant [Per Q. Tichon.], with one [vno]	with the other [altero]	By the new sextant [Per Sext. nou.]	By the old sextant [Per Sext. vet.]	Declination by the armillae [Decl. per Armill.], with one [vno]	with the other [altero]
The bright [star] in Eridanus [Lucida in Eridano]	28° 24′ 40″	28° 24′ 45″				
The left foot of Orion [Siniſter pes Orion.]	25° 21′ 0″	25° 21′ 10″	25° 22′			
The left shoulder of Orion [Sin. humer. Orion.]	39° 59′ 20″	39° 59′ 25″	40° 0′	40° 0′	5° 54′	with both [vtroque]
The first [star] of the belt [Prima Balthei]	33° 25′ 0″	33° 25′ 10″	33° 26′	33° 25½′	0° 40′	0° 40¼′
The middle [star] of the belt [Media Balthei]	32° 33′ 10″	with both [vtroque]	32° 34′	32° 33⅚′	1° 31½′	1° 31⅙′

598 "Star" and "At the right of the line" are this edition's heads; the page prints no head over the star column, and the 7 February table has no declination column: the declination for the foot of the Crow stands at the right, beyond the old sextant's column, on the line of that star. The column heads are printed over two lines (*Per Sext.* / *nou.*, *Per Sext.* / *vet.*; *vno* and *altero* under the Tychonic quadrant). Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Star	By the Tychonic quadrant [Per Q. Tichon.], with one [vno]	with the other [al-tero]	By the new sextant [Per Sext. nou.]	By the old sextant [Per Sext. vet.]	Declination by the armillae [Decl. per Armill.], with one [vno]	with the other [al-tero]
The third [star] of the belt [Tertia Balthei]	31° 51′ 35″	with both [vtroque]	31° 52⅛′	31° 52 1/12′	2° 14′	2° 13½′
The right foot of Orion [Dexter pes Orion.]	24° 13′ 15″	24° 13′ 0″	24° 13⅝′	24° 14¼′	9° 52½′	9° 52¼′
Bellatrix	41° 20′ 20″		41° 20⅛′	41° 21′	7° 14½′	7° 14⅚′
The foot of Canis Major [Pes Canis maioris]			16° 19¼′			
The preceding [star] in the wing of the Crow [Præced. in ala corui]			18° 53½′			
The following [star] in the wing of the Crow [Sequens in alä corui]			19° 55⅝′			

599

600

On 4 March [DIE 4 MARTIJ.]

Meridian altitudes [Altitudines Meridianæ]

Reading	Value
In the head of Hydra [In capite Hydræ], by the Tychonic quadrant [per Q. Tich.]	41° 57′
with the other pinnule [alt. pinnac.]	41° 57′ 20″
In the head of Hydra [In capite Hydræ], by the Tychonic quadrant [per Q. Tich.]	41° 32′ 30″
	41° 32′ 20″
In the neck of Hydra, by the Tychonic [quadrant] [In collo Hydræ per Tichon.]	38° 6½′
The bright [star] of Hydra, by the Tychonic [quadrant] [Lucida Hydræ per Tichon.]	27° 11′ 20″

599 "Star" is this edition's head; the page prints no head over the star column. The column heads are printed over two lines, as in the 7 February table, with *vno* and *altero* also under the declination by the armillae. *alä* is printed with two dots over the second a. In the new-sextant column four denominators are read as 8 on a native-resolution crop, against the open-topped 6 of 17 55⅚ in the 7 February table: 31° 52⅛′ (first read as ⅙), 24° 13⅝′, 41° 20⅛′ and 19° 55⅝′; no 8 that a 3 or 7 numerator would force stands on these pages to confirm the 8s. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

600 below the two tables the page is set in two columns divided by a vertical rule; the English gives the left column first. The entry begun at the foot of the left column (the star preceding Hydra, 5 March) continues at the head of the right column.

601

On 5 March [DIE 5 MARTIJ.]

Reading	Value
Canis Major, by the revolving quadrant [Canis maior per Q. Volub.]	17° 54′
The star preceding Hydra [Stella præcedens hydram], by the revolving quadrant [per Q. Volub.]	41° 11′
Its declination by the armillae [Declin. eius per Armill.]	7° 5′
The nose of Hydra, by the Tychonic quadrant [Nasus hydræ per Q. Tich.]	38° 50⅔′
by the revolving quadrant [per Q. Volub.]	38° 49⅔′
Declination by the armillae [Declin. per Armill.]	4° 44½′
The throat of Hydra, by the Tychonic quadrant [Faux hydræ per Q. Tich.]	38° 55½′
by the revolving quadrant [per Q. Volub.]	38° 55′
Declination by the armillae [Declin. per Armill.]	4° 50½′
The back of the head of Hydra, by the Tychonic quadrant [Occiput hydræ per Q. Tich.]	41° 57½′
by the revolving quadrant [per Q. Volub.]	41° 57′
Declination by the armillae [Declin. per Armill.]	7° 53′
The ear of Hydra, by the revolving [quadrant] [Auris hydræ per Volub.]	41° 22′
The bright [star] of the neck, by the Tychonic quadrant [Lucida colli per Q. Tich.]	41° 32⅚′
by the revolving quadrant [per Q. Volub.]	41° 33½′
Declination by the armillae [Declin. per Armill.]	7° 28′
The bright [star] of Hydra [Lucida hydræ], by the Tychonic quadrant [per Q. Tichon.]	27° 11⅓′

602

___603

Reading	Value
The bright [star] in the neck of Hydra, by the revolving quadrant [Lucida in collo Hydræ per Q. Volub.]	38° 4¾′
not exactly enough [non satis exacte]	
Declination by the armillae [Declin. per Armill.]	4° 1¼′

601 "Reading" and "Value" are this edition's heads. *In capite Hydræ* is printed twice, with different values; each is rendered where it stands. The value 41° 32′ 20″ stands alone under 41° 32′ 30″, with no words on its line. Where a star label is printed on one line and the instrument words with the value on the next, the label is given whole on the row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

602 "Reading" and "Value" are this edition's heads. The rows through "by the revolving quadrant", 41° 11′, stand in the left column; the rest in the right, so the entry for the star preceding Hydra runs over the column break. No date is printed at the head of the right column. In the last value the fraction is ⅓: its denominator is read as 3 on a native-resolution crop, open on the left between its bowls. Values printed without unit marks, given as degrees and minutes.

603 the upper part of the page is set in two columns divided by a vertical rule; the English gives the left column first. The lines at the head of the left column carry no date and continue the entries of 5 March begun on the previous page.

604

On 26 March [DIE 26 MARTIJ.]

Reading	Value
The bright [star] of Hydra, by the revolving quadrant [Lucida Hydræ per Q. Vol.]	27° 11¼′
by the new sextant [per Sext. nou.]	27° 11½′
Declination by the armillae [Declin. per Armill.]	6° 53½′

605

On 8 November, A. M. [DIE 8 NOUEMBRIS A. M.]

Reading	Value
The third [star] in the belt of Orion had [a] meridian altitude by the quadrant [Tertia in Baltheo Orionis habuit Altit. Merid. per Q.]	31° 52′
Its declination by the armillae [Declin. eius per Armill.]	2° 14′ south [M.]
The right shoulder of Orion in the meridian [Dexter humer. Orion. in Mer.]	41° 21′
Its declination by the armillae [Declin. eius per Armill.]	7° 15′
with the other pinnule [altero pinn.]	7° 14⅝′

606

After the armillae had been verified [Poſt verificatas Armillas]

Reading	Value
Canis Major in the meridian [Canis maior in Meridiano]	17° 53⅝′
Its declination by the armillae [Decl. eius per Armill.], with one [vno]	16° 11½′
with the other [altero]	16° 12′
The thigh of Canis Major in the meridian [Femur Canis maioris in Mer.]	5° 44¼′
The belly of Canis Major in the meridian [Venter Canis maioris in Mer.]	10° 51′
The declination of the same by the armillae [Declin. eiusdem per Armill.]	23° 14′
That [star] which follows next in Canis Major [Illa quæ proxime ſequitur in Cane maiore]	8° 21¾′
Its declination by the armillae [Declin. eius per Armillas]	25° 44½′
Canis Minor [Canis minor]	40° 18⅝′
Its declination, with both pinnules [Declin. eius, vtroque pinn.]	6° 13⅓′

[604] "Reading" and "Value" are this edition's heads. The label stands alone on its line, the instrument words and the value on the line below; the label is given whole on the row. *non ſatis exacte* stands alone on the line below the value, with no figure of its own. Values printed without unit marks, given as degrees and minutes.

[605] "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes.

[606] "Reading" and "Value" are this edition's heads. The sentence of the first row runs over two lines, the value at the right of the second. In the last value the numerator of the fraction is 5; the denominator does not settle between 6 and 8 on the scan. Values printed without unit marks, given as degrees and minutes.

Reading	Value
At 5^{h} 35^{m} the bright [star] of Hydra passed through the meridian, and had [a] meridian altitude by the revolving [quadrant] [H. 5 35′ tranſiuit Lucida Hydræ per Meridianum, habuitque Alt. Merid. per Volub.]	27° 11′
Its declination by the armillae [Declin. eius per Armillas]	6° 54′ south [M.]
with the other pinnule [alt. pinn.]	6° 54′
Declination by the quadrant [Declin. per Quadrantem]	6° 54½′

607

608

Reading	Value
In the year 1525 at Frombork,[1] where the pole is elevated 54° 22¼′, the meridian altitude of Spica ♍ was, for Copernicus [Anno 1525 Fruenburgi[1] vbi Polus eleuatur Part. 54 M. 22¼ erat Alt. Merid. Spicæ ♍ Copernico]	27° 0′
Therefore the declination of Spica, south [Ergo Declin. Spicæ Auſtr.]	8° 37¾′
Its latitude [Latitudo eius]	1° 59½′ south [M.]
From which comes the longitude, in [Vnde prouenit Longitudo in]	17° 53′ 55″ ♎

In the year 1586, here at Uraniborg, [there] was found [Anno 1586 hic Vraniburgi inuenta eſt]

Reading	Value
The declination of Spica [Declin. Spicæ]	8° 57′ 10″
Latitude south [Latit. Merid.]	1° 59′ 30″
Longitude [Longitudo]	18° 4′ 24″ ♎

609

607 "Reading" and "Value" are this edition's heads. This is the right column; the line *Poſt verificatas Armillas* stands centred at its head, and no date is printed in it. The label "That [star] which follows next …" runs over two lines, the value at the right of the second; the sentence beginning "At 5^{h} 35^{m}" runs over three lines, the value at the right of the third. *H. 5 35′* prints the minutes of time with a prime and is given as 5^{h} 35^{m}. Values printed without unit marks, given as degrees and minutes.

608 below, after a blank space, a second pair of columns divided by a vertical rule; the English gives the left column first.

609 "Reading" and "Value" are this edition's heads. In the left column the first four lines run as one sentence, the value at the right of the fourth; *Vnde prouenit Longitudo* stands on one line and *in* with the value on the next. The two lines "In the year 1586 …" are centred at the head of the right column. *Part.* and *M.* are the page's own marks for the pole's elevation. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Therefore in about 61 years Spica ♍ changed [its] longitude [by] 50′ 29″ [50 Min. 29 Sec.], so that on that account one degree of longitude is completed in nearly 72 and ½ years. By exact instruments.

N. B. But a more exact reckoning has established the declination at 8° 57′ 0″, because the greatest altitude is found this year [to be] 25° 8⅓′ and [that] of the equator 34° 5⅓′. And therefore the longitude of Spica will be, at the end of this year 86, in 18° 4′ ♎, sufficiently precisely; for this reckoning agrees with the place of the lower head of ♊, which, from the observations of the year 82, from ☿ in the evening compared from the Sun to the stars, and in the year 85 from the same [☿] in the morning, in a similar way and the other way round, we have confirmed to be at the end of this year 17° 31′ ♋. On these, therefore, all the rest are founded sufficiently safely.[610]

Places of some fixed [stars] in the year 1586, in the month of October [LOCA ALIQUOT FIXARUM ANNO 1586 MENSE OCTOBRI.]

Of the bright [star] of the head of ♈ [Lucidæ Capitis ♈]

Reading	Value
Right ascension of the bright [star] of ♈ [Aſcenſio R. lucidæ ♈]	26° 3′
Declination north [Declinatio Bor.]	21° 28½′

Hence results its [Hinc fit eius]

Reading	Value
Longitude [Longitudo]	1° 55⅛′ ♉
Latitude [Latitudo]	9° 56½′ north [Sept.]

Aldebaran [Aldeboram]

Reading	Value
Right ascension of the eye of ♉ [Aſcenſio R. Oculi ♉]	63° 6′
Declination north [Declinatio B.]	15° 36½′
Corresponding longitude [Reſp. Longitudo]	4° 2′ ♊
Latitude [Latitudo]	5° 30½′ south [Mer.]

[610] the *N. B.* paragraph is set in italic on the page, the paragraph before it in roman. *25 8* and *34 5⅓* are printed without unit marks and are given as degrees and minutes; *8*ᵍ, *18*ᵍ and *17*ᵍ carry a raised *g* for degrees. In 25° 8⅓′ the denominator of the fraction is read as 3 on a native-resolution crop (a notch open at its lower left). The longitudes printed above for Spica, 17 53 55 ♎ in 1525 and 18 4 24 ♎ in 1586, differ by 10′ 29″, while the paragraph before the *N. B.* states the change as *50 Min. 29 Sec.*; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

611

[1] From codex V [E codice V.]. Compare Copernicus, *De revolutionibus* III (second edition, p. 160); Progymn. p. 220 (*Opera* vol. II p. 222) [Cf. Copern. De revol. III. (Ed. ſec. p. 160) Progymn. p. 220 (Opera T.II p. 222).].

___612

Of Hercules [Herculis], of the southern head of ♊ [Meridionalis capitis ♊]

Reading	Value
Right ascension [Aſc. R.]	109° 59½′
Declination north [Declinatio B.]	28° 56½′
Corresponding longitude [Reſp. Longitudo]	17° 31⅔′ ♋
Latitude [Latitudo]	6° 38⅓′ north [Bor.]

Of the heart of ♌ [Cordis ♌]

Reading	Value
Right ascension [Aſcenſio R.]	146° 35 1/[?]′
Declination north [Declinatio B.]	13° 57½′
Corresponding longitude [Reſp. Longitudo]	24° 7′ ♌
Latitude [Latitudo]	0° 27⅓′ north [Sept.]

Of Spica ♍ [Spicæ ♍]

Reading	Value
Right ascension [Aſcenſio R.]	195° 54′
Declination south [Declinatio Mer.]	8° 57′
Longitude of Spica [Longitudo Spicæ]	18° 5′ 0″ ♎
Latitude [Latitudo]	1° 59⅓′ south [Mer.]

Note. If Spica ♍ had, in the time of Ptolemy, a latitude of 2° 0′ [p.2.0], it must now, because of the change in the obliquity of the zodiac [ſigniferi], have the same [latitude], 2° 6′ [2.6].

Of the bright star of the Vulture [Lucidæ Vulturis]

611 "Reading" and "Value" are this edition's heads. Below the heading the page is set in two columns divided by a vertical rule; the English gives the left column (the bright star of ♈) first, then the right (Aldebaran). *Hinc ſit eius* is centred between the declination and the longitude. The page prints ° and ′ in 26° 3′, 1° 55⅛′ and 4° 2′; the other values are printed without unit marks and are given as degrees and minutes. In the longitude of the bright star of ♈ the numerator of the fraction is 1; the denominator is 8.

612 the upper part of the page is set in two columns divided by a vertical rule; the English gives the left column first. Below them a table runs across the full width of the page.

Reading	Value
Right ascension [Aſcenſio R.]	292° 41′
Declination north [Declinatio B.]	7° 51½′
Corresponding longitude [Reſp. Longitudo]	26° 0′ 0″ ♍
Latitude [Latitudo]	29° 20′ 35″ north [B.]

613

Examination of the longitudes found [Examen inuentarum longitudinum]

Interval	Difference of longitude [Diff.ia longitudinis] (signs, degrees [Sig. G.])
From the Vulture to the bright [star] of ♈ [A Vulture ad lucidam ♈]	3ˢ 5° 55′
From the bright [star] of ♈ to the eye of ♉ [A lucida ♈ ad oculum ♉]	1ˢ 2° 7′
From the eye of ♉ to the southern head of ♊ [Ab oculo ♉ ad mer. cap. ♊]	1ˢ 13° 30′
From the southern head of ♊ to the heart of ♌ [A mer. capite ♊ ad cor ♌]	1ˢ 6° 35′
From the heart of ♌ to Spica ♍ [A corde ♌ ad ſpicam ♍]	1ˢ 23° 58′
From Spica to the Vulture [A ſpica ad Vulturem]	3ˢ 7° 55′
	12ˢ 0° 0′

614

The bright star of the Vulture in October 1586, ♍ 26° 0′. 9 years give 7½′; therefore one must subtract, for the year 77, in which the comet appeared, 7½ — 25° 52½′. According to a repeated consideration, taking account of the year 1585, in which the distance from the Vulture was also being taken, the longitude of the Vulture star in the year 1585 in September would be 25° 58′ 20″. It is gathered that in September of the year 1577 the longitude of the Vulture was in 25° 51′ 40″; therefore in November 25° 51′ 50″. If you set 25° 52′ you will err imperceptibly in each [case]; but if you set

613 "Reading" and "Value" are this edition's heads. The four star names are centred in the column, each over its lines; the note is set in italic between the Spica and Vulture entries, the rest in roman. The page prints ° and ′ in 109° 59½′ and 292° 41′, and °, ′ and ″ in 18° 5′ 0″ and 26° 0′ 0″; the other values are printed without unit marks, given as degrees and minutes where two figures are printed and as degrees, minutes and seconds where three. *p.2.0* (*p.* for degrees) and *2.6* are given as 2° 0′ and 2° 6′. In the right ascension of the heart of ♌ the numerator of the fraction is 1 and the denominator does not settle between 6 and 8 on the scan; in the latitudes of the heart of ♌ and Spica the fraction is ⅓, the denominator read as 3 on a native-resolution crop (its lower bowl open on the left).

614 "Interval" is this edition's head; the page prints no head over the label column. The page sets the difference in three columns, *Sig.* over the first and *G.* over the second, the third without a head; the first row prints ′ after 55, and the third column is given as minutes throughout. A rule is drawn over the value columns above the last row, which carries no words. *mer.* is rendered "southern", after *Meridionalis capitis* ♊ printed in full in the left column.

25° 51′ it will agree better with the first [star] of the wing and will come closest to the correction of the year 85.[615]

In the year 1586 [ANNO 1586.]

Star	Right ascension [Aſcenſio Recta]	Point of culmination [Punctum culm.]	Time [Tempus]
The bright [star] of the head of ♈ [Lucidæ cap. ♈]	26° 3′	28° 3′ ♈	1^h 44^m 11^s
The eye of ♉ [Oculi ♉]	63° 6′	5° 3′ ♊	4^h 12^m 25^s
The heel of the foot of ♊ [Calcis pedis ♊]	89° 30′	29° 33′ ♊	5^h 58^m 2^s
The lower head of ♊ [Inferioris cap. ♊]	109° 59½′	18° 28′ ♋	7^h 20^m 1^s
The heart of ♌ [Cordis ♌]	146° 35′	24° 16′ ♌	9^h 46^m 18^s
Spica ♍ [Spicæ ♍]	195° 54′	17° 15′ ♎	13^h 3^m 36^s
The bright star of the Vulture [Lucidæ Vulturis]	292° 41′	20° 58½′ ♑	19^h 30^m 41^s
The first [star] of the wing of Pegasus [1æ Alæ Pegaſi]	341° 5′	9° 31′ ♓	22^h 44^m 19^s

616

Recapitulation of some meridian altitudes and declinations of fixed [stars], with limitations, for the year 1586 [RECAPITULATIO QUARUNDAM ALTITUDINUM MERIDIANARUM & DECLINATIONUM FIXARUM CUM LIMITATIONIBUS AD ANNUM 1586.]

January [JANUARIJ]	Star	Meridian altitudes [Altitudines Meridianæ]: by the Tychonic quadrant [Per Q. Tich.]	Revolving [quadrant] [Volub.]	New sextant [Sext. nou.]	Old sextant △ [Sext. △ vet.]
Day 15 [Die 15]	The breast of ♉ [Pectus ♉]	45° 21′	45° 21′	45° 21¼′	
	The eye of ♉ [Oculus ♉]	49° 41⅔′	49° 41 1/12′	49° 42′	49° 42′
	The first [star] of Eridanus [Prima Eridani]	28° 24⅔′	28° 25′	28° 25¼′	28° 24⅙′

[615] this note is set in italic below the table in the right column. Values printed as bare figures are given as degrees and minutes where two figures are printed and as degrees, minutes and seconds where three; the lone *7½* after *apparuit* stands without a unit and none is supplied. The dash between 7½ and 25 52½ is the page's.

[616] "Star" is this edition's head; the page prints no head over the star column. The first row prints ° and ′ in the first two value columns and, in the time column, a raised H after the hours, a raised M after the minutes and ″ after the seconds; the other rows are printed without unit marks and are given in the same units. The star names are printed in the genitive.

January [JANUARIJ]	Star	Meridian altitudes [Altitudines Meridianæ]: by the Tychonic quadrant [Per Q. Tich.]	Revolving [quadrant] [Volub.]	New sextant [Sext. nou.]	Old sextant △ [Sext. △ vet.]
	The bright foot of Orion [Lucidus pes Orionis]	25° 21½′	25° 21′	25° 21⅔′	25° 21⅙′
	The left shoulder of Orion [Sinister hum. Orionis]	39° 59½′	40° 0′	40° 1′	40° 0⅙′
	The first [star] of the belt of Orion [Prima balthej Orionis]	33° 24½′	33° 25½′	33° 26′	33° 25′
	The second [star] of the belt of Orion [Secunda balthej Orionis]	32° 33½′	32° 33¼′	32° 34′	32° 33′
	The third [star] of the belt of Orion [Tertia balthej Orionis]	31° 51½′	31° 51⅓′	31° 52′	31° 51′
	The bright shoulder of Orion [Luc. humerus Orionis]	41° 20⅔′	41° 21′	41° 21¾′	41° 21′
Day 16 [Die 16]	The eye of ♉ [Oculus ♉]	49° 41⅚′	49° 41′	49° 42⅓′	49° 42′
	The first [star] of Eridanus [Prima Eridani]	28° 24⅓′	28° 24½′	28° 25½′	28° 25′
	The bright foot of Orion [Lucidus pes Orionis]	25° 21¼′	25° 21¼′	25° 21⅚′	25° 21⅓′
	The left shoulder of Orion [Sinister hum. Orionis]	39° 59¼′	39° 59⅚′	40° 0⅙′	40° 0½′
	The first [star] of the belt of Orion [Prima balthej Orionis]		33° 25⅙′	33° 25½′	33° 26′
	The second [star] of the belt of Orion [Secunda balthej Orionis]	32° 33⅓′	32° 33¼′	32° 34½′	32° 34′
	The third [star] of the belt of Orion [Tertia balthej Orionis]	31° 51½′	31° 51⅔′	31° 52⅓′	31° 51⅓′
	The right shoulder of Orion [Dexter hum. Orionis]	41° 20½′	41° 20¾′	41° 21⅔′	41° 21⅓′
	The foot of Canis Major [Pes Canis maioris]	16° 18′	16° 18¼′	16° 19′	16° 19½′

617

Limitation of the preceding observations, with each of our [observations] considered [LIMITATIO ANTECEDENTIUM OBSERUATIONUM CONSIDERATIS SINGULIS NOSTRIS.]

Star	*Day 15 [Die 15]*	*Day 16 [Die 16]*	*Agreeing, from both [Conuenientes ex vtrisque]*
The breast of ♉ [Pectus ♉]	*45° 21⅙′*		*45° 21⅛′*
Aldebaran [Aldeboran]	*49° 41½′*	*49° 41¾′*	*49° 41 2/8′*
The first [star] of Eridanus [Prima Eridani]	*28° 25′*	*28° 25′*	*28° 25′*
The bright foot of Orion [Lucidus pes Orionis]	*25° 21½′*	*25° 21½′*	*25° 21½′*
The left shoulder of Orion [Sinifter humerus Orionis]	*40° 0′*	*40° 0′*	*40° 0′*
The first [star] of the belt of Orion [Prima balthej Orionis]	*33° 25½′*	*33° 25⅙′*	*33° 25⅓′*
The second [star] of the belt [Secunda balthej]	*32° 33½′*	*32° 33⅔′*	*32° 33′ 35″*
The third [star] of the belt [Tertia balthej]	*31° 51½′*	*31° 51⅔′*	*31° 51′ 35″*
The bright shoulder of Orion [Lucidus humerus Orionis]	*41° 21′*	*41° 20⅚′*	*41° 20′ 55″*

618

Date	Star	Declination by the subterranean armillae [Declinatio per Armillas ſubt.]: with one [Uno]	With the other [Altero]	Mean [Medium]
Day 15 [Die 15]	The breast of ♉ [Pectus ♉]	11° 15⅙′	11° 15¼′	11° 15′ 12½″
	Aldebaran	15° 36′	15° 35¼′	15° 35′ 37½″
	The first [star] of Eridanus [Prima Eridani]	5° 40½′		
	The bright foot of Orion [Lucidus pes Orionis]	8° 44′	8° 43⅚′	8° 43′ 55″
	The left shoulder of Orion [Sinifter humerus Orion.]	5° 54′	5° 54′	5° 54′

[617] "Star" is this edition's head; the page prints no head over the star column. *Altitudines Meridianæ* is printed once, centred over the four instrument columns. The values are printed without unit marks and are given as degrees and minutes. *January* stands at the head of the date column.

[618] "Star" is this edition's head. The values are printed without unit marks; pairs are given as degrees and minutes, triples as degrees, minutes and seconds. The third value for Aldebaran is printed 49 41 2/8. The value agreeing from both days, 49 41 2/8 (that is, 41¼′), stands below both day values, 49 41½ and 49 41¾; the numerator 2 is confirmed on a native-resolution crop, and the value is given as printed, with no correction. For the third [star] of the belt the Day 16 value is printed 31 51⅔; the agreed value from both days, 31° 51′ 35″, is the mean of 51½′ and 51⅔′, and the first table also prints 31° 51⅔′ for this star on Day 16 by the revolving quadrant.

Date	Star	Declination by the subterranean armillae [Declinatio per Armillas ſubt.]: with one [Uno]	With the other [Altero]	Mean [Medium]
	The first [star] of the belt of Orion [Prima balthej Orion.]	0° 40′	0° 40′	0° 40′
	The second [star] of the belt [Secunda balthej]	1° 30½′		
	The third [star] of the belt [Tertia balthej]	2° 13′	2° 12⅝′	2° 12′ 55″
	The bright shoulder of Orion [Luc. humerus Orionis]	7° 15′	7° 14½′	7° 14¾′

619

Date	Star	Declination by the subterranean armillae [Declinatio per Armillas ſubt.]: with one [Uno]	With the other [Altero]	Mean [Medium]
Day 16 [Die 16]	The eye of ♉ [Oculus ♉]	15° 36′	15° 35⅔′	15° 35⅝′
	The first [star] of Eridanus [Prima Eridani]	5° 41′	5° 40½′	5° 40¾′
	The bright foot of Orion [Lucidus pes Orionis]	8° 43¾′	8° 43⅔′	8° 43′ 42½″
	The left shoulder of Orion [Sinister humerus Orion.]	5° 53½′	5° 53′	5° 53¼′
	The first [star] of the belt of Orion [Prima balthej Orion.]	0° 40′	0° 39¾′	0° 39′ 52½″
	The second [star] of the belt [Secunda balthej]	1° 31′	1° 30⅝′	1° 30′ 55″
	The third [star] of the belt [Tertia balthej]	2° 13¾′	2° 13⅙′	2° 13′ 22½″
	The bright shoulder of Orion [Luc. humerus Orionis]	7° 16′	7° 15′	7° 15½′

620

619 "Date" and "Star" are this edition's heads; the page prints no head over either column. *Declinatio per Armillas ſubt.* is printed once, centred over the three value columns. The values are printed without unit marks; pairs are given as degrees and minutes, triples as degrees, minutes and seconds.

620 "Date" and "Star" are this edition's heads. *Declinatio per Armillas ſubt.* and the three column heads are printed again at the top of this page. The values are printed without unit marks; pairs are given as degrees and minutes, triples as degrees, minutes and seconds. For the third [star] of the belt the two declinations are printed 2 13¾ and 2 13⅙, whose mean is 2° 13′ 27½″, while the Mean column prints 2 13 22½ (confirmed on a native-resolution crop); the figures are given as printed, and no correction is made.

Limitation of the declinations by the armillae and by the altitudes [LIMITATIO DECLINATIONUM PER ARMILLAS & PER ALTITUDINES.]

Star		
The breast of ♉ [Pectus ♉]	*11° 15⅕′*	*11° 15⅔′*
Aldebaran [Aldeboran]	*15° 35¾′*	*15° 36⅙′*
The first [star] of Eridanus [Prima Eridani]	*5° 40⅔′*	*5° 40½′*
The bright foot of Orion [Lucidus pes Orionis]	*8° 43⅚′*	*8° 44′*
The left shoulder of Orion [Sinifter humerus Orionis]	*5° 53⅔′*	*5° 54½′*
The first [star] of the belt [Prima balthej]	*0° 39′ 55″*	*0° 40⅙′*
The second [star] of the belt [Secunda balthej]	*1° 30⅚′*	*1° 31′ 55″*
The third [star] of the belt [Tertia balthej]	*2° 13⅙′*	
The bright shoulder of Orion [Lucidus humerus Orionis]	*7° 15⅙′*	

621

Observations of the Year 1587 [OBSERUATIONES ANNI 1587.]

Observations of the Sun [OBSERUATIONES SOLIS.][622]

On 6 January [DIE 6 JANUARIJ.]

Reading	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.,], old [vet.]	13° 8½′	
with the new [nouo]	13° 8′	
by the new sextant [per Sext. nouum]	13° 8⅓′	
by the revolving quadrant [per Q. Volub.]	13° 6¼′	This [was] not exact enough, for the roof of the armillae somewhat obstructed the shadow of ☉ [Hæc non ſatis exacta, nam tectum Armillarum ☉ vmbram non nihil impediuit.]
Declination of ☉ by the subterranean armillae [Declin. ☉ per Armillas ſubterr.]	20° 58½′	
	20° 58′	

[621] "Star" is this edition's head; the page prints no heads over any column of this table. The values are printed without unit marks; pairs are given as degrees and minutes, triples as degrees, minutes and seconds.

[622] below the two headings the page is set in two columns divided by a vertical rule; the English gives the left column first.

623

On 8 January [DIE 8 JANUARIJ.]

Reading	Value Remark
Meridian altitude of ⊙ [Alt. ⊙ Mer.] by the revolving quadrant [per Q. Volub.]	13° 29¾′doubtful [dubia]
by the Tychonic [quadrant] [per Tych.]	13° 31⅙′the shadow was not precise (for both) [vmbra non fuit exquiſita]
	13° 31⅚′
by the new sextant △ [perSext.△nou.]	13° 31½′
by the lesser rulers [per Regulas min.], reading 12383, corresponding to [reſp.]	13° 30′
Declination of ⊙ by the greater armillae [Decl. ⊙ per Armillas mai.]	20° 34¾′
	20° 35⅚′

624

It was moderately clear.

On 11 January[1] [DIE 11 JANUARIJ[1].]

[At] 8^h 6⅙^m ⊙ was seen wholly risen.

At noon the clock was going 4^m 7^s faster than it should, and this error had befallen it in the space of two days from noon of the ninth day (but the Sun was seen through small chinks [per rimulas], for it could not shine out), but at the very moment the index was set at 12^h 0^m 0^s.[625]

On 14 January [DIE 14 JANUARIJ.]

[623]"Reading", "Value" and "Remark" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The remark begins on the value line of the revolving quadrant and runs over the two lines below it. The declination label runs over two lines, with a value at the right of each; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

[624]"Reading", "Value" and "Remark" are this edition's heads. *Alt. ⊙ Mer.* stands alone on its line; it is given with the first instrument line. A brace joins the two values of the Tychonic [quadrant] to the remark, which runs over three lines. The label of the lesser rulers runs over two lines, *reſp.* and the value at the right of the second; the declination label is divided *Ar- / millas* over two lines, with a value at the right of each; each is given whole on its first row. Values printed without unit marks, given as degrees and minutes.

[625]the page prints the time *H. 8 M. 6⅙*, the clock error *4′ 7″* with a single and a double prime, and the setting *12ᴴ 0′ 0″* with a raised H and a single and a double prime; they are given as hours and minutes, and as minutes and seconds, of time. The paragraph is set in italic up to *illuceſcere)*; from *ſed in ipſo momento* it is roman.

Time	Reading	Value
	A little before noon, declination of ⊙ by the greater subterranean armillae [Paulo ante meridiem declin. ⊙ per Armillas maiores ſubterr.], with one pinnule [vno pinnacidio]	*19° 15½′*
	with the other [altero]	*19° 15⅓′*
	Meridian altitude of ⊙ by the revolving [quadrant] [Alt. ⊙ Merid. per Volub.]	*14° 52⅓′*
	by the Tychonic [quadrant] [per Tychonicum]	*14° 50⅔′*
	with the other pinnule [alt. pinn.]	*14° 50⅚′*
5m P. M. [M.5 P.M.]	*repeated declination [repetita decl.], with one [vno]*	*19° 15¼′*
	with the other pinnule [altero pinn.]	*19° 15¼′*
12h 8m 35s	*⊙ in azimuth [in Azim.]*	*20° 0′,*
	altitude [Alt.]	*14° 51′*

626

On 15 January [DIE 15 JANUARIJ.]

Reading	Value
Altitude of ⊙ in the meridian by the revolving quadrant [Alt. ⊙ in Mer. per Q. Volub.]	*15° 6⅓′*
Declination of ⊙ by the greater armillae [Decl. ⊙ per Armill. mai.]	*19° 0⅔′*
with the other pinnule [alt. pin.]	*19° 0¾′*
Declination of ⊙ repeated [Decl. ⊙ repetita], with one [vno]	*19° 0½′*
with the other [alt.]	*19° 0⅔′*
Altitude of ⊙ by the Tychonic quadrant [Alt. ⊙ per Q. Tych.], old [vet.]	*15° 5′*
with the new [nouo]	*15° 5¼′*

At the following noon the clock advanced faster than it should by 1m 57s, nearly two minutes, which are to be taken away proportionally from the earlier times.

Time	Reading	Value
2h 13m	*Apparent declination of the Sun [Declin. Solis viſa]*	*18° 58¼′*
	with the other [altero]	*18° 57′*

Set [it] at 18° 58¾′ and compare it proportionally with the meridian [declination].

Time	Reading	Value
2h 30½m	*Apparent declination of the Sun [Decl. Solis apparens], with one pinnule [vno pinnac.]*	*18° 56′*

626 "Time", "Reading" and "Value" are this edition's heads. The declination label runs over two lines, *vno pinnacidio* and the value on the third line below it; it is given whole on the first row. The last two rows stand at the head of the right column, with no date line, and follow the left column's last entry; the time is printed *H. 12 8′ 35″*, with single and double primes for the minutes and seconds of time, and is given as hours, minutes and seconds. *M.5 P.M.* is given as 5m P. M. Values printed without unit marks, given as degrees and minutes.

Time	Reading	Value
	with the other [altero]	*18° 56⅙′*
2h 45m	*with one pinnule [vno pinn.]*	*18° 55¼′*
	The altitude of the Sun was then [Fuit tunc Alt. Solis]	*7° 45′*
2h 49m	*Repeated declination of the Sun [Repetita declin. Solis]*	*18° 55⅙′*

Afterwards the declination of the Sun was observed, in order to learn its refraction in addition, in this way:

Time	Reading	Value	Altitude of ⊙ [Alt.⊙]
3h 35m	*Declination of ⊙ [Declin. ⊙]*	*18° 48¼′*	*2° 45′*
3h 38m	*The same declination [Eadem declin.]*	*18° 47½′*	*2° 30′*

627

On 16 January [DIE 16 JANUARIJ.]

Reading	Value
A little before noon, declination of ⊙ [Paulo ante Merid. Declin. ⊙], with one [vno]	*18° 46′*
with the other [altero]	*18° 46½′*
Meridian altitude of ⊙ by the revolving [quadrant] [Alt. ⊙ Merid. per Volub.]	*15° 21½′*
by the Tychonic quadrant [per Q. Tychon.], old [vet.]	*15° 20′*
new [nou.]	*15° 19⅚′*

N. B. At this noon the clock, from the preceding [noon], was moving only 35s faster than it should over 24 hours. Hence the times earlier assigned from the preceding noon are in sufficiently good order.[628]

[1] You will find the declinations of the Sun observed on day 9 below, among the observations of Venus [Declinationes Solis die 9 obſervatas infra inter obſervationes Veneris invenies.].

[627] "Time", "Reading" and "Value" are this edition's heads; *Alt.*⊙ is printed in smaller type over the last column, at the end of the line *hoc modo*. The label *Alt. ⊙ per Q. Tych.* runs over two lines, *vet.* and *nouo* with a value at the right of each; the label *Repetita declin. Solis* runs over two lines, the value at the right of the second; the label *Decl. Solis apparens* stands on the line of *H. 2 30½*, *vno pinnac.* and its value on the line below; each is given whole on its first row. The clock correction is printed *M. 1 57″*, the seconds with a double prime, and is given as minutes and seconds of time. *H. 2 30½* and the bare times *2 45*, *2 49*, *3 38* are given as hours and minutes. Values printed without unit marks, given as degrees and minutes.

[628] "Reading" and "Value" are this edition's heads. The declination label stands alone on its line, *vno* and *altero* with their values at the right of the two lines below; it is given whole on the first row. *35″* is printed with a double prime and is given as seconds of time. Values printed without unit marks, given as degrees and minutes.

___[629]

Reading	Value
Declination of ⊙ repeated a little P. M. by the armillae[1] [Repetita paulo P. M. decl. ⊙ per Armillas[1]], with one [vno]	*18° 46′*
with the other [alt.]	*18° 46⅓′*

630

On 21 January [DIE 21 JANUARIJ.]

Reading	Value
⊙ at noon, altitude by the revolving [quadrant] [⊙ in Meridie Alt. per Volub.]	*16° 40 1/12′*
by the Tychonic [quadrant] [per Tychon.]	*16° 40′*
by the greatest quadrant [per Q. Max.]	*16° 39½′*
By the rulers [Per Regulas], reading 11943, corresponding to [resp.]	16° 40′
Declination by the greater armillae [Declin. per Armill. maiores], with one [vno]	*17° 26′*
with the other [alt.]	*17° 25½′*

It was not clear enough, but rather sparse clouds were interposed before the Sun.[631]

On 24 January [DIE 24 JANUARIJ.]

Reading	Value
Meridian altitude of ⊙ by the revolving quadrant, rectified, with the round pinnule [Altitudo ⊙ Meridiana perQ. Volub. rectificatum cum rotundo pinnacidio]	*17° 30⅔′*
by the Tychonic quadrant [per Q. Tychon.], with one pinnule [vno pin.]	17° 30′ 55″
by the new sextant [per Sext. nouum]	17° 30′ 45″
by the greatest quadrant [per Q. Max.]	17° 31′
by the lesser rulers [per Regulas min.], reading 11827, corresponding to [resp.]	17° 30′
Declination of ⊙ at noon by the armillae [Declin. ⊙ in meridie per Armill.], with one [vno]	*16° 35′*
with the other [altero]	*16° 34⅚′*

[629] this page is set in two columns divided by a vertical rule; the English gives the left column first. The lines at the head of the left column carry no date and continue the entries of 16 January begun on the previous page.

[630] "Reading" and "Value" are this edition's heads. The label runs over three lines, *vno* and its value at the right of the first, *alt.* and its value at the right of the third; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

[631] "Reading" and "Value" are this edition's heads. The rulers line is set in roman, the rest of the entry in italic. The declination label runs over two lines, *vno* and *alt.* each with a value at the right; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

632

On 26 January [DIE 26 JANUARIJ.]

Time	Reading	Value
10^{h} 16^{m} A. M.	*Declination of ⊙ by the armillae [Decl. ⊙ per Armill.], with one [vno]*	*16° 0′*
	with the other [alt.]	*16° 0¼′*

At noon the clock was going 10^{m} 50^{s} [10′ 50′] slower than it should, an error that had befallen it in the space of two days.

Reading	Value
Meridian altitude of ⊙ by the revolving quadrant [Alt. ⊙ Merid. per Q. Volub.]	18° 7′
by the Tychonic quadrant [per Q. Tychon.], with the old pinnule [vet pinn.]	18° 6½′
Declination by the armillae, south[1] [Declin. per Armill. Mer.[1]], with one pinnule [vno pinn.]	15° 59½′
with the other [altero]	15° 59⅔′

At the immediately following noon the clock was going only 0^{m} 15^{s} [0^{M} 15″ ſcrupulis ſecundis] faster, the transit of ⊙ through the meridian being observed through the pinnules of the revolving quadrant by looking at the middle of the solar body.[633]

On 28 January [DIE 28 JANUARIJ.]

Reading	Value
Meridian altitude of the Sun by the revolving [quadrant] [Alt. Solis Merid. per Volub.]	*18° 43′ 20″*
by the mural [quadrant] [per Muralem,], with one [vno]	*18° 43′ 10″*
with the other [altero]	*18° 43′ 15″*

Therefore set [it] at 18° 43′ 15″, most exactly.

[632] "Reading" and "Value" are this edition's heads. The first label runs over two lines and its value stands alone at the right of a third; the label of the lesser rulers runs over two lines, *reſp.* and the value at the right of the second; the declination label runs over two lines, *vno* and *altero* each with a value at the right; each is given whole on its first row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

[633] "Time", "Reading" and "Value" are this edition's heads. The time is printed *10^{H} 16^{M}* with a raised H and M. The page prints the clock error *10′ 50′*, a single prime after each figure; the second figure is given here as seconds of time, following the order of the pair (on 11 January the page prints *4′ 7″*). The declination labels run over two lines, with a value at the right of each; each is given whole on its first row. The whole entry after the date line is set in roman except the first declination. Values printed without unit marks, given as degrees and minutes.

Time	Reading	Value
12h 2m	*Declination of ⊙ by the armillae [Decl. ⊙ per Armill.], with one pinnule [vno pinn.]*	*15° 22¾′*
	with the other [altero]	*15° 22½′*

634

On 30 January [DIE 30 JANUARIJ.]

Time	Reading	Value
11h 40m	*Declination of ⊙ [Declin. ⊙], with one pinnule [vno pinn.]*	*14° 45⅙′*
11h 41m	*with the other [altero]*	*14° 45¼′*

Note. At the following noon the clock was moving slower than it should by 1m 5s [vno minuto & 5 fecundis].

Reading	Value
Altitude of ⊙ by the revolving [quadrant] [Alt. ⊙ per Volub.]	*19° 21′ 20″*
by the Tychonic [quadrant] [per Tychon.], with one [vno]	*19° 21⅕′*
by the new sextant [per Sext. nou.]	*19° 21⅚′*
Declination of ⊙ [Declin. ⊙], with one pinnule [vno pinnac.]	*14° 45′*
with the other pinnule [alt. pinnac.]	*14° 45′*

635

On 6 February [DIE 6 FEBRUARIJ.]

Reading	Value
Meridian altitude of ⊙ by the revolving [quadrant] [Alt. ⊙ Merid. per Volub.]	21° 40½′
by the Tychonic [quadrant] [per Tychon.]	21° 39¾′
Declination by the subterranean armillae [Declin. per Armill. fubt.]	12° 24¼′
with the other [alt.]	12° 24⅓′

634 "Time", "Reading" and "Value" are this edition's heads. The last two rows stand at the head of the right column, with no date line, and follow the left column's last line, *Pone itaque …*; they are given here under 28 January. Their label, *12H 2M Decl. ⊙ / per Armill.*, runs over two lines, *vno pinn.* and *altero* each with a value at the right; it is given whole on the first row. *12H 2M* is printed with a raised H and M. In *exactißime* the page sets roman within the italic line. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

635 "Time", "Reading" and "Value" are this edition's heads. The times are printed *H. 11 M. 40* and a bare *11 41*, given as hours and minutes. The label *Declin. ⊙* stands on the line of *H. 11 M. 40* with no value, *vno pinn.* and the value on the line below; it is given whole on the first row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

636

N.B. It was not clear enough.

On 17 February [DIE 17 FEBRUARIJ.]

Reading	Value
Meridian altitude of ⊙ by the Tychonic [quadrant] [Alt. ⊙ merid. per Tych.], with the new [nouo]	25° 38½′
old [vet.]	25° 39⅙′
by the revolving quadrant [per Q. Volub.]	25° 39¼′

637

On 18 February [DIE 18 FEBRUARIJ.]

Reading	Value
Meridian altitude of ⊙ by the revolving [quadrant] [Alt. ⊙ merid. per Volub.]	26° 1½′
by the Tychonic [quadrant] [per Tychon.], old [vet.]	26° 1⅙′
with the new [nouo]	26° 2′

638

At the preceding noon the clock was moving 2^{m} [$2^{bu^{s}}$ minutis] faster than it should.

On 21 February [DIE 21 FEBRUARIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ merid.] by the Tychonic quadrant [per Q. Tich.], with the new [nouo]	27° 10′
by the revolving quadrant [per Q. Volub.]	27° 10′
by the greatest quadrant [per Q. Max.]	27° 9⅓′
by the rulers [per Regulas], reading 10424, corresponding to [reſp.]	27° 10′
Declination by the armillae [Declin. per Armillas]	6° 55⅚′
with the other [alt.]	6° 55¾′

639

636 "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes.

637 "Reading" and "Value" are this edition's heads. The label runs over two lines, *nouo* and its value at the right of the first, *vet.* and its value at the right of the second; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

638 "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes.

639 "Reading" and "Value" are this edition's heads. *Alt. ⊙ merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

On 22 February [DIE 22 FEBRUARIJ.]

The clock's error at noon was imperceptible. For it was going only 20^{s} [20 ſcrupulis ſecundis] slower than it should.

[1] You will find the observations of the declination of the Sun near setting below, among the observations of Venus [Obſervationes declinationis Solis prope occaſum infra inter obſervationes Veneris invenies.].

___[640]

Reading	Value
Meridian altitude of ⊙ by the revolving quadrant [Alt. ⊙ Mer. per Q. Volub.]	27° 33′
by the Tychonic quadrant [per Q. Tychon.], old [vet.]	27° 33¼′
with the new [nouo]	27° 33⅓′
Declination of ⊙ by the armillae, south [Declin. ⊙ per Arm. Au.]	6° 32¼′
	6° 32⅓′

641

On 24 February [DIE 24 FEBRUARIJ.]

At noon the clock was going $9½^{m}$ [9½ Minutis] slower than it should, an error that had crept up on it from two days [before], namely from noon of day 22.

Reading	Value
At noon, altitude of ⊙ by the revolving [quadrant] [In Meridie Alt. ⊙ per Volub.]	*28° 19½′*
by the Tychonic [quadrant] [per Tychon.], old [vet.]	28° 19½′
with the new [nouo]	28° 19⅖′
Declination by the lesser armillae [Declin. per Armill. minores], with one pinnule [vno pin.]	*5° 46½′*
with the other pinnule [alt. pin.]	*5° 46⅓′*

642

On 25 February [DIE 25 FEBRUARIJ.]

Reading	Value
Meridian altitude of ⊙ by the revolving quadrant [Alt. ⊙ Merid. per Q. Volub.]	28° 42½′
by the Tychonic [quadrant] [per Tychon.], with the new [nouo]	28° 42¾′

[640] this page is set in two columns divided by a vertical rule; the English gives the left column first. The lines at the head of the left column carry no date line; they follow the entry of 22 February at the end of the previous page and are given under it, the page stating no date for them.

[641] "Reading" and "Value" are this edition's heads. The second declination value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

[642] "Reading" and "Value" are this edition's heads. The Tychonic lines are set in roman, the rest of the entry in italic. The declination label runs over two lines and is joined by a brace to *vno pin.* and *alt. pin.*, each with a value at the right; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Reading	Value
old [vet.]	28° 43′
Declination of ⊙ by the armillae [Declin. ⊙ per Armill.]	5° 23¼′

643

At noon the clock was moving 8½^{m} [8½ Minutis] slower than it should, an error that had grown from the nearest noon.

On 26 February [DIE 26 FEBRUARIJ.]

Morning. At 6^{h} 37½^{m} [H. 6 M. 37½] ⊙ was seen risen.

At noon the clock was going 15½^{m} [15½ Minutis] faster than it should; this error belongs to it from the nearest noon.

Reading	Value
Meridian altitude of ⊙ by the revolving quadrant [Alt. ⊙ Mer. per Q. Volub.]	29° 5¾′
by the Tychonic quadrant [per Q. Tychon.], with the new [nouo]	29° 5⅝′
old [vet.]	29° 6′
by the lesser rulers [per Reg. min.], reading 10132, corresponding to [reſp.]	29° 7′
Declination of ⊙ by the armillae, south [Decl. ⊙ per Armill. M.], with one [vno]	4° 59¼′
with the other [alt.]	4° 59⅙′

644

On 28 February [DIE 28 FEBRUARIJ.]

Reading	Value
Meridian altitude of ⊙ by the revolving quadrant [Alt. ⊙ Merid. per Q. Volub.]	*29° 52⅓′*
or [vel]	*⅖*
by the Tychonic quadrant [per Q. Tychon.], with the new [nou.]	29° 52′ 35″
old [vet.]	29° 53′
by the greatest quadrant [per Q. Max.]	29° 53½′
Declination by the subterranean armillae [Declin. per Armill. ſubterr.], with one [vno]	*4° 13⅓′*
with the other [alt.]	*4° 13½′*

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643 "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes.

644 "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes. *M.* after *Armill.* is given as "south"; it may also abbreviate *Maiores* ("greater"), as this page prints *Armill. minores* and p. 146 *Armill. Maior*.

645 "Reading" and "Value" are this edition's heads. *vel* ⅖ stands alone on its own line at the right, the fraction under the fraction of 52⅓; it offers ⅖ in place of that fraction. The Tychonic and greatest-quadrant lines are set in roman, the rest of the entry in italic. The declination label runs over two lines, *vno* and *alt.* each with a value at the right; it is given whole on the first row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

On 3 March [DIE 3 MARTIJ.]

Event	Time
The Sun began to rise [Sol incepit oriri]	6^h $11\frac{1}{4}^m$
The Sun's middle was rising [Sol medius oriebatur]	6^h $14\frac{1}{3}^m$
The Sun [was] wholly risen [Sol totus ortus]	6^h $16\frac{5}{6}^m$

646

The following [observations] on the Sun, for investigating its refraction.

Note. All these azimuths are counted from the north through the west toward the south [verſus Meridiem], or from the south toward the east.

Time [Tempus]	*Pinnule*	*Declination of ⊙, south [Declin. ⊙ Merid.]*	*Altitude of ⊙ [Altit. ⊙]*	*Azimuth of ⊙ [Azim. ⊙]*
6^h 18^m		2° 39½′	0° 15′	
6^h 20^m		2° 42′	0° 40′	
6^h 22^m 20^s	*with one pinnule [vno pin.]*	2° 46′	0° 48′	83° 30′
6^h 25^m 15^s		2° 48½′	1° 14′	82° 51′
6^h 27^m 35^s		2° 50′	1° 30½′	82° 23′
6^h 30^m 0^s		2° 52¼′	1° 49′	81° 56′

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From these following [observations] the refraction of ⊙ near the horizon can be gathered, when [it] is not far from the equinox.

Time	Pinnule	Declination	Altitude	Azimuth	Remark
6^h 47^m 45^s		2° 59′	4° 3′	78° 15′	
6^h 49^m 30^s	*with one pinnule [vno pin.]*	2° 59½′	4° 17′	77° 59′	
6^h 50^m 10^s	*with one pinnule [vno pin.]*	2° 59⅔′	4° 27′	77° 44′	
6^h 51^m 10^s	*with one pinnule [vno pin.]*	2° 59¾′	4° 36′	77° 31½′	

646 "Event" and "Time" are this edition's heads. The first time is printed 6^H $11\frac{1}{4}^M$ with a raised H and M; the next two are printed as bare pairs, given as hours and minutes.

647 "Pinnule" is this edition's head; the other four heads are printed, in italic. These lines stand at the head of the right column, after the left column's entry of 3 March, and are given under it. The first time is printed $6^H 18^M$ with a raised H and M; the rest as bare pairs or triples, given as hours, minutes and seconds. The value pairs are printed without unit marks and given as degrees and minutes.

Time	Pinnule	Declination	Altitude	Azimuth	Remark
$6^h\ 52^m$	☉ with one pinnule [vno pin.]	2° 59¾′	4° 45′	77° 17′	
$6^h\ 54^m$	☉ with one pinnule [vno pin.]	3° 0′	5° 2′	76° 49′	
$6^h\ 58^m$	☉ with one pinnule [vno pin.]	3° 0½′	5° 31½′	76° 2′	
$6^h\ 59^m$	☉ with one pinnule [vno pin.]	3° 0⅖′	5° 39′	75° 51′	
$7^h\ 2^m$	☉ with the other pinnule* [alt. pin.*]	3° 0⅙′			
$7^h\ 3^m$	☉ with the same* [eodem*]	3° 0⅙′			
$7^h\ 5^m$	☉ with one pinnule [vno pin.]	3° 1′	6° 29⅔′	74° 30′	
$7^h\ 7^m$	☉ with one pinnule [vno pin.]	3° 1½′	6° 42′	74° 10½′	
$7^h\ 8^m$	☉ with one pinnule [vno pin.]	3° 1½′	6° 50½′	73° 57′	
$7^h\ 9^m$	☉ with one pinnule [vno pin.]	3° 1¾′	7° 0′	73° 47′	
$7^h\ 11^m$	☉ with the other pinnule* [alt. pin.*]	3° 1¼′			Note. These later [ones] were less clear, but nevertheless are moderate. [Nota. Hæ posteriores fuerunt minus claræ, sed tamen sunt mediocres.]
$7^h\ 12^m$	☉ with the same other* [eod. alt.*]	3° 1¾′			
$7^h\ 14^m$	☉ with the same other* [eod. alt.*]	3° 1¾′			
$7^h\ 15^m$	☉ with one [vno], again [rursus]	3° 2½′	7° 46′	72° 28′	
$7^h\ 16^m$	☉ with one [vno], again [rursus]	3° 2½′	7° 54′	72° 17′	
$7^h\ 17^m$	☉ with one [vno], again [rursus]	3° 3′	8° 0′	72° 7′	
$7^h\ 19^m$	☉ with the other pinnule* [alt. pin.*]	3° 2¼′			
$7^h\ 20^m$	☉ with the other pinnule* [alt. pin.*]	3° 2½′			

Time	Pinnule	Declination	Altitude	Azimuth	Remark
$7^h\ 20^m\ 30^s$	*with the other pinnule* [alt. pin.*]*	*3° 2½′*	*8° 32′*		
$7^h\ 21^m\ 0^s$					

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Note. Where such obelisks [stand], the declination of the Sun was observed with the other pinnule, by inverting the armilla, so that the divided brass [Auricalcum diuiſum] was turned lower*

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in the others that [brass] was upper, and they are good observations, the axis of the instrument having been corrected. At the following noon the clock was moving only $3¼^m$ [3¼ M.] faster than it should, and this error had crept into it three days before, namely from 28 February.

Reading	Value
Meridian altitude of the Sun by the revolving quadrant [Alt. Solis mer. per Q. Volub.]	*31° 3½′*
or with [vel cum]	⅖
by the Tychonic quadrant [per Q. Tychon.]	*31° 3⅔′*
Set the true altitude of ⊙ at [Pone alt. ⊙ veram]	*31° 3½′*
Declination by the greater armillae [Declin. per Armill. Maior], with one [vno]	*3° 3′*
with the other [altero]	*3° 2⅔′*

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[648] The page prints no heads over these rows; the English heads repeat, as this edition's, those printed over the 6^H18^M rows ("Pinnule" and "Remark" are this edition's only). The note *Hæ poſteriores …* is set in smaller italic beside the rows $7^h\ 11^m\ 20^s$ to $7^h\ 14^m\ 0^s$, in the altitude and azimuth space, and runs two lines below them; the page marks no brace, and it is given on the first of those rows. In the rows $7^h\ 15^m\ 35^s$ to $7^h\ 17^m\ 20^s$, *vno* stands on the time line and *rurſus* with the values on the line below; each pair is given as one row. The last row is a time with nothing after it. The asterisks are printed marks, explained in the note that follows. Times printed as bare triples are given as hours, minutes and seconds; the value pairs, printed without unit marks, as degrees and minutes.

[649] this page is set in two columns divided by a vertical rule; the English gives the left column first. The left column opens with *retur*, the ending of *verte-*, the last word of the previous page, where the verb is given; the lines that follow carry no date line and are given under 3 March, the page stating no date for them.

[650] "Reading" and "Value" are this edition's heads. *vel cum* stands at the left of its own line with ⅖ alone at the right, under the fraction of 3½; it offers ⅖ in place of that fraction. The declination label stands alone on its line, *vno* and *altero* each with a value at the right on the two lines below; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Then, before sunset, ☉ was observed for learning its refraction, in this manner, which follows. These azimuths, however, are counted from the south toward the west.

Time [Tempus], H M S	Pinnule	Declination of ☉, south [Decl. ☉ auſt.]	Azimuth [Azim.]	Altitude of ☉ [Alt. ☉]	Remark
4^h $31\frac{1}{2}^m$	with one pinnule [vno pin.]	2° 55¼′	69° 13′	10° 13½′	
4^h 41^m 55^s	with one pinnule [vno pin.]	2° 55′	71° 27′	8° 52½′	
4^h 45^m 30^s	with one pinnule [vno pin.]	2° 54¾′	72° 12′	8° 24⅓′	
4^h 49^m 0^s	with the other pinnule* [alt. pin.*]	2° 55′			
4^h $51\frac{1}{2}^m$	with the former pinnule [priori pin.]	2° 54½′	73° 28′	7° 37¼′	
4^h 56^m 0^s	with the former pinnule [priori pin.]	2° 54′	74° 13′	7° 2¾′	
4^h $59\frac{1}{2}^m$		2° 53½′	75° 12′	6° 33′	
5^h $7\frac{1}{2}^m$		2° 52¼′	76° 50′	5° 30½′	
Immediately after [Statim poſt]	with the other pinnule* [alt. pin*]	2° 52⅙′			
5^h $13\frac{1}{6}^m$	*with the former pinnule [priori pin.]*	*2° 51½′*	*77° 57′*	*4° 47′*	
5^h 16^m	*with the former pinnule [prior. pin.]*	*2° 50¼′*	*78° 32′*	*4° 26′*	
5^h $20\frac{1}{2}^m$	*with the former pinnule [prior. pin.]*	*2° 49¼′*	*79° 33′*	*3° 48′*	
5^h $22\frac{2}{3}^m$	*with the former pinnule [prior. pin.]*	*2° 48½′*	*79° 57′*	*3° 31⅔′*	
5^h 27^m	*with the former [priori]*	*2° 47′*	*80° 50′*	*2° 59′*	
5^h $28\frac{1}{2}^m$	*with the former [priori]*	*2° 46½′*	*81° 12′*	*2° 45′*	
5^h $30\frac{2}{3}^m$	*with the former [priori]*	*2° 45¼′*	*81° 37′*	*2° 30′*	
5^h $32\frac{2}{3}^m$	*with the former [priori]*	*2° 44¼′*	*82° 2′*	*2° 15′*	
5^h $34\frac{1}{2}^m$	*with the former [priori]*	*2° 43½′*	*82° 26′*	*2° 0′*	
5^h $40\frac{2}{3}^m$	*with the former [priori]*	*2° 39′*	*83° 45′*	*1° 15′*	
5^h 42^m 37^s	*with the former [priori]*	*2° 37′*	*84° 5′*	*1° 0′*	

Time [Tempus], H M S	Pinnule	Declination of ⊙, south [Decl. ⊙ auſt.]	Azimuth [Azim.]	Altitude of ⊙ [Alt. ⊙]	Remark
5h 44m 42s		*2° 34½′*	*84° 32′*	*0° 45′*	
5h 46m 47s		*2° 33′*	*84° 57′*	*0° 30′*	
5h 48m 34s		*2° 32′*	*85° 20′*	*0° 20′*	
5h 49m 20s		*2° 30½′*	*85° 31′*	*0° 15′*	
5h 50m 25s			*85° 44′*	*0° 10′*	
5h 49m 0s					*The limb of ⊙ began to set [Occidere ⊙ limbus incepit.]*
5h 51m 25s					*The middle of ⊙ began to set [Medium ⊙ occidere incepit.]*
5h 53m 15s					*The whole limb of ⊙ set [Totus limbus ⊙ occidit.]*

651

On 4 March [DIE 4 MARTIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the revolving quadrant [per Q. Volub.]	31° 26½′
by the Tychonic quadrant [per Q. Tychon.], with the new [nouo]	31° 26⅚′
with the old [veteri]	31° 27′
by the greatest quadrant [per Q. Max.]	31° 26¼′
Declination by the armillae [Decl. per Armillas], with one [vno]	2° 38½′
with the other [alt.]	2° 38⅔′

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At noon the clock was moving 14½m [14½ M.] faster than it should, and that from the preceding noon, through I do not know what error.

On 9 March [DIE 9 MARTIJ.]

[It] was moderately clear, *but a north wind blew most strongly the whole day.*

At noon the clock was going 12m [12 Minutis] slower than it should, but for some days it was not verified.

651 "Pinnule" and "Remark" are this edition's heads; the other four are printed, in smaller roman type, *Tempus* with *H M S* below it. The rows down to *Statim poſt* are set in roman, those from 5h 13⅙m in italic. *Statim poſt* stands alone on its line in the time position, *alt. pin** and the value on the line below; they are given as one row. Times printed with a fraction of a minute carry no seconds and are given as hours and minutes; bare triples as hours, minutes and seconds. The time 5h 49m 0s follows 5h 50m 25s, as printed. In the last three rows a sentence stands in the place of the values. The value pairs are printed without unit marks and given as degrees and minutes.

652 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the revolving quadrant [per Q. Volub.]	33° 25½′
by the Tychonic quadrant [per Q. Tychon.], old [vet.]	33° 25′
with the new [nouo]	33° 24⅚′
Declination of ⊙ by the armillae [Declin. ⊙ per Armillas]	0° 40⅙′
	0° 40½′

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On 10 March [DIE 10 MARTIJ.]
[It] was very clear and calm.

Time	Reading	Value
	Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tychon.], with the new [nouo]	33° 48′ 50″
	with the old [veteri]	33° 48′ 55″
	by the revolving quadrant [per Q. Volub.]	33° 48½′ or [vel] ⅖
	by the new sextant [per Sext. nouum]	33° 48′ 20″
	by the greatest quadrant [per Q. Max.]	33° 48¼′
	by the lesser rulers [per Regulas minoris], reading 9423½, corresponding to [reſp.]	33° 47′
$11^h\ 59^m$ [H. 11 59′]	Declination of ⊙ by the subterranean armillae [Decl. ⊙ per Arm. ſubter.], with one [vno]	0° 16¾′
$12^h\ 1^m$	with the other [alt.]	0° 17′
$12^h\ 2^m$	The altitude was [Fuit alt.], by the revolving [quadrant] [per Volub.]	33° 48⅔′
$12^h\ 3^m$	Declination repeated [Repetita decl.], with one [vno]	0° 17′
	with the other [altero]	0° 16⅚′

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Time	Azimuth of ⊙, west [Azim. ⊙ occ.]	Altitude by the revolving quadrant [Alt. per Q. Volub.]
$12^h\ 6^m\ 40^s$	1° 59′	33° 48′
$12^h\ 8^m\ 10^s$	2° 24½′	33° 47½′

653 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The second declination value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

654 "Time", "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The rulers label runs over two lines, *reſp.* and the value at the right of the second. The declination label *Decl. ⊙ per / Arm. ſubter.* runs over two lines, each line with its own time at the left (*H. 11 59′*, printed with a raised mark like a prime after 59, and *12 1*) and *vno / alt.* with a value at the right; it is given whole on the first row. *Fuit alt.* stands on the 12 2 line, *per Volub.* and the value on the line below. Times are given as hours and minutes. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Time	Azimuth of ⊙, west [Azim. ⊙ occ.]	Altitude by the revolving quadrant [Alt. per Q. Volub.]
$12^h\ 9^m\ 25^s$	2° 48′	33° 47′
$12^h\ 10^m\ 20^s$	3° 6½′	33° 46½′

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Time	Reading	Value
$12^h\ 12^m$	Declination of ⊙ repeated [Repetita Declin. ⊙], with one [vno]	0° 17′
	with the other [alt.]	0° 17′

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Time	Declination	Altitude
$3^h\ 7½^m$	Declination, south [Decl. M.] 0° 13⅓′	Altitude [Alt.] 22° 20′
$3^h\ 9^m$	0° 13⅙′	22° 15′
$3^h\ 26½^m$	0° 12′	20° 20′
$3^h\ 45^m$	0° 11½′	18° 0′

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Afterwards ⊙ was observed for investigating its refraction.

Time [Tempus]	Declination of ⊙, south [Declin. ⊙ Auſt.]: with the former pinnule [priori pin.]	with the other pinnule [alt. pin.]	Azimuth of ⊙, west [Azim. ⊙ occ.]	Altitude of ⊙ [Alt. ⊙]	Remark
$4^h\ 10^m$	10° 10¾′		66° 39′	14° 53½′	
$4^h\ 13^m$	28° 10½′		67° 40′	14° 29′	

655 "Time" is this edition's head; the other two are printed, in smaller type. Times printed as bare triples are given as hours, minutes and seconds; the value pairs, printed without unit marks, as degrees and minutes.

656 "Time", "Reading" and "Value" are this edition's heads. On the page these two lines stand directly below the azimuth rows: the label *Repetita / Declin.* ⊙ stands under the azimuth head and is joined by a brace to *vno* and *alt.*, and the values stand under the altitude head; they are declinations, not altitudes, and are given here as a table of their own. The label is given whole on the first row. *12 12* is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

657 this page is set in two columns divided by a vertical rule; the English gives the left column first. The lines at the head of the left column carry no date line; they follow the entry of 10 March at the end of the previous page and are given under it, the page stating no date for them.

658 "Time", "Declination" and "Altitude" are this edition's heads. The labels *Decl. M.* and *Alt.* stand in the first line only, each before its value; they are given there. The times are printed as bare pairs, the minutes of two with a fraction, and are given as hours and minutes; the value pairs, printed without unit marks, as degrees and minutes.

Time [Tempus]	Declination of ☉, south [Declin. ☉ Auſt.]: with the former pinnule [priori pin.]	with the other pinnule [alt. pin.]	Azimuth of ☉, west [Azim. ☉ occ.]	Altitude of ☉ [Alt. ☉]	Remark
4h 15m	5♑° 10⅓′		68° 10′	14° 10¼′	
4h 17m	29s	0° 10¾′	68° 49′	13° 56′	
4h 20m	3♑° 10¼′		69° 10′	13° 36′	
4h 26m	0♑° 10′		70° 6′	12° 51′	
4h 28m	1♑° 10′		70° 39′	12° 31′	
4h 36m	10♑° 9¾′		72° 20′	11° 29½′	
4h 38m	0♑° 9¾′		72° 41′	11° 14′	
4h 39m	30s	0° 10′	73° 5′	11° 0′	
4h 41m	20s	0° 10′	73° 28′	10° 47′	
4h 42m	5♑° 9½′		73° 48′	10° 35′	
4h 44m	3♑° 9⅓′		74° 1′	10° 26′	
4h 55m	0♑° 8½′		76° 24′	8° 56′	
4h 56m	45s	0° 9′	76° 45′	8° 44′	
4h 58m	0♑° 8½′		77° 1′	8° 33½′	
4h 59m	0♑° 8⅓′		77° 20′	8° 24½′	
5h 0m	30♑° 8′		77° 30′	8° 14′	
5h 1m	55s	0° 8⅓′	77° 51′	8° 1′	
5h 4m	30♑° 7⅔′		78° 22′	7° 41′	
5h 5m	40♑° 7½′		78° 37′	7° 32′	
5h 11m	0s° 7′		79° 49′	6° 47½′	
5h 12m	3♑° 6½′		80° 5′	6° 36′	
5h 13m	50s	0° 6⅔′	80° 21′	6° 25′	
5h 14m	55s	0° 6⅔′	80° 36′	6° 17′	
5h 21m	5♑° 5′		82° 4′	5° 19′	
5h 23m	5♑° 4½′		82° 30′	5° 3′	
5h 25m	20♑° 4′		82° 47′	4° 52′	
5h 26m	30s	0° 4½′	83° 1′	4° 42′	
5h 27m	4♑° 3½′		83° 15′	4° 32′	
5h 28m	3♑° 3¼′		83° 28′	4° 26½′	
5h 32m	4♑° 2½′		84° 20′	3° 50½′	
5h 34m	0♑° 2′		84° 36′	3° 40¼′	
5h 34m	5♑° 1½′		84° 46′	3° 33′	
5h 35m	5♑° 1½′		85° 0′	3° 25′	
5h 36m	5♑° 1′		85° 16′	3° 17′	
5h 38m	1s° 0½′		85° 27′	3° 8′	
5h 38m	5♑° 0⅓′		85° 40′	3° 0′	
5h 39m	3♑° 0′		85° 48′	2° 54′	
	North [Borea]				
5h 40m	4♑° 0½′		86° 4′	2° 47′	
5h 41m	4♑° 1′		86° 17′	2° 37′	
5h 42m	5♑° 1½′		86° 28′	2° 29′	
5h 46m	6♑° 2′		87° 8′	2° 6¼′	
5h 47m	10♑° 3′		87° 20′	1° 56′	
5h 48m	0♑° 3½′		87° 43′	1° 49′	
5h 48m	5♑° 4′		87° 48′	1° 43′	
5h 55m	40s		89° 10′	0° 57′	

Time [Tempus]	Declination of ⊙, south [Declin. ⊙ Auſt.]: with the former pinnule [priori pin.]	with the other pinnule [alt. pin.]	Azimuth of ⊙, west [Azim. ⊙ occ.]	Altitude of ⊙ [Alt. ⊙]	Remark
$5^h\ 57^m\ 30^s$			89° 20′	0° 36½′	
$5^h\ 59^m$			89° 51′	0° 27′ upper limb [ſuper. limb.]	
$6^h\ 1^m\ 20^s$				0° 19′	[The Sun's] middle set [medius occidit]
$6^h\ 2^m\ 0^s$			90° 22′		

659

On 11 March [DIE 11 MARTIJ.]

The Sun's morning declination [Matutina declinato Solis.] [recte: declinatio]

H. M.	*Declination, north [Decl. borealis]*	*Altitude of ⊙ [Altit. ⊙]*
$6^h\ 18^m$	*0° 11′*	*3° 19′*
$6^h\ 20^m$	*0° 10′*	*3° 40′*
$6^h\ 22^m$	*0° 10′*	*3° 48′*
$6^h\ 25^m$	*0° 9¼′*	*4° 16′*
$6^h\ 26^m$	*0° 8½′*	*4° 26′*

660

Limitation of the foregoing [Limitatio antecedentium]

H. M.	Declination, north	Altitude of ⊙
$6^h\ 18^m$	*0° 11′*	*3° 20′*
$6^h\ 20^m$	*0° 10¼′*	*3° 40′*
$6^h\ 22^m$	*0° 9¾′*	*3° 48′*
$6^h\ 24^m$	*0° 9¼′*	*4° 16′*

659 "Remark" is this edition's head; the other heads are printed, in smaller type: *Tempus*; *Declin. ⊙ Auſt.*, printed once and centred over two sub-columns headed *priori pin.* and *alt. pin.*; *Azim.* ⊙ over *occ.*; *Alt.* ⊙. Each declination stands in one of the two sub-columns, as given. *Borea* stands alone on its line over the *priori pin.* declination column, below the row $5^h\ 39^m\ 35^s$. The rows from $5^h\ 42^m\ 50^s$ stand at the head of the right column, without heads, their figures in the same column positions; they are given here in the same table. *ſuper. limb.* stands alone on its line over the altitude column. In the row $6^h\ 1^m\ 20^s$, *medius occidit* stands in the declination-and-azimuth space after the time, and 0 19 in the altitude column. Times printed as bare triples are given as hours, minutes and seconds, the pair 5 59 as hours and minutes; the value pairs, printed without unit marks, as degrees and minutes.

660 the three heads are printed, in italic. Times printed as bare pairs are given as hours and minutes; the value pairs, printed without unit marks, as degrees and minutes.

H. M.	Declination, north	Altitude of ☉
6h 26m	*0° 8½′*	*4° 26′*

661

These declinations at a definite altitude can be compared with those which [we] took on the preceding day, with the Sun tending toward setting, so that the account [ratio] of the refractions around the equinoxes may be perceived; but rather sparse clouds had come between; [it] is nevertheless a moderate consideration.

On day 11, at noon, the clock was corrected, and it was moving 3½m [3½ M.] slower than it should, an error that had crept into it from the noon of the preceding day.

N. B. From the foregoing it is gathered — since the diurnal motion of the declination is 23′ 40″, and because at the preceding noon this declination [was] seen [as] 0° 17′ [0 17] south [Merid.] — that at 6⅓h in the morning [hora 6⅓ Matutina], 18⅓h having elapsed from noon, the true declination ought to be precisely 1′ [1 M.] north, for [it] has changed by 18′ [18 ſcrupulis] from the preceding noon; but the declination seen by observation was 0° 11′ [0 G. 11 M.] north; therefore the refraction was adding 10′ [10 Mi-][662]

___[663]

of deviation at the visible altitude of ☉, 3⅛° [in altitudine ☉ viſa 3⅛]; but yesterday evening, at the same altitude, the declination was seen [as] 1¼′ south [1¼ merid.], whereas it ought to be 11½′ [11½], so that here too [& hic] the refraction comes out [as] 10¼′ [10¼], almost agreeing with the former; so that on that account there is no doubt that near the equinox, at an altitude of 3⅓° [3⅓], the refraction of the Sun is very nearly 10′ [10 proxime ſcrupulorum] as regards the declination, such as is also found at the summer solstice; but [you] can make a deeper inquiry into this at another time.[664]

On 12 March [DIE 12 MARTIJ.]

[It] was exceptionally clear, with a north wind [vento ſeptent.] blowing a little.

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[661] the page prints no heads over these rows; the English heads repeat, as this edition's, those printed over the preceding table. Times printed as bare pairs are given as hours and minutes; the value pairs, printed without unit marks, as degrees and minutes.

[662] *0 17* is printed without unit marks and given as degrees and minutes. The word *Mi-* is divided at the foot of the column; its ending, *nuta*, opens p. 148, and the whole word is given here.

[663] this page is set in two columns divided by a vertical rule; the English gives the left column first. The left column opens with *nuta*, the ending of *Mi-*, the last word of the previous page, where the word is given.

[664] the altitudes 3⅛ and 3⅓ are printed without unit marks and given as degrees; the declinations 1¼ and 11½ and the refraction 10¼ are printed without unit marks and given as minutes. The altitude of the morning observation of 11 March is printed 3⅛ here (the 8 confirmed on a native-resolution crop) and 3⅓ in the conclusion of the same note, while the 11 March tables give 3 19 and 3 20 at 6h 18m; the figures are given as printed, and no correction is made.

Time	Reading	Value
11h 45m [H. 11 M. 45]	*Declination of ⊙, north, by the armillae [Decl. Bor. ⊙ per Armillas], with one pinnule [vno pin.]*	*0°30¼′*
	with the other [altero]	*0°30½′*

665

Observation by the revolving [quadrant] [Obſeruatio per Volubilem]

Time	*Azimuth [Azim.]*	*Altitude [Altitudo]*
Before noon [Antemeridianum]	*2° 0′*	*34° 35′ 10″*
	1° 30′	*34° 35′ 15″*
	1° 0′	*34° 35′ 30″*
	0° 30′	*34° 36′ 0″*
At noon itself [In ipſo Meridie]	*0° 0′*	*34° 36′ 0″*
After noon [Pomerid.]	*0° 30′*	*34° 36′ 0″*
	1° 0′	*34° 35′ 40″*
	1° 30′	*34° 35′ 20″*
	2° 0′	*34° 35′ 10″*

666

At this noon the clock was moving 3m [3 Min.] faster than it should, and that from the noon of the preceding day.

Time	Reading	Value
12h 8m [12H 8′]	*Declination by the armillae [Declin. per Armillas], with one pinnule [vno pin.]*	*0°30′ 45″*
	with the other [altero]	*0°30′ 30″*
12h 10m	*Declination repeated [Declin. repetita], with one pinnule [vno pin.]*	*0°30′ 30″*
	with the other [altero]	*0°30′ 50″*
	Therefore at 12h 10m [hora 12 M. 10] the true declination [vera declinatio] was	*0°30′ 40″*
	Declination from the meridian altitude [Declin. ex altit. Merid.]	*0°30′ 40″*
	Meridian altitude by the Tychonic quadrant [Alt. merid. per Q. Tychon.], with the new [nouo]	34° 36⅙′
	with the old pinnule [vet. pin.]	34° 36⅓′
	by the new sextant [per Sext. nouum]	34° 36′
	by the greatest quadrant [per Q. Max.]	34° 35⅚′
	by the revolving quadrant [per Q. volub.]	*34° 36′*

665 "Time", "Reading" and "Value" are this edition's heads. The label *Decl. Bor. ⊙ / per Armillas* runs over two lines, *vno pin.* and *altero* each with a value at the right; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

666 "Time" is this edition's head; *Azim.* and *Altitudo* are printed, in smaller italic. *Antemeri- / dianum* is divided over the first two value lines and is given whole on the first row. The azimuth pairs, printed without unit marks, are given as degrees and minutes; the altitude triples as degrees, minutes and seconds.

667

On 17 March [DIE 17 MARTIJ.]

Reading	Value
Meridian altitude of ☉ by the Tychonic quadrant [Alt. ☉ Merid. per Q. Tych.], old [vet.]	36° 34′
with the new [nouo]	36° 33¾′
by the revolving quadrant [per Q. Volub.]	36° 33½′
by the new sextant [per Sext. nouum]	36° 34′
Declination by the subterranean armillae [Declin. per Armill. ſubterr.], with one [vno]	2° 27½′
with the other [alt.]	2° 27¾′

668

On 18 March [DIE 18 MARTIJ.]

Reading	Value
Meridian altitude of ☉ by the Tychonic quadrant [Alt. ☉ Mer. per Q. Tych.]	36° 57′
by the revolving quadrant [per Q. Volub.]	36° 57¼′
by the new sextant [per Sext. nouum]	36° 57⅚′
Declination by the armillae [Declin. per Armill.], with one [vno]	2° 51′
with the other pinnule [alt. pinn.]	2° 51½′

669

[It] was not sufficiently clear.

667 "Time", "Reading" and "Value" are this edition's heads. The first time is printed *12ᴴ 8′*, with a raised H and a raised mark like a prime; the second as a bare pair; both are given as hours and minutes. The labels *Declin. per / Armillas* and *Declin. re- / petita* each run over two lines, with *vno pin.* and *altero* and a value at the right of each; each is given whole on its first row. *Fuit itaque hora 12 M. 10* stands alone on its line, *vera declinatio* and the value on the line below; they are given as one row. *Alt. merid. per Q. Tychon.* stands alone on its line, *nouo* and *vet. pin.* with their values on the two lines below; it is given with the first of them. The lines from *Alt. merid.* to *per Q. Max.* are set in roman, the rest of the entry in italic. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

668 "Reading" and "Value" are this edition's heads. The first two rows stand at the foot of the left column; the rest stand at the head of the right column, with no date line or label above them, and are given here in the same table. *Alt. ☉ Merid. per Q. Tych.* stands alone on its line, *vet.* and *nouo* with their values on the two lines below; it is given with the first of them. The declination label *Declin. per Ar- / mill. ſubterr.* runs over two lines, *vno* and *alt.* each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

669 "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes.

On 22 March [DIE 22 MARTIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the new sextant [per Sext. nouum]	38° 31′
by the lesser rulers [per Regul. min.], reading 8689, corresponding to [reſp.]	38° 30′
by the revolving quadrant [per Q. Volub.]	38° 30½′
Declination of ☉ by the armillae [Declin. ☉ per Armill.]	4° 24½′ north [B.]
	4° 23′

670

N. B. There was only a little clearness.

On 24 March [DIE 24 MARTIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	38° 52⅝′
old [vet.]	38° 53⅛′
by the new sextant [per Sext. nou.]	38° 53¼′
by the greatest quadrant [per Q. Max.]	38° 53½′
by the revolving quadrant [per Q. volub.]	38° 53⅓′
Declination by the armillae, north [Decl. per Armill. B.], with one [vno]	4° 46½′
with the other [alt.]	4° 46¾′

671

On 25 March [DIE 25 MARTIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Mer.] by the Tychonic quadrant [per Q. Tych.], with the old [veteri]	39° 39¼′
with the new [nouo]	39° 39′
by the revolving quadrant [per Q. volub.]	39° 39¼′
by the greatest quadrant [per Q. Max.]	39° 38¾′
Declination by the subterranean armillae [Declin. per Armill. ſubterr.]	5° 32½′
	5° 32⅔′

[670] "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. *B.* stands after the first declination value. The second declination value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

[671] "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

672

[It] was not sufficiently clear.

On 30 March [DIE 30 MARTIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Mer.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	41° 32′
old [vet.]	41° 32⅔′
by the greatest quadrant [per Q. Max.]	41° 32⅓′
by the revolving quadrant [per Q. volub.]	41° 31½′
Declination by the subterranean armillae, north [Declin. per Armill. fubt. B.]	7° 25¾′
	7° 25½′

673

[It] was not sufficiently clear.
___[674]

On 1 April [DIE 1 APRILIS.]

N. B. Everywhere, on the greater quadrant, credence is rather to be given to the new pinnule, because it was firmer & the old [one] by now too much weakened.

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	42° 16⅔′
old [vet.]	42° 16⅚′
by the revolving quadrant [per Q. volub.]	42° 16′ 35″
by the greatest quadrant [per Q. max.]	42° 16⅓′
Declination by the armillae, north [Declin. per Armill. B.], with one [vno]	8° 10′
with the other [alt.]	8° 10⅓′

675

[It] was very clear. *Here the declination does not agree sufficiently with the altitude.*

[672] "Reading" and "Value" are this edition's heads. *Alt. ☉ Mer.* stands alone on its line above the instrument lines; it is given with the first of them. The second declination value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

[673] "Reading" and "Value" are this edition's heads. *Alt. ☉ Mer.* stands alone on its line above the instrument lines; it is given with the first of them. The second declination value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

[674] this page is set in two columns divided by a vertical rule; the English gives the left column first.

[675] "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed as two bare figures are given as degrees and minutes; the value printed as three, as degrees, minutes and seconds.

On 2 April, morning [DIE 2 APRILIS, MANE.]

Time	Event
$4^h\ 59^m$ [$4^H59'$]	The upper limb of ☉ was rising [Oriebatur ſuperior limbus ☉]
$5^h\ 1\frac{5}{6}^m$	The middle of ☉ was rising [Oriebatur medium ☉]
$5^h\ 3\frac{2}{3}^m$	[It] was seen wholly risen [Totus ortus videbatur]

676

Time	Altitude of ☉ [Altit. ☉]	Declination of ☉, north [Decl. ☉ Sept.]
$5^h\ 10\frac{1}{2}^m$	1° 15′	8° 47′
$5^h\ 11\frac{5}{6}^m$	1° 25′	8° 45½′

677

On 5 April [DIE 5 APRILIS.]

Time	Event
$4^h\ 50\frac{1}{2}^m$ [$4^H50\frac{1}{2}^M$]	The upper limb of ☉ was raised above the horizon [Superior limbus ☉ ſupra horizontem eleuabatur.]
$4^h\ 53^m$	the middle of ☉ risen [☉ medius ortus]
$4^h\ 54\frac{2}{3}^m$	☉ wholly risen [☉ totus ortus]

678

Time	Declination	Altitude	Remark
$5^h\ 24^m$	Declination of ☉ [Decl. ☉] 9° 42′	Altitude of ☉ [Alt. ☉] 4° 5′	
$5^h\ 26^m\ 50^s$	9° 41′	4° 19′	☉ was then 96° 17′ from the meridian toward the east [fuit tunc ☉ a Meridiano ad ortum 96° 17′.]

679

676 "Time" and "Event" are this edition's heads. The first time is printed *$4^H59'$*, with a raised H and a raised mark like a prime; the others as a bare figure and minutes with a fraction; all are given as hours and minutes.

677 "Time" is this edition's head; *Altit.* ☉ and *Decl.* ☉ *Sept.* are printed, in smaller type. The times are printed as bare pairs and given as hours and minutes; the value pairs, printed without unit marks, as degrees and minutes.

678 "Time" and "Event" are this edition's heads. The first time is printed *$4^H50\frac{1}{2}^M$*, with a raised H and a raised M; the others as bare pairs, given as hours and minutes.

679 "Time", "Declination", "Altitude" and "Remark" are this edition's heads. The labels *Decl.* ☉ and *Alt.* ☉ stand in the first line only, each before its value; they are given there. *fuit* stands at the end of the line 5 26 50; the sentence it begins runs on the next line at the full width of the column and is given whole in that row. The times are printed as a bare pair (given as hours and minutes) and a bare triple (given as hours, minutes and seconds); the value pairs, printed without unit marks, are given as degrees and minutes.

For the clock [Pro Horologio.].

At the immediately following noon the clock was going $5\frac{1}{2}^{m}$ [M. 5½] slower than it should. This error applies to several days [aliquot diebus competit].

Reading	Value
Meridian altitude of ⊙ by the Tychonic [quadrant] [Alt. ⊙ Merid. per Tych.], with the new [nouo]	43° 43½′
old [vet.]	43° 43¾′
by the revolving quadrant [per Q. Volub.]	43° 44⅔′
by the greatest quadrant [per Q. Max.]	43° 43¾′
Declination by the subterranean armillae [Decl. per Arm. subt.], with one [vno]	9° 37¾′
with the other [alt.]	9° 37½′

680

Time	Event
$6^{h}\ 57^{m}\ 30^{s}$ [6ᴴ57′30″]	The lower limb of ⊙ was seen to set [Inferior limbus ⊙ occidere videbatur.]
$6^{h}\ 59^{m}\ 10^{s}$	The middle of ⊙ was setting [Medium $\odot^{is}$ occidebat.]
$7^{h}\ 1^{m}\ 40^{s}$	The whole ⊙ set [Totus ⊙ occidit.]

681

On 7 April [DIE 7 APRILIS.]

At noon the clock was going 5^{m} [5 Min.] faster than it should in the space of 24 hours.[682]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic [quadrant] [per Tych.]	44° 26⅔′
	44° 26⅚′
by the revolving quadrant [per Q. Volub.]	44° 26⅚′
by the greatest quadrant [per Q. Max.]	44° 25⅓′
Declination by the armillae, north [Declin. per Armill. B.], with one [vno]	10° 20⅓′
with the other [alt.]	10° 20′

683

680 "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes.

681 "Time" and "Event" are this edition's heads. The first time is printed *6ᴴ57′30″*, with a raised H, a raised prime and a raised double prime; the others as bare triples, given as hours, minutes and seconds. $\odot^{is}$ is printed with a raised *is*.

682 the lines that follow stand at the head of the right column, with no date line; they follow the 7 April entry at the foot of the left column and are given under it, the page stating no date for them.

683 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The second value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

On 15 April [DIE 15 APRILIS.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Mer.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	47° 9⅔′
old [vet.]	47° 9′ 55″
by the revolving quadrant [per Q. volub.]	47° 9⅚′
Declination of ☉ by the subterranean armillae [Declin. ☉ per Armillas ſubt.]	13° 3′ north [B.]
	13° 2¾′

684

On 18 April [DIE 18 APRILIS.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	48° 7⅙′
	48° 7½′
by the revolving quadrant [per Q. Volub.]	48° 7′
Declination by the armillae [Decl. per Armill.,], with both [vtroque]	14° 1′

685

On 22 April [DIE 22 APRILIS.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new pinnule [nouo pinn.]	49° 21⅙′
by the revolving quadrant [per Q. Volub.]	49° 21¼′
Declination by the armillae [Declin. per Armill.]	15° 15′

686

684 "Reading" and "Value" are this edition's heads. *Alt. ☉ Mer.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. ☉ per / Armillas ſubt.* runs over two lines, each line with a value; it is given whole on the first row. *B.* stands after the first declination value. Values printed as two bare figures are given as degrees and minutes; the value printed as three, as degrees, minutes and seconds.

685 "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The second value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

686 "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

On 23 April [DIE 23 APRILIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the mural [quadrant] [per Mural.]	49° 39½′

687

On 29 April [DIE 29 APRILIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	51° 20⅚′
by the revolving quadrant [per Q. Volub.]	51° 20½′
Declination of ⊙, north [Decl. ⊙ Bor.], with one pinnule [vno pin.]	17° 15′
with the other pinnule [alt. pin.]	17° 14¾′

688

On 3 May [DIE 3 MAIJ.]

Time	Reading	Value
	Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the revolving quadrant [per Q. Volub.]	52° 23′ 15″
	by the Tychonic quadrant [per Q. Tych.]	52° 23′ 10″
11^{h} 55^{m} [H. 11 55′]	Declination of ⊙ by the subterranean armillae [Decl. ⊙ per Armill. ſubterr.], with one [vno]	18° 16½′
	with the other [alt.]	18° 16⅔′

689

On 5 May [DIE 5 MAIJ.]

687 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument line; it is given with it. The value, printed without unit marks, is given as degrees and minutes.

688 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

689 "Time", "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The time is printed *H. 11 55′*, with a raised prime after 55, and is given as hours and minutes; it stands before the brace, on the label's first line, and is given on the first row. The label *Decl. ⊙ per / Armill. ſubterr.* runs over two lines and is joined by a brace to *vno* and *alt.*, each with a value; it is given whole on the first row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	52° 52⅓′
by the revolving quadrant [per Q. Volub.]	52° 52⅔′

690

___691

Reading	Value
Declination by the armillae, north [Declin. per Armill. B.], with one [vno]	18° 46½′
with the other [altero]	18° 46⅔′

692

On 7 May [DIE 7 MAIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	53° 20⅓′
by the revolving quadrant [per Q. Volub.]	53° 20¼′
Declination by the armillae, north [Declin. per Armill. B.], with one [vno]	19° 14½′
with the other [alt.]	19° 14¼′

693

On 8 May [DIE 8 MAIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	53° 34′
by the revolving quadrant [per Q. Volub.]	53° 33¾′
Declination by the armillae [Declin. per Armill.]	19° 27½′ north [B.]
	19° 27⅔′

690 "Reading" and "Value" are this edition's heads. *Alt.* ⊙ *Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

691 this page is set in two columns divided by a vertical rule; the English gives the left column first. The left column opens, with no date line, with the two declination lines that complete the 5 May entry at the foot of the previous page; they are given under 5 May, the page stating no date for them.

692 "Reading" and "Value" are this edition's heads. Values printed without unit marks, given as degrees and minutes.

693 "Reading" and "Value" are this edition's heads. *Alt.* ⊙ *Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

694

On 9 May [DIE 9 MAIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	53° 47⅓′
by the revolving quadrant [per Q. Volub.]	53° 47½′
Declination by the armillae [Declin. per Armillas], with one pinnule [vno pin.]	19° 41¼′
with the other pinnule [alt. pin.]	19° 41⅙′

695

On 19 May [DIE 19 MAIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	55° 40⅙′
by the revolving quadrant [per Q. Volub.]	55° 40⅙′
Declination by the armillae [Declin. per Armill.], with one [vno]	21° 34⅓′
with the other [alt.]	21° 34′

696

On 20 May [DIE 20 MAIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	55° 49¼′
by the least quadrant *Horizont.* [per Q. minim. Horizont.]	55° 48½′

697

694 "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. *B.* stands after the first declination value; the second value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

695 "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. per / Armillas* runs over two lines and is joined by a brace to *vno pin.* and *alt. pin.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

696 "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

697 "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. *Horizont.* is left abbreviated. Values printed without unit marks, given as degrees and minutes.

On 21 May [DIE 21 MAIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	55° 58⅔′
by the least quadrant [per Q. minimum]	55° 58¼′

698

On 22 May [DIE 22 MAIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	56° 7⅓′
by the revolving quadrant [per Q. Volub.]	56° 7⅔′
by the least quadrant [per Q. minimum]	56° 8′
Declination by the greater subterranean armillae [Declin. per Armillas ſubterr. maiores], with both [vtroque]	22° 1′

699

On 23 May [DIE 23 MAIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	56° 15⅙′
old [vet.]	56° 15½′
by the revolving quadrant [per Q. Volub.]	56° 15⅓′
by the least quadrant [per Q. Minim.]	56° 14½′

700

On 24 May [DIE 24 MAIJ.]

[698] "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

[699] "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. per Armillas ſubterr. / maiores* runs over two lines, *vtroque* and the value on the second; it is given whole on one row. Values printed without unit marks, given as degrees and minutes.

[700] "Reading" and "Value" are this edition's heads. The label *Alt. ☉ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. The first two rows stand at the foot of the left column; the last two stand at the head of the right column, with no date line or label above them, and are given here in the same table. Values printed without unit marks, given as degrees and minutes.

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	56° 23′
old [vet.]	56° 23⅙′
by the revolving quadrant [per Q. Volub.]	56° 23′

701

On 31 May [DIE 31 MAIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	57° 7′
by the revolving quadrant [per Q. Volub.]	57° 6¾′

702

On 6 June [DIE 6 JUNIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	57° 28¾′
old [vet.]	57° 29′
by the revolving quadrant [per Q. Volub.]	57° 28¾′

703

On 7 June [DIE 7 JUNIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	57° 30⅚′
old [vet.]	57° 31′
by the revolving quadrant [per Q. Volub.]	57° 30½′
Declination by the armillae [Declin. per Armill.], with one [vno]	23° 25′
	23° 24⅚′

701 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid.* / *per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

702 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

703 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid.* / *per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

704

On 8 June [DIE 8 JUNIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	57° 32½′
by the revolving quadrant [per Q. Volub.]	57° 32¼′
Declination by the armillae [Declin. per Armillas]	23° 26¾′
	23° 26⅚′

705

[It] was moderately clear.

On 14 June [DIE 14 JUNIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new pinnule [nouo pin.]	57° 34½′
with the old pinnule [vet. pin.]	57° 34⅔′
by the revolving quadrant [per Q. Volub.]	57° 34½′
Declination by the subterranean armillae [Declin. per Armillas ſubt.], with one [vno]	23° 29′
with the other [alt.]	23° 28¾′

706

On 16 June [DIE 16 JUNIJ.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	57° 32′
old [vet.]	57° 32⅓′

[704] "Reading" and "Value" are this edition's heads. The label *Alt. ☉ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. The second declination value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

[705] "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The second declination value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

[706] "Reading" and "Value" are this edition's heads. The label *Alt. ☉ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nouo pin.* and *vet. pin.*, each with a value; the label *Declin. per Ar- / millas ſubt.* runs over two lines and is joined by a brace to *vno* and *alt.*, each with a value; each label is given whole on its first row. Values printed without unit marks, given as degrees and minutes.

707

On 20 June [DIE 20 JUNIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	57° 21⅚′
by the revolving quadrant [per Q. Volub.]	57° 22¼′
Declination by the armillae [Declin. per Armill.,], with one [vno]	23° 16′
with the other [alt.]	23° 15⅚′

708

___709

On the same day p. m. ⊙ was observed in order to investigate its refraction [Eodem die p. m. obſeruabatur ⊙ propter refractionem eius indagandam.].

H. M.	Altitude of ⊙ [Altitudo ⊙]	Declination of ⊙ [Declinatio ⊙]
5^h $32½^m$	22° 55′	23° 14′ with both [vtroque]
5^h $38¼^m$	22° 5′	23° 14′
5^h $53⅙^m$	20° 0′	23° 14⅙′ with the other [alt.] 14½′
5^h 59^m	19° 15′	23° 14¼′
6^h $6⅙^m$	18° 20′	23° 14½′
6^h $16¾^m$	16° 50′	23° 15′
6^h $19½^m$	16° 30′	23° 15¼′
7^h 10^m	10° 0′	23° 16½′
7^h 17^m	9° 5′	23° 17′
7^h $23⅙^m$	8° 20′	23° 17½′
7^h $31⅚^m$	7° 20′	23° 18¾′
7^h $34⅔^m$	7° 0′	23° 19′
7^h 43^m	6° 0′	23° 19¾′
7^h 52^m	5° 0′	23° 20½′
7^h $58½^m$	4° 20′	23° 21′
8^h $8⅓^m$	3° 20′	23° 23½′
8^h 11^m	3° 0′	23° 24½′
8^h $13¼^m$	2° 48′	23° 25′
8^h 16^m	2° 30′	23° 26′
8^h $18½^m$	2° 15′	23° 27′
8^h 21^m	2° 0′	23° 28¼′
8^h $23⅔^m$	1° 45′	23° 29′

707"Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

708"Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

709this page is set in two columns divided by a vertical rule; the English gives the left column first. The left column opens with no date line; *Eodem die* follows the 20 June entry at the foot of the previous page.

H. M.	Altitude of ⊙ [Altitudo ⊙]	Declination of ⊙ [Declinatio ⊙]
8^h $26\frac{1}{3}^m$	1° 30′	23° 30′

710

Observing the low ⊙ further was not possible [vlterius ⊙ decliuem obſeruare non licuit.].

Time	Event
8^h $41\frac{1}{2}^m$	The lower limb of ⊙ was setting [Inferior limbus ⊙ occidebat.]
8^h $43\frac{5}{6}^m$	The middle of ⊙ was setting [⊙ medius occidebat.]
8^h $46\frac{1}{2}^m$	The upper limb or the whole ⊙ went below the horizon [Superior limbus ſiue ⊙ totus Horizontem ſubijt.]

711

On 21 June, morning [DIE 21 JUNIJ, MANE.]

Time	Event
3^h 16^m	⊙ was seen to rise with the upper limb [⊙ oriri limbo ſuperiori videbatur.]
3^h 18^m	The middle of ⊙ was rising [⊙ medius oriebatur.]
3^h 21^m	⊙ wholly risen [⊙ totus ortus.]

712

Time	Altitude of ⊙ [Altitudo ⊙]	Declination of ⊙, north [Declinatio ⊙ Bor.]
3^h 22^m	0° 5′	23° 40¾′
3^h 25^m	0° 30′	23° 38′
3^h $27\frac{1}{2}^m$	0° 45′	23° 36′
3^h $30\frac{1}{2}^m$	1° 0′	23° 33′
3^h 34^m	1° 20′	23° 32′
3^h $35\frac{3}{4}^m$	1° 30′	23° 31′
3^h $38\frac{1}{3}^m$	1° 45′	23° 29½′
3^h 41^m	2° 0′	23° 28½′
3^h $44\frac{1}{2}^m$	2° 20′	23° 27′
3^h $45\frac{1}{4}^m$	2° 30′	23° 26½′
3^h $48\frac{1}{3}^m$	2° 45′	23° 26′
3^h 51^m	3° 0′	23° 25¼′

710 the three heads are printed; the page prints *H. M.* over the times and *G. M.* under each of the other two heads, and the values are given as hours and minutes and as degrees and minutes. *vtroque* (5^h $32\frac{1}{2}^m$) and *alt. 14½* (5^h $53\frac{1}{6}^m$) stand after the declination on the same line; *14½*, printed without unit marks, is given as minutes.

711 "Time" and "Event" are this edition's heads. The times are printed as bare pairs, each before its sentence, and are given as hours and minutes.

712 "Time" and "Event" are this edition's heads. The times are printed as bare pairs, each before its sentence, and are given as hours and minutes.

Time	Altitude of ⊙ [Altitudo ⊙]	Declination of ⊙, north [Declinatio ⊙ Bor.]
3^h $54\frac{1}{6}^m$	3° 20′	23° 24½′
4^h $0\frac{1}{2}^m$	4° 0′	23° 22¼′
4^h $14\frac{1}{4}^m$	5° 30′	23° 20½′
4^h 19^m	6° 0′	23° 19½′
4^h $27\frac{1}{3}^m$	7° 0′	23° 18′
4^h $30\frac{1}{2}^m$	7° 20′	23° 17¾′
4^h $52\frac{1}{4}^m$	10° 0′	23° 17⅙′
5^h 0^m	11° 0′	23° 16¾′
5^h 11^m	12° 20′	23° 16½′
5^h 47^m	17° 0′	23° 15½′
5^h 56^m	18° 20′	23° 15⅓′
6^h 2^m	19° 0′	23° 15¼′
6^h $9\frac{1}{3}^m$	20° 0′	23° 15¼′

713

At noon the clock was going 5^m [5 M.] faster than it should from the immediately preceding noon [Horologium in Meridie 5 M. iuſto citius mouebatur a Meridie proxime antecedenti.].

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	57° 18⅓′
by the revolving quadrant [per Q. Volub.]	57° 18½′
Declination by the subterranean armillae [Declin. per Armillas ſubt.], with one [vno]	23° 12½′
with the other [alt.]	23° 12¼′

714

On 29 June [DIE 29 JUNIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with one [vno]	56° 34′ 45″
with the other [alt.]	56° 35′ 0″
by the revolving quadrant [per Q. Volub.]	56° 34′ 45″
by the greater Ptolemaic rulers [per regulas Ptol. maiores], reading 5748, corresponding to [reſp.]	56° 34′ 38″

713 "Time" is this edition's head; *Altitudo* ⊙ and *Declinatio* ⊙ *Bor.* are printed, with *G. M.* under each, and the values are given as degrees and minutes. The times are printed as bare pairs, with no head, and are given as hours and minutes. The first eight rows stand at the foot of the left column; the rest stand at the head of the right column, under a repeated *G. M.* and with no date line, and are given here in the same table.

714 "Reading" and "Value" are this edition's heads. *Alt.* ⊙ *Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. / per Armillas ſubt.* runs over two lines and is joined by a brace to *vno* and *alt.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Reading	Value
by the least quadrant [per Q. minim.]	56° 34½′
Declination by the armillae [Declin. per Armill.]	22° 30′ north [B.]
with the other [altero]	22° 29¾′

715

N. B. [It] was very clear [Erat bene ſerenum.].

On 9 July [DIE 9 JULIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	55° 6½′
by the revolving quadrant [per Q. Volub.]	55° 6½′
Declination by the subterranean armillae [Declin. per Armill. ſubterr.], with one [vno]	21° 0′
with the other [alt.]	21° 0½′

716

On 10 July [DIE 10 JULIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	54° 55½′
by the revolving quadrant [per Q. Volub.]	54° 55¾′

717

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[715] "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *vno* and *alt.*, each with a value; it is given whole on the first row. The line *per regulas Ptol. maiores 5748* stands at the full width of the column, and *reſp.* with the value on the line below; they are given as one row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

[716] "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. per Armill. / ſubterr.* runs over two lines and is joined by a brace to *vno* and *alt.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

[717] "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

[718] this page is set in two columns divided by a vertical rule; the English gives the left column first. The left column opens, with no date line or label above it, with the declination line that completes the 10 July entry at the foot of the previous page; it is given under 10 July, the page stating no date for it.

Reading	Value
Declination by the subterranean armillae [Decl. per Armillas ſubt.]	20° 50′

719

N. B. [It] was not sufficiently clear [Non erat ſatis ſerenum.].

On 12 July [DIE 12 JULIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	54° 33⅓′
by the revolving quadrant [per Q. Volub.]	54° 33′
Declination by the subterranean armillae [Declin. per Armillas ſubt.], with one [vno]	20° 27′
with the other [altero]	20° 27¼′

720

On 15 July [DIE 15 JULIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	53° 56′
by the revolving quadrant [per Q. Volub.]	53° 56½′
Declination by the armillae [Declin. per Armillas], with one [vno]	19° 51′
with the other [alt.]	19° 50⅚′

721

On 25 July [DIE 25 JULIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Mer.] by the Tychonic quadrant [per Q. Tych.], with both [vtroq.]	51° 33′
by the revolving quadrant [per Q. Volub.]	51° 33′
Declination by the armillae [Declin. per Armill.]	17° 28′

719 "Reading" and "Value" are this edition's heads. The value, printed without unit marks, is given as degrees and minutes.

720 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. per Ar- / millas ſubt.* runs over two lines and is joined by a brace to *vno* and *altero*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

721 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. per Ar- / millas* runs over two lines and is joined by a brace to *vno* and *alt.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Reading	Value
with the other pinnule [alt. pinnac.]	17° 27¾′

722

On 27 July [DIE 27 JULIJ.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	51° 0¾′
old [vet.]	51° 0⅝′
by the revolving quadrant [per Q. Volub.]	51° 0⅝′
Declination by the armillae [Decl. per Armill.,], with both [vtroque]	16° 55½′

723

On 5 August [DIE 5 AUGUSTI.]

At noon the clock was going slower than it should by only a single minute, which was corrected to the stars on the preceding evening [Horologium in Meridie vnico ſaltem ſcrupulo primo iuſto tardius mouebatur, quod ad ſtellas veſperi antecedente fuit correctum.].

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	48° 22′
by the revolving quadrant [per Q. Volub.]	48° 22¼′
Declination by the subterranean armillae [Declin. per Armillas ſubt.], with one [vno]	14° 17½′
with the other [alt.]	14° 18′

724

On 6 August [DIE 6 AUGUSTI.]

At noon the clock was going $4\frac{1}{2}^{m}$ [4½ M.] faster than it should, at the immediately preceding noon [it] was correctly set [Horologium in meridie 4½ M. iuſto citius mouebatur, in Meridie proxime antecedente fuit recte conſtitutum.].

722 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Mer.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

723 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

724 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. per Ar- / millas ſubt.* runs over two lines and is joined by a brace to *vno* and *alt.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	48° 3⅔′
by the revolving quadrant [per Q. Volub.]	48° 4′
Declination by the armillae [Declin. per Armill.]	13° 58′ north [B.]
with the other pinnule [alt. pinn.]	13° 57½′

725

On 7 August [DIE 7 AUGUSTI.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	47° 44½′
old [vet.]	47° 44⅚′
by the revolving quadrant [per Q. Volub.]	47° 45¼′
Declination of ⊙ by the armillae [Decl. ⊙ per Armill.], with one [vno]	13° 39¾′
with the other [alt.]	13° 39⅓′

726

On 8 August [DIE 8 AUGUSTI.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	47° 25′
old [vet.]	47° 25⅙′
by the revolving quadrant [per Q. Volub.]	47° 26′
by the new sextant [per Sext. nou.]	47° 24⅚′
Declination by the armillae [Decl. per Armill.], with one [vno]	13° 20′
with the other [alt.]	13° 19⅚′

727

On 11 August [DIE 11 AUGUSTI.]

725 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

726 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

727 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tychon.], with the new [nouo]	46° 26¼′
old [veteri]	46° 26¾′
by the revolving quadrant [per Q. Volub.]	46° 26½′
Declination by the armillae [Declin. per Armill.]	12° 21′ north [B.]
	12° 21¼′

728

On 13 August [DIE 13 AUGUSTI.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	45° 46⅓′
by the revolving quadrant [per Q. Volub.]	45° 46½′
Declination by the armillae [Declin. per Armillas], with one [vno]	11° 41′
with the other [alt.]	11° 40½′

729

On 14 August [DIE 14 AUGUSTI.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.,], with both [vtroque]	45° 25½′
by the revolving quadrant [per Q. Volub.]	45° 26′
Declination by the armillae [Declin. per Armill.]	11° 21′ north [B.]
with the other pinnule [alt. pinn.]	11° 20¾′

730

728 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tychon.* runs over two lines and is joined by a brace to *nouo* and *veteri*, each with a value; it is given whole on the first row. *B.* stands after the first declination value; the second value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

729 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The label *Declin. / per Armillas* runs over two lines, *vno* and *alt.* each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

730 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

On 16 August [DIE 16 AUGUSTI.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	44° 43¾′ uncertain [incerta]
by the revolving quadrant [per Q. Volub.]	44° 45′
Declination by the armillae [Decl. per Armill.,], with both [vtroque]	10° 39½′

731

On 17 August A. M. [DIE 17 AUGUSTI A. M.]

H. M.	*Declination of ☉, north [Declin. ☉ Bor.]*	*Altitude of ☉ [Altit. ☉]*	Remark
5h 21¾m	*10° 32½′*	*3° 50′*	
5h 23½m	*10° 33′*	*4° 10′*	
5h 31¾m	*10° 30¾′*	*5° 15′*	
5h 34m	*10° 30⅓′*	*5° 30′*	
5h 55m	*10° 28′*	*8° 20′*	
6h 30m			*Thus far in the morning [it] was exceedingly clear [Hactenus mane erat apprime ſerenum.]*

732

At the following noon the clock was going 4⅓m [M. 4⅓] faster than it should, which error is to be corrected in the preceding times from the preceding noon [Horologium in Meridie ſequente iuſto celerius mouebatur M. 4⅓, qui error in præcedentibus temporibus a meridie præcedente eſt corrigendus.].

Reading	Value
Altitude of ☉ at noon [Alt. ☉ in meridie] by the revolving [quadrant] [per Volub.]	*44° 24′*

733

[It] was not perfectly clear [Non erat exquiſite ſerenum.].

731 "Reading" and "Value" are this edition's heads. The label *Alt. ☉ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to two lines, the value *44 43¾* and the word *incerta*; the label is given whole on the first row, and *incerta* on its own row below the value. Values printed without unit marks, given as degrees and minutes.

732 *H. M.*, *Declin. ☉ Bor.* and *Altit. ☉* are printed, in italic; "Remark" is this edition's head. The times are given as hours and minutes; the value pairs, printed without unit marks, as degrees and minutes. In the last line the time stands at the left and the sentence runs across the width of the other columns and onto a second line; it is given in the Remark column.

733 "Reading" and "Value" are this edition's heads. The line stands in the prose, the value at its end. The value, printed without unit marks, is given as degrees and minutes.

On 18 August A. M. [DIE 18 AUGUSTI A. M.]

Time	Event
$4^h\ 57^m\ 50^s$ [H.4 57′ 50″]	*The Sun began first to rise over the mountains of Glunæ [Sol incepit primum oriri ſuper montes Glunæ.]*
$4^h\ 59^m\ 50^s$	*The middle of the Sun was seen risen in the same place [Medius Sol ibidem ortus videbatur.]*
$5^h\ 1^m\ 52^s$	*The whole Sun rose in the same place [Totus Sol ortus eſt eodem in loco.]*

734

The Sun therefore uses up 4^m [4 minuta temporis] while rising, and a whole degree of the heaven, whereas it nevertheless occupies only half a degree with its visible size, but this happens because of the excessive refraction, which holds back the rising by successively slackening [Conſumit itaque Sol 4 minuta temporis inter oriendum & integrum gradum de cælo, cum tamen ſaltem dimidium gradum occupat ſua quantitate viſibili, id vero fit propter nimiam refractionem quæ ortum ſucceſſiue remittendo inhibet.].

Time	*The declination of ⊙ was [Fuit ⊙ declin.]*	*Altitude of ⊙ [Altit. ⊙]*
$5^h\ 21^m$	10° 15′	2° 42′
$5^h\ 22\frac{1}{6}^m$	10° 14′	2° 51′
$5^h\ 23^m$	10° 13¼′	2° 59′
$6^h\ 51^m$	10° 4′	
$6^h\ 52\frac{1}{2}^m$	10° 3¼′	
$6^h\ 53^m$	10° 3¼′	15¼°
$7^h\ 43^m\ 25^s$	10° 2¼′	
$7^h\ 45^m\ 25^s$	10° 2¼′	

735

N. B. At the immediately following noon the clock was going $5^m\ 10^s$ [5′ 10″] faster than it should [Horologium in Meridie proxime ſequenti 5′ 10″ iuſto velocius mouebatur.].

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ merid.] by the revolving quadrant [per Q. Volub.]	44° 2⅔′
Declination by the subterranean armillae [Decl. per Armillas ſubt.]	9° 57¼′

734 "Time" and "Event" are this edition's heads. The first time is printed with *H.* and prime marks; the other two, printed without unit marks, are given as hours, minutes and seconds.

735 *Fuit ⊙ declin.* and *Altit. ⊙* are printed, in italic; "Time" is this edition's head, the time column having none on the page. The times are given as hours and minutes, the last two as hours, minutes and seconds; the value pairs, printed without unit marks, as degrees and minutes. At $6^h\ 53^m$ the single figure *15¼* stands in the altitude column, set to the left of the minutes figures above it, and is given as degrees; the rows at $6^h\ 51^m$, $6^h\ 52\frac{1}{2}^m$, $7^h\ 43^m\ 25^s$ and $7^h\ 45^m\ 25^s$ print no altitude.

Reading	Value
with the other pinnule [Altero pinnac.], north [Bor.]	9° 57⅓′

736

On 23 August [DIE 23 AUGUSTI.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	42° 14′
old [vet.]	42° 14⅙′
by the revolving quadrant [per Q. Volub.], *uncertain [incerta]*	42° 15½′
Declination by the armillae [Declin. per Armill.,], with both [vtroque]	8° 9′

737

On 25 August [DIE 25 AUGUSTI.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tychon.], with both [vtroque]	41° 29⅚′
by the revolving quadrant [per Q. Volub.]	41° 30⅓′
by the new sextant [per Sext. nou.]	41° 30′
by the new lesser quadrant [per Q. Min. Nou.]	41° 30′
Declination of ⊙ by the armillae [Decl. ⊙ per Armillas], north [B.]	7° 25¼′
with the other pinnule [alt. pinnacid.]	7° 25′

738

[It] was moderately clear [Erat mediocriter ſerenum.].

On 28 August [DIE 28 AUGUSTI.]

736 "Reading" and "Value" are this edition's heads. *Bor.* stands before the second declination value, to the right of *Altero pinnac.* Values printed without unit marks, given as degrees and minutes.

737 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. *incerta*, in italic, stands between the revolving-quadrant label and its value. Values printed without unit marks, given as degrees and minutes.

738 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The meridian altitudes stand at the foot of the left column; the two declination lines stand at the head of the right column, with no date line, and are given here. *B.* stands after *Armillas*, before the value. Values printed without unit marks, given as degrees and minutes.

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Mer.] by the Tychonic quadrant [per Q. Tych.]	40° 23′
by the revolving quadrant [per Q. Volub.]	40° 23½′
by the new sextant [per Sext. nou.]	40° 23⅙′
by the new lesser quadrant [per Q. Min. nou.]	40° 23½′

739

[It] was very clear [Erat bene ſerenum.].

On 29 August [DIE 29 AUGUSTI.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new pinnule [nou. pin.]	40° 0′
old [vet.]	40° 0¼′
by the revolving quadrant [per Q. Volub.]	40° 0⅓′

740

[It] was very clear [Erat bene ſerenum.].

On 4 September [DIE 4 SEPTEMBRIS.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	37° 42⅓′
by the revolving quadrant [per Q. Volub.]	37° 42′

741

[It] was not sufficiently clear [Non fuit ſatis ſerenum.].

On 8 September [DIE 8 SEPTEMBRIS.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.]	36° 10′

739 "Reading" and "Value" are this edition's heads. *Alt. ☉ Mer.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

740 "Reading" and "Value" are this edition's heads. The label *Alt. ☉ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nou. pin.* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

741 "Reading" and "Value" are this edition's heads. *Alt. ☉ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

742

On 12 September [DIE 12 SEPTEMBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	34° 36¾′
	34° 36⅓′
by the revolving quadrant [per Q. Volub.]	34° 37¾′
by the new sextant [per Sext. nou.]	34° 37⅙′
by the old sextant [per Sext. vet.]	34° 37′

743

On 18 September [DIE 18 SEPTEMBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new pinnule [nou. pin.]	32° 15⅙′
old [vet.]	32° 15⅓′
by the revolving quadrant [per Q. Volub.]	32° 16¼′
by the new sextant [per Sext. nou.]	32° 15⅓′
by the old sextant [per Sext. vet.]	32° 15′

744

On 19 September [DIE 19 SEPTEMBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the old [vet.]	31° 52′
with the new [nouo]	31° 51⅚′
by the revolving quadrant [per Q. Volub.]	31° 52¼′
by the new sextant [per Sext. nou.]	31° 52⅙′
by the old sextant [per Sext. vet.]	31° 51⅚′
by the greatest quadrant [per Q. Max.]	31° 52¾′
by the lesser quadrant [per Q. Min.]	31° 52½′

742 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument line; it is given with it. The value, printed without unit marks, is given as degrees and minutes.

743 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. The second value stands on its own line with no label. Values printed without unit marks, given as degrees and minutes.

744 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *nou. pin.* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

745

[It] was very clear and calm [Erat bene ſerenum & tranquillum.].

On 20 September [DIE 20 SEPTEMBRIS.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the old [vet.]	31° 28⅙′
with the new [nouo]	31° 28′
by the greatest quadrant [per Q. Maxim.]	31° 28⅔′
by the new sextant [per Sext. nou.]	31° 28¾′
by the lesser rulers [per Reg. Minor.], reading 9772½, corresponding to [reſp.]	31° 30′
by the lesser quadrant [per Q. Min.]	31° 27½′

746

[It] was moderately clear [Erat mediocriter ſerenum.].

On 29 September [DIE 29 SEPTEMBRIS.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the old [vet.]	27° 36⅔′
with the new [nouo]	27° 36½′
by the new sextant [per Sext. nou.]	27° 37′
by the old sextant [per Sext. vet.]	27° 37 1/12′
by the revolving quadrant [per Q. Volub.]	27° 37′

747

On 1 October [DIE 1 OCTOBRIS.]

Reading	Value
Meridian altitude of ☉ [Alt. ☉ Merid.] by the Tychonic quadrant [per Q. Tych.], with the old [vet.]	27° 13⅔′
with the new [nouo]	27° 13½′
by the revolving quadrant [per Q. Volub.]	27° 14¼′

745 "Reading" and "Value" are this edition's heads. The label *Alt. ☉ Merid.* / *per Q. Tych.* runs over two lines and is joined by a brace to *vet.* and *nouo*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

746 "Reading" and "Value" are this edition's heads. The label *Alt. ☉ Merid.* / *per Q. Tych.* runs over two lines and is joined by a brace to *vet.* and *nouo*, each with a value; it is given whole on the first row. The rulers' reading *9772½* stands after *Minor.*, followed by a comma and *reſp.* Values printed without unit marks, given as degrees and minutes.

747 "Reading" and "Value" are this edition's heads. The label *Alt. ☉ Merid.* / *per Q. Tych.* runs over two lines and is joined by a brace to *vet.* and *nouo*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Reading	Value
by the new sextant [per Sext. nou.]	27° 14¼′
by the old sextant [per Sext. vet.]	27° 14′

748

On 2 October [DIE 2 OCTOBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the old [vet.]	26° 51′
with the new [nouo]	26° 50⅔′
by the revolving quadrant [per Q. Volub.]	26° 51⅓′
by the new sextant [per Sext. nou.]	26° 51½′
by the old sextant [per Sext vet.]	26° 51′
by the lesser quadrant [per Q. Min.]	26° 51′

749

On 3 October [DIE 3 OCTOBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the new [nouo]	26° 28′
old [vet.]	26° 28⅓′
by the revolving quadrant [per Q. Volub.]	26° 29′
by the greatest quadrant [per Q. Maxim.]	26° 28½′
by the new sextant [per Sext. nou.]	26° 28⅓′
by the old sextant [per Sext. vet.]	26° 29′
by the lesser quadrant [per Q. Min.]	26° 28′

750

On 9 October [DIE 9 OCTOBRIS.]

748 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid.* / *per Q. Tych.* runs over two lines and is joined by a brace to *vet.* and *nouo*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

749 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid.* / *per Q. Tych.* runs over two lines and is joined by a brace to *vet.* and *nouo*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

750 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid.* / *per Q. Tych.* runs over two lines and is joined by a brace to *nouo* and *vet.*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tychon.], with the new [nouo]	24° 14 2/[?]′
with the old pinnule [vet pin.]	24° 14¾′
by the revolving quadrant [per Q. Volub.]	24° 15⅙′

751

[It] was not sufficiently clear [Non erat ſatis ſerenum.].

On 22 October [DIE 22 OCTOBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the old [vet.]	19° 46⅙′
with the new [nouo]	19° 45⅝′
by the new sextant [per Sext. nou.]	19° 46½′
by the revolving quadrant [per Q. Volub.]	19° 46¾′
by the greatest quadrant [per Q. Maxim.]	19° 46′

752

On 15 November [DIE 15 NOUEMBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	13° 24′
by the revolving quadrant [per Q. Volub.]	13° 24⅓′

753

On 18 November [DIE 18 NOUEMBRIS.]

751 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tychon.* runs over two lines and is joined by a brace to *nouo* and *vet pin.*, each with a value; it is given whole on the first row. In the first value the fraction's numerator is 2; its denominator is not settled on the scan (3 or 5). Values printed without unit marks, given as degrees and minutes.

752 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *vet.* and *nouo*, each with a value; it is given whole on the first row. In the second value the fraction is ⅝: its denominator is read as 8 on a native-resolution crop, closed at the upper right where the 6 of the ⅙ above it shows a gap; no 8 that a 3 or 7 numerator would force stands on this page to confirm it. Values printed without unit marks, given as degrees and minutes.

753 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.]	12° 50′
by the revolving quadrant [per Q. Volub.]	12° 50¼′

754

[It] was very clear [Erat bene ſerenum.].

On 22 November [DIE 22 NOUEMBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tych.], with the old [vet.]	12° 11′
with the new [nouo]	12° 10⅚′
by the revolving quadrant [per Q. Volub.]	12° 11′

755

On 29 December [DIE 29 DECEMBRIS.]

Reading	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.] by the Tychonic quadrant [per Q. Tich.], with the old [veteri]	11° 48⅓′
with the other [altero]	11° 49′
by the revolving quadrant [per Q. Volub.]	11° 48⅓′
Declination by the armillae [Declin. per Armillas], with one [vno]	22° 17⅓′
with the other [altero]	22° 17¼′

756

[It] was moderately clear [Erat mediocriter ſerenum.].

Places of the Sun [LOCA SOLIS.]

754 "Reading" and "Value" are this edition's heads. *Alt. ⊙ Merid.* stands alone on its line above the instrument lines; it is given with the first of them. Values printed without unit marks, given as degrees and minutes.

755 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tych.* runs over two lines and is joined by a brace to *vet.* and *nouo*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

756 "Reading" and "Value" are this edition's heads. The label *Alt. ⊙ Merid. / per Q. Tich.* runs over two lines and is joined by a brace to *veteri* and *altero*, each with a value; it is given whole on the first row. Values printed without unit marks, given as degrees and minutes.

Day [Die]	Observed altitude of ☉ [Alt. ☉ obſerv.]	Parallax [Parall.]	True altitude [Vera Alt.]	Declination of ☉ [Decl. ☉]	Longitude of ☉ [Long. ☉]	Our ephemerides give [Ephemerides noſtræ dant]
25 February [25 Feb.]	28° 42′ 30″	2′ 36″	28° 45′ 6″	5° 20′ 14″	16° 31′ 10″ ♓	16° 28′ 16″ ♓
	28° 42′ 45″		28° 45′ 21″	5° 19′ 59″	16° 31′ 50″ ♓	
28 —	29° 52′ 25″	2′ 34″	29° 54′ 59″	4° 10′ 21″	19° 29′ 35″ ♓	19° 27′ 40″ ♓
	29° 52′ 35″		29° 55′ 9″	4° 10′ 11″	19° 30′ 0″ ♓	
9 March [9 Mart.]	33° 25′ 30″	2′ 30″	33° 28′ 0″	0° 37′ 20″	28° 26′ 25″ ♓	28° 23′ 55″ ♓
	33° 25′ 0″		33° 27′ 30″	0° 37′ 50″	28° 25′ 10″ ♓	
10 —	33° 48′ 35″	2′ 28″	33° 51′ 3″	0° 14′ 17″	29° 24′ 12″ ♓	29° 23′ 18″ ♓
	33° 48′ 50″		33° 51′ 18″	0° 14′ 2″	29° 24′ 50″ ♓	
17 —	36° 33′ 30″	2′ 23″	36° 35′ 53″	2° 30′ 23″	6° 17′ 30″ ♈	6° 18′ 3″ ♈
	36° 34′ 0″		36° 36′ 23″	2° 30′ 53″	6° 18′ 45″ ♈	
12 September [12 Sept.]	34° 37′ 0″	2′ 27″	34° 39′ 27″	0° 33′ 57″	28° 34′ 55″ ♍	28° 37′ 56″ ♍
	34° 36′ 20″		34° 38′ 47″	0° 33′ 17″	28° 36′ 33″ ♍	

Day	Source	Value	Source	Value
28 February [28 Feb.]	From the Prutenic ephemerides [Ex Ephemeridibus Prut.] Mästlin [Mæſt.]	18° 55′ 0″ ♓		
9 March [9 Mart.]	Magini's	27° 51′ 45″ ♓	Cyprian's [Cypriani]	28° 39′ 39″ ♓
10 —		28° 51′ 14″ ♓		29° 38′ 52″ ♓
17 —		5° 46′ 50″ ♈		6° 32′ 17″ ♈
12 September [12 Sept.]	Prutenic [Prut.] Mästlin [Mæſt.]	28° 34′ 0″ ♍		28° 38′ 58″ ♍

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Observations of the Moon [OBSERUATIONES LUNÆ.]

On 6 January [DIE 6 JANUARIJ.]

Observation of ☾ from ☉ [Obſeruatio ☾ a ☉.]

The place of ☉ being put at 25° 57⅙′ ♑ such as our ephemerides show at noon, the western limb of ☾ was observed by the zodiacal armillae at [Poſito loco

757 The seven column heads of the first table are printed; the dash after a day stands for the month, as printed. The five lines of the second table stand inside the same ruled frame, below the column rules and without heads; "Day", "Source" and "Value" are this edition's heads. *Ex Ephemeridibus* is printed on the first of those lines only; *Magini* and *Cypriani* are printed in the genitive; the 10 and 17 March lines print no source. Every value in both tables is printed as bare figures, without unit marks; the parallaxes are given as minutes and seconds, all other values as degrees, minutes and seconds. No north or south mark is printed with the declinations.

☉ in 25ᴳ 57⅙ᴹ ♌ qualem Ephemerides noſtræ exhibent in Merid., obſeruabatur per Armillas Zodiacales occident. Limb. ☾ in]

Time	Value
12^h 32¼^m [12ᴴ32¼ᴹ]	I 21° 46′ ♈ [I 21ᴳ46ᴹ♈]
12^h 36⅙^m	II 21° 50′ ♈
12^h 37^m 11^s	III 21° 52½′ ♈
12^h 38^m 38^s	IV 21° 55′ ♈
12^h 39^m 0^s	V 21° 56¼′ ♈

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[It] was not clear exactly enough, yet these observations are fair, and the Moon had not yet reached the 90th degree, for [it] first came there P. M. at about 3^h. But [you] can rather rely on the last two observations, limiting them by one another [Non erat ſatis exacte ſerenum, mediocres tamen ſunt hæ obſeruationes, et Luna nondum ad 90 gradum peruenißet, eo enim P. M. circa H. 3 primum venit. Potes autem potius fidere duabus poſtremis obſeruationibus, limitando eas inter ſe.]

The clock [was] corrected at noon [Horologium in meridie correctum.]

Refraction also introduces some obstacle here in both, in ☉ as well as in ☾ [Refractio etiam vtrobique tam in ☉ quam in ☾ hic aliquid ingerit obſtaculi.]

Time	Remark
3^h 27^m [H. 3 27′]	☾ in the 90th degree from the ascendant, according to the computation [☾ in 90 gradu ab aſcendente juxta ſupputationem.]
2^h 31^m 26^s	The place of ☉ being put at 26° 2′ ♌ the western limb of ☾ was observed at [Poſito loco ☉ in 26 G. 2 M. ♌ obſeruabatur occidentalis limbus ☾ in]

Time	Deg. min. [G. M.]	Altitude of ☉ [Altitudo ☉], deg. min. [G. M.]
	22° 43′ ♈	6° 50′
2^h 38^m 10^s	II 22° 47′ ♈	6° 20′
2^h 41^m 16^s	III 22° 47½′ ♈	6° 0′
2^h 45^m 25^s	IV 22° 48′ ♈	5° 45′
2^h 49^m 23^s	V 22° 49⅓′ ♈	5° 15′

758 "Time" and "Value" are this edition's heads; the page prints none. The first row carries unit letters (*H*, *M*, *G*, *M*); the other rows, printed without them, are given as hours and minutes (hours, minutes and seconds where three figures stand) and as degrees and minutes. The roman numerals I–V are printed before the values.

759

Afterwards ☾ was observed in quadrature near the apogee, and that near 90° from ☿, since no other stars were appearing, in this manner [Poſtea obſeruabatur ☾ in quadratura juxta Apogæum, idque prope 90 grad. a ☿, cum nullæ aliæ ſtellæ apparerent, in hunc modum.]

Corrected time [Tempus correctum], h. m. [H. M.]	Distance of ☿ and the western limb of ☾ [Diſt. ☿ et occ. limb. ☾], deg. min. [G. M.]	Azimuth of ☿, west [Azim. ☿ occid.], deg. min. [G. M.]	Altitude of ☿ [Altitudo ☿], deg. min. [G. M.]
$3^h\ 29^m$	42° 28′	7° 58′	28° 45½′
$3^h\ 31⅓^m$	42° 28⅙′		
$3^h\ 33¼^m$	42° 29′	10° 12′	28° 56′
$3^h\ 35^m$	42° 30′		
$3^h\ 37¾^m$	42° 31¼′		
Repeated [Repetita]	42° 32¼′		

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N. B. These observations of ☾ relative to ☿ are good enough, but [you] can use the place of ☿ from the following [N. B. Hæ obſeruationes ☾ ad ☿ ſunt ſatis bonæ, potes autem vti loco ☿ ex ſequentibus.]

Time	Reading	Value
$3^h\ 45^m$	The declination was observed [Obſeruabatur Declinatio] of the upper limb of ☾ [ſuper. Limbi ☾]	7° 43′
	of the lower limb of ☾ [infer. Limbi ☾]	7° 13′
		30′
	Therefore the north declination of the centre of ☾ [Ergo declinatio centri ☾ bor.]	7° 28′

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[You] can apply the other observations to this, for the declinations noted earlier are not true [Huic potes applicare cæteras obſeruationes, nam declinationes prius annotatæ non ſunt veræ.]

759 "Time" and "Remark" in the first table, and "Time" in the second, are this edition's heads; *G. M.* and *Altitudo ⊙ / G. M.* are printed over the value columns of the second. The time *H. 3 27′* prints its minutes of time with a prime and is given as hours and minutes; the other times, printed without unit marks, as hours, minutes and seconds. The first row of the second table prints no time and no roman numeral; the time 2 31 26 stands five lines above it, at the head of the line *Poſito loco ⊙ in 26 G. 2 M.*, and is given against that line in the first table.

760 All four heads and their unit lines are printed. The azimuth and altitude of ☿ are printed on the $3^h\ 29^m$ and $3^h\ 33¼^m$ rows only.

761 "Time", "Reading" and "Value" are this edition's heads. The time and the values are printed without unit marks and are given as hours and minutes and as degrees and minutes; the lone *30* stands under the minutes figure of 7 13 and is given as minutes.

Time	Reading	Value
$5^h\ 15^m$	The middle of ☾ was distant from ♄ with the Radius [Diſtabat Medium ☾ a ♄ per Rad.]	1° 55′
	as if applying bodily to ♄ itself [quaſi applicans ipſi ♄ corporaliter.]	
$5^h\ 34^m\ 37^s$ [5 34 37″]	The western limb of ☾ passed through the meridian and had the altitude [Tranſiuit occid. Limbus ☾ per Merid. et habuit Alt.]	
	of the upper horn [ſuper. cornu]	42° 5⅙′
	of the lower horn [infer. cornu]	41° 35¼′
	Difference [Differentia]	0° 29⅚′
	At the same time the meridian altitude [Eodem tempore Alt. M.]	
	of the upper horn of ☾ [ſuper. cor. ☾]	42° 5⅓′
	of the lower horn [inferioris cornu]	41° 34⅓′
		0° 31′

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Time	♀ west [♀ occid.], deg. min. [G. M.]	The bright [star] of ♈ east [Luc. ♈ or.], deg. min. [G. M.]	Equatorial distance [Diſt. æquat.]
$5^h\ 39^m\ 23^s$ [5 39 23″]	42° 1¼′	2° 9½′	44° 10¾′

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From this [observation] and the preceding the time at which the western limb of ☾ passed the meridian can also be restored. For the clock at noon was corrected exactly enough [Ex hac et præcedenti poteſt etiam tempus reſtitui quo ☾ occid. Limbus tranſiuit Meridianum. Horologium enim in Meridie erat correctum ſatis exacte.]

For the place of ☾ [Pro loco ☾.]

Time	Reading	Value
$3^h\ 29⅓^m$ [3^H $29⅓^M$]	Between ♀ and the western limb of ☾ [Inter ♀ et occid. limbum ☾]	42° 28′
	Semidiameter of ☾ adden. [Semidiam. ☾ adden.]	15′
	Distance of the centre of ☾ and ♀ [Diſtantia centri ☾ et ♀]	42° 43′
	Declination of the centre of ☾, north [Declin. centri ☾, Bor.]	7° 25′

762 "Time", "Reading" and "Value" are this edition's heads. The time 5 34 37 prints a seconds mark; the other time is printed without unit marks and is given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *1 55* stands alone on the line below *per Rad.*; *0 31* stands alone below the two altitudes of the second group. In the first group the altitudes of the upper and lower horn, 42 5⅙ and 41 35¼, differ by 0° 29′ 55″, while their *Differentia* is printed 0 29⅚; the second group's 42 5⅓ and 41 34⅓ differ by the 0 31 printed below them. The figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

763 "Time" is this edition's head; the other three heads are printed, with *G. M.* over the first two only. The equatorial distance, printed without unit marks, is given as degrees and minutes.

Time	Reading	Value
	South declination of ♀ [Declinatio ♀ auſtral.]	6° 28′
	Side BA [Latus BA]	96° 28′
	Side CA [Latus CA]	82° 35′
	BC	42° 43′
	BAC	40° 29′ 58″
	Right ascension of ♀ [Aſc. Recta ♀]	341° 47′
	Right ascension of ☾ [Aſcenſio Recta ☾]	22° 17′
	Ascension of ☾ [Aſcenſio ☾]	22° 17′
	North declination [Declin. Bor.]	7° 25′
	Corresponding longitude [reſp. Long.]	23° 21′ 23″ ♈
3h 38m [3H38M]	The same distance [Diſtantia eadem]	42° 31¼′
3h 27m	The place of ☾ was in the 90th degree [Locus ☾ fuit in 90 Gradu]	
3h 29¼m	Distance of the centre of ☾ [Diſtantia centri ☾]	42° 46¼′
	North declination [Declinatio Bor.]	7° 26′
	BA	96° 27½′
	CA	82° 34′
	BC	42° 43′
	BAC	40° 33′ 31″

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Reading	Value	Reading	Value
Right ascension of ☾ [Aſc. Recta ☾]	22° 20½′	Longitude [Longitudo]	23° 25′ ♈.
North declination [Declin. Bor.]	7° 26′	Latitude [Latitudo]	1° 49⅙′ south [M.]

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	Tychonic [Tychon.]	Alphonsine calculation [Alphonſ. Calc.]	Copernican calculation [Copern. Calc.]
Longitude of ☾ [Long. ☾]	23° 21⅓′ ♈	23° 2′ ♈	23° 12′ ♈
Latitude [Latit.]	1° 48⅚′ south [M.]	0° 57′ south [M.]	0° 58½′ south [M.]
	1° 49′ 43″[1] according to the corrected tables [iuxta tabulas correctas.]		

764 "Time", "Reading" and "Value" are this edition's heads. The times with H/M are printed with unit letters; 3 27 and 3 29¼, printed without them, are given as hours and minutes. The values are printed without unit marks except the seconds of the two BAC values; the semidiameter *15* stands in the minutes position and is given as minutes; all other values are given as degrees and minutes, the corresponding longitude as degrees, minutes and seconds. The first value, *42 28*, stands on the line below its label. In the second reckoning BC is printed 42 43, the value of the first reckoning, while the distance of the centre of ☾ stated above it is 42 46¼; in the first reckoning BC equals the distance. Both figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

765 "Reading" and "Value" are this edition's heads; each line prints two labels with their values. Values printed without degree and minute marks, given as degrees and minutes.

766

Diagram. Set at the left of the first seven lines of the paragraph below. A circle whose upper-left part, cut off by a straight line running from the lower left to the upper right of the circle, is cross-hatched, the rest left white. From the lower left of the circle, where that line meets it, a short straight line runs down to the left to an eight-rayed star; beside the star, at the far left, stands the sign ♄. No letters are drawn.

• ♄ (far left, beside the star): ♄

N. B. How closely ☾ touched ♄ this evening [N. B. Quam prope ☾ ♄^{um} attigit hoc veſperi.]

At 10^{h} 4^{m} [H.10 M.4], when the eye of ♉ was distant from the meridian toward the west 27° 50′ [27 Gr. 50 M.], then both horns of ☾, being in quadrature, were directed precisely at ♄, as far as could be seen [Quando oculus ♉ diſtabat a Meridiano verſus occaſum 27 Gr. 50 M. tunc ambo cornua ☾ in quadratura exiſtentia dirigebantur exquiſite in ♄ quoad videre licuit.]. For ♄ was distant from the lower limb of ☾ and the southern horn toward the south by 12′ [Diſtabat enim ♄ ab inferiori limbo ☾ cornuque auſtrali verſus auſtrum ſcrupulis 12.]. For [it] seemed to be distant from the lower horn of ☾ toward the south by more than a third part of the lunar diameter, and less than the half part [Nam plus tertia parte Diametri Lunaris, et minus a media parte videbatur diſtare ab inferiori cornu ☾ verſus auſtrum.]. The Radius gave the distance of the lower horn and ♄ around the conjunction 12′ [Radius præbuit diſtantiam inferioris cornu et ♄ circa coniunctionem 12 M.]. But [you] can take the distance from the lower horn of ☾ at the very ☌ with ♄ of 13′, and [you] will err imperceptibly [Potes autem ſumere diſtantiam ab inferiori cornu ☾ in ipſa ☌ cum ♄^{no} 13 ſcrupulorum, et inſenſibiliter aberrabis.]. Which also Petrus and [Quod etiam Petrus et]

[1] From codex V. [E codice V.]

___[767]

Gellius noticed in the same way at the upper instruments, at the very ☌ of both, [they being] removed from each other by a little less than a semidiameter [Gellius apud ſuperiora inſtrumenta eodem modo animaduerterunt in ipſa ☌ vtriusque paulo minus ſemidiametro remotæ inuicem.]

And hence, from the given place of ♄ and the time verified by the stars, and from the place of ☾ corrected from the preceding when [it] was passing through the 90th degree, [you] can investigate the parallax of ☾ more correctly than has hitherto been customarily done by our predecessors. Now ☾ was

[766] The three column heads are printed; the first column has none. The sign ☾ is printed once, between the *Long.* and *Latit.* lines, and serves both. *1 49 43* and *iuxta tabulas correctas.* stand on lines of their own below the latitudes, beginning under the Tychonic column. Values printed without unit marks, given as degrees and minutes, *1 49 43* as degrees, minutes and seconds.

[767] The sentence begins on the previous page, which ends at *Quod etiam Petrus et* ("Which also Petrus and").

around its apogee, and in □ from the Sun, which contributes very greatly to the perfect reckoning of the matter to be investigated [Hincque ex dato loco ♄ni et tempore per ſtellas verificato, locoque ☾ ex antecedentibus, cum per 90 Gr. tranſiret, correcto, potes parallaxin ☾ rectius inveſtigare, quam hactenus ab anteceßoribus noſtris factitatum eſt. Erat autem ☾ circa apogæum ſuum, et in □ a Sole quod plurimum facit ad rei inquirendæ perfectam rationem.]

Note. Petrus Jacobi[768] and Gellius Sascerides observed above, at the southern armillae, that at the time when ☾ was visibly joined to ♄, drawing a line through the tip of each [horn] of ☾, the bright [star] of ♈ was distant from the meridian 64° 45′ [Nota. Petrus Jacobi et Gellius Saſcerides ſuperius apud Armillas auſtrales obſeruarunt quod tum cum ☾ viſibiliter jungeretur ♄ trahendo lineam per vtriusque apicem ☾, diſtabat lucida ♈ a meridiano 64 Gr. 45 M.]. From this the time is gathered to have been 10h 9¾m P. M. [Inde colligitur tempus fuiße Hor. 10 M. 9¾ P. M.]. But according to my own observations, which we made carefully in the subterranean observatory, Aldebaran was then distant from the meridian, west, 27° 50′, which gives in time 10h 10m 13s [At juxta meas proprias obſeruationes quas fecimus diligenter, in obſeruatorio ſubterraneo, diſtabat tunc Aldeboram a Merid. occid. 27 Gr. 50 M. quod facit in tempore H. 10 M. 10. 13 S.]. Each of the two observations therefore agrees exactly enough, that at 10h 10m there had visibly been the conjunction of ♄ and ☾ [Satis itaque exacte conſentit vtraque obſeruatio, quod H. 10 M. 10 fuerat viſibiliter ♄ et ☾ coniunctio.]. *Now the place of* ♄ *was then, from the preceding observations, in 26° 1′* ♈, latitude 2° 27¾′ south [Fuit autem tunc ex obſeruationibus antecedentibus locus ♄ in 26 Gr. 1 M. ♈, Latitudo 2 Gr. 27¾ M. Mer.]. From this the place of ☾ can be gathered [Hinc locus ☾ colligi poteſt.]

[At] 3h 27m, when ☾ was in the 90th degree from the ascendant, its longitude from observation was 23° 20¼′ ♈. Latitude 1° 48¾′ [H. 3 M. 27 quando ☾ fuit in 90 Gr. ab aſcendente erat ex obſeruatione Longitudo eius 23 Gr. 20¼ M. ♈. Latitudo 1 Gr. 48¾ M.]

On 9 January, P. M. *[DIE 9 JANUARIJ, P. M.]*

☾ *[was] this evening in the 90th degree of the horizon at about the completed* 7⅙h *P. M.* [☾ hoc veſperi in 90 gradu horizontis circa horam completam 7⅙ P. M.] ♀ *was observed from* ☾ *by the equatorial armillae in this manner that follows* [Obſeruabatur ♀ a ☾ per Armillas Æquatorias in hunc qui ſequitur modum.]

Time	Reading	Value
4h 17m [4H 17M]	*Declination* [Declin.]	
	of the upper horn of ☾*, north* [ſuper. cornu ☾ Bor.]	*16° 3′*
4h 18m	*of the lower horn of* ☾ [inferior. cornu ☾]	*15° 33⅙′*
	Diameter	*0° 29⅚′*

[768]identified as Peder Jacobsen

Time	Reading	Value
	Therefore the true declination of the centre of ☾ [Ergo declinatio vera centri ☾]	*15° 48′*
		north [Bor.]
4h 22m	*Declination* [Declin.]	
	of the upper horn of ☾ [ſuper. cornu ☾]	*16° 3¼′*
4h 23m	*of the lower horn of* ☾ [inferior. cornu ☾]	*15° 33′*
	Apparent diameter of the moon [Diameter lunæ app.]	*0° 30¼′*
	And the true declination of the centre of ☾ [Et vera centri ☾ declin.]	*15° 48′ north* [15 48 B.]
		as before [vt prius.]

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Afterwards ♀ *was observed from* ☾ *in equatorial distance, as follows* [Poſtea obſeruabatur ♀ a ☾ in æquat. diſt. vt ſequitur.]

Time	*Western limb of* ☾*, east* [Occ. limb. ☾ or.]	♀ *west* [♀ occid.]	*Equatorial distance* [Diſt. æquat.]	*Altitude* [Altitudo]: ☾	♀
4h 27½m	*50° 19′*	*24° 30′*	*74° 49′*	*35° 20′*	*25° 40′*
4h 33½m	*48° 55¼′*	*25° 55½′*	*74° 50¾′*	*35° 30′*	*25° 10′*
4h 35¼m	*48° 27½′*	*26° 23′*	*74° 50½′*	*35° 45′*	*25° 5′*
4h 37½m	*47° 55′*	*26° 56¼′*	*74° 51¼′*	*36° 2′*	*24° 55′*

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Note. That everywhere the altitude of the upper horn and the distance of the western limb of ☾ *from* ♀ *was taken* [Nota. Quod vbique accipiebatur altitudo ſuper. cornu & diſt. occ. limbi ☾ a ♀.]

Time	Reading	Value
4h 41½m	*Declination* [Declin.]	
	of the upper horn of ☾ [ſuper. cornu ☾]	*16° 6′*
	of the lower horn of ☾ [infer. cornu ☾]	*15° 35′*
	Diameter of ☾ [Diameter ☾]	*0° 31′*
	Therefore the declination of the centre of ☾ [Ergo declin. centri ☾]	*15° 50½′*

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769 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The first time carries unit letters (*H*, *M*); the other times, printed without them, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *Bor.* stands alone on the line below 15 48; *declin.* stands on the line of its value, below *Et vera centri* ☾; *vt prius.* stands alone on the line below.

770 "Time" is this edition's head; the other heads are printed, on two lines, with *Altitudo* printed once over the ☾ and ♀ columns. The times and values are printed without unit marks and are given as hours and minutes and as degrees and minutes.

771 "Time", "Reading" and "Value" are this edition's heads. The time and the values are printed without unit marks and are given as hours and minutes and as degrees and minutes.

Afterwards ☾ was observed near the 90th degree in this manner that follows [Poſtea obſeruabatur ☾ vicina 90 Grad. in hunc qui ſequitur modum.]

Time	Reading	Value
$6^h\ 58^m$	*Declination of the upper horn of* ☾ [Declin. ſuper. cornu ☾]	*16° 17½′*
$6^h\ 58¾^m$	*Declination, lower* [Decl. infer.]	*15° 46′*
	Difference [Differentia]	*0° 31½′*
	Declination of the centre of ☾ [Declinatio centri ☾]	*16° 2′*
		nearly [fere]
$7^h\ 0^m$	*The bright [star] of* ♈, *west* [lucida ♈ occidentalis]	*20° 22′*
	the western limb of ☾ *was then distant from this very star by the sextant* [diſtabat tunc occ. limbus ☾ ab hac ipſa ſtella p. Sext.]	**32° 12½′*[1]* [32 12½[1]]
$7^h\ 3^m$	*when the bright [star] of* ♈ *was west* [cum luc. ♈ eßet occid.]	*21° 10⅓′*
	distance of ☾ *as before* [diſt. ☾ vt prius]	**32° 13′*[1]* [32 13[1]]

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These distances are not certain enough, but compare [them] with the following [Hæ diſtantiæ non ſunt ſatis certæ, ſed confer cum ſequentibus.]

N. B. The place of ☾ at $6^h\ 58^m$, when [it] was in the very 90th degree itself, comes out from observation 1° 0½′ ♊, from the Alphonsine calculation 2° 0′ ♊, from the Copernican 1° 45′ ♊. The Alphonsine therefore exceeds by 1° and the Copernican by ¾° [N. B. Prouenit locus ☾ H. 6 M. 58 quando erat in ipſißimo 90 gradu, ex obſeruatione 1ᵍ 0½′ ♊, ex calculo Alphonſino 2ᵍ 0′ ♊, ex Copernico 1ᵍ45′ ♊. Excedit itaque Alphonſ. 1 grad. & Copern. ¾ grad.]

[1] Struck through with lines [Lineis inducta.]

Time	*The bright [star] of* ♈, *west* [Luc. ♈ occ.]	*Western limb of* ☾, *east* [Occ. limb. ☾ or.]	*Equatorial distance* [Diſt. æquat.]
$7^h\ 5^m$	*21° 40′*	*11° 51′*	*33° 31′*
		set [pone]	*33° 30½′*
$7^h\ 6^m$	*21° 54′*	*11° 36¼′*	*33° 30¼′*
		set [pone]	*33° 31′*
$7^h\ 7½^m$	*22° 16½′*	*11° 15¼′*	*33° 31¾′*
$7^h\ 8⅔^m$	*22° 34⅙′*	*10° 58¼′*	*33° 32½′ nearly* [33 32½ fere]
$7^h\ 10¾^m$	*23° 5¼′*	*10° 28′*	*33° 33¼′*

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772 "Time", "Reading" and "Value" are this edition's heads. The times and values are printed without unit marks and are given as hours and minutes and as degrees and minutes. *fere* stands alone on the line below 16 2.

773 "Time" is this edition's head; the other three heads are printed, each on two lines. The column opens with these heads, with no date or heading; the times follow those of the previous page. *pone* stands under the western-limb column, before a value in the equatorial-distance column, on two lines that print no time. The times and values are printed without unit marks and are given as hours and minutes and as degrees and minutes.

Time	Reading	Value
$7^h\ 14^m$	*Declination of the upper horn of* ☾ [Declin. ſuper. cornu ☾]	*16° 20′*
$7^h\ 15^m$	*of the lower horn of* ☾ [infer. cornu ☾]	*15° 47½′*
	Diameter	*0° 32½′*
$7^h\ 17½^m$	*Repeated declination* [Repet. decl.]	
	of the upper horn of ☾ [ſuper. cornu ☾]	*16° 20′*
$7^h\ 17½^m$	*of the lower* [inferioris]	*15° 47½′*
		0° 32½′
	Therefore the declination of the centre of ☾ [Ergo declinatio centri ☾]	*16° 4′ nearly* [16 4 fere.]

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Afterwards the distance of the western limb of ☾ *from the bright [star] of* ♈ *was again taken by the sextant in this manner* [Poſtea rurſus accipiebatur diſtantia occ. limbi ☾ a luc. ♈ per Sextantem in hunc modum.]

Time	*The bright [star] of* ♈*, west* [Luc. ♈ occid.]	*Distance of the western limb of* ☾ *from the bright [star] of* ♈ *by the sextant* [Diſt. occ. limbi ☾ a luc. ♈ per ſext.]
$7^h\ 21⅓^m$	*25° 48′*	*32° 15½′*
$7^h\ 22⅔^m$	*26° 7′*	*32° 16′*
$7^h\ 23¾^m$	*26° 28′*	*32° 16¼′*

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Time	Reading	Value
$7^h\ 25^m$	*Repeated declination* [Repetita decl.]	
	of the upper horn of ☾ [ſuper. cornu ☾]	*16° 21′*
$7^h\ 26½^m$	*of the lower* [inferioris]	*15° 49′*
	Therefore the declination of the centre of ☾ [Ergo declinatio centri ☾]	*16° 5′*

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[You] can base yourself with certainty on these lunar observations, especially on those that were obtained by the armillae and on the last ones taken by the sextant. For a certain one of the students, less skilled in this matter, was taking the first two by the sextant [His obſeruationibus lunaribus potes certo te fundare, præſertim ijs quæ per Armillas habebantur et vltimis per ſextantem acceptis. Nam priores duas quidam ſtudioſorum minus peritus huius rei capiebat per Sextantem.]

774 "Time", "Reading" and "Value" are this edition's heads. The times and values are printed without unit marks and are given as hours and minutes and as degrees and minutes. The second 0 32½ stands alone on its line, under the two values above it.

775 "Time" is this edition's head; the other two heads are printed, each on two lines. The times and values are printed without unit marks and are given as hours and minutes and as degrees and minutes.

776 "Time", "Reading" and "Value" are this edition's heads. The times and values are printed without unit marks and are given as hours and minutes and as degrees and minutes.

Time	Reading	Value
7h 53m 40s [7H53M40S]	*The western limb of ☾ [passed] through the meridian and had the altitude by the revolving [quadrant]* [Occid. limbus ☾ per Merid. & habuit Altitud. per volub.]	
	upper horn [cornu ſuperius]	*50° 29½′* [50G.29½M.]
	lower [inferius]	*49° 58′*
	By the mural [quadrant], of the upper [Per Muralem, ſuperioris]	*50° 28′*
	of the lower [inferioris]	*⋆49° 56′⋆1* [49 561]
	The bright [star] of ♈ then had the distance from the meridian [Habuit tunc. luc. ♈ diſt. merid.]	*33° 54′*
		west [occ.]
8h 6m 15s	*Aldebaran passed* [Tranſiuit Aldeb.]	
	Meridian altitude [Merid. altit.]	*49° 41¾′*

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From this it will also be possible to verify the place of ☾ from the interval of time between both transits [Hinc poterit etiam verificari locus ☾ ex interuallo temporis inter vtroſque tranſitus.]

After M. N. the visible ☌ of ☾ and Aldebaran [Poſt M. N. ☌ viſibilis ☾ et Aldeboræ.]

[At] 1h 42⅓m, when the heart of ☌ was distant from the meridian toward the west 0° 46¼′, ☾ was then applying very closely to the eye of ♉, as far as could be discerned by sight, so that the eye of ♉ appeared in a straight line drawn through both horns of ☾, distant from the lower limb of ☾ toward the south by the interval of the lunar diameter as nearly as possible [H. 1 M. 42⅓ quando cor ☌ diſtabat a Meridiano ad occaſum 0 Gr. 46¼ M. tunc ☾ proxime applicabat ad oculum ♉, quoad viſu diſcernere licuit, ita vt oculus ♉ videretur in linea recta per vtrumque cornu ☾ ducta, diſtans ab inferiori limbo ☾ ad auſtrum, interuallo diametri Lunaris quam proxime.]. Now the interval of Aldebaran from the lower limb of ☾, the one nearest to it, was taken at that time by the old sextant △ as 0° 29′, twice [Accepta eſt autem tum temporis intercapedo Aldeboræ ab inferiori limbo ☾ ſibi proximo per Sextantem △ veterem 0 G. 29 M. bis.]. Then the altitude of the lower limb of ☾ was 15° 40′ by the revolving quadrant [Tunc fuit altitudo inferioris limbi ☾ 15 40 per Quad. Volubilem.][778]

Note. The true longitude of ☾ was therefore then 4° 44′ ♊, with the parallax applied that was found near the 90th degree. From this it will be possible to trace and examine the parallax of ☾, applying its place which [it] had around the 90th degree the preceding [day] and on the following day [Nota. Fuit itaque tunc vera

[777] "Time", "Reading" and "Value" are this edition's heads. The first time and the first value carry unit letters (*H*, *M*, *S*; *G*, *M*); the time 8 6 15, printed without them, is given as hours, minutes and seconds; the other values, printed without unit marks, as degrees and minutes. *occ.* stands alone on the line below 33 54. The Latin prints no verb for the western limb's passage through the meridian.

[778] *15 40* is printed without unit marks and is given as degrees and minutes.

longitudo ☾ 4 Gr. 44 M. II adhibita parallaxi, quæ reperiebatur juxta 90 Gr. Hinc poterit indagari examinarique parallaxis ☾ adhibito eius loco, quem habuit circa 90 Grad. antecedentem & die ſequente.]

This observation was made below, in the subterranean observatory, and from this the time of the visible conjunction of ☾ and Aldebaran comes out $1^h\ 42\frac{1}{2}^m$*, which nearly agrees with the clock. But considering together [with it] the following observation, made above by different observers and with another instrument, of the armillae, the time comes out* $1^h\ 40\frac{3}{4}^m$*. Set, therefore, the true time at* $1^h\ 42^m$ *after M. N., imperceptibly* [Hæc obſeruatio fiebat inferius in obſeruatorio ſubterraneo et prouenit hinc tempus conjunctionis viſibilis ☾ et Aldeboræ Hor. 1 M. 42½ quod fere cum horologio conſentit. Verum conſiderando vna ſequentem obſeruationem ſuperius factam a diuerſis obſeruatoribus, et alio inſtrumento Armillarum prouenit tempus Hor. 1. 40¾ M. Pone itaque verum tempus H. 1 M. 42 Poſt M. N., inſenſibiliter.]

[1] At the end of this year this observation is transcribed thus in codex V [Ad finem huius anni hæc obſeruatio ſic tranſcripta eſt in codice V:]

On 9 January. By the Tychonic quadrant. At evening time [Die 9 Januarij. Per Q. Tychon. Veſpertino tempore.]

Reading	Value
Upper limb of ☾ in the meridian [Superior limbus ☾ in merid.]	50° 28′
altitude [alt.]	50° 28⅓′
Lower limb of ☾ in the meridian [Inferior limbus ☾ in merid.]	49° 55⅓′
altitude [alt.]	49° 56′ nearly [49 56 fere.]

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Note. The true longitude of ☾, from the preceding and following [observations], was 4° 32′; hence the parallax of longitude was only 31, whereas with respect to the earlier [ones] it ought to have been 43 at the least [Nota. Vera longitudo ☾ fuit ex antecedent. et ſequentibus 4 Gr. 32 M. vnde parallaxis longit. erat ſaltem 31 cum deberet eße reſpectu priorum 43 ad minimum.]

Diagram. Set at the right of body lines 3–14: beside the last line of the note above and the first eleven lines of the paragraph below. A circle whose upper-left part is hatched with parallel strokes, cut off by an inner curve running from a point at the upper right of the circle to a point at the lower left. A straight line joins those two points, with a small dot on it near its middle. In the white part of the circle, to the right of the line, the sign ☾ is drawn. The straight line runs on past the lower-left point, down to the left, to a rayed star; to the right of the star, in a cursive hand, stands the word *Aldebora*.

- ☾ (inside the circle, right of the line): ☾
- *Aldebora* (lower left, beside the star): Aldebaran

But in the upper observatory, toward the south, Petrus Jacobi and Gellius Sascerides observed separately, by the lesser equatorial armillae, that at the time when a straight

[779] "Reading" and "Value" are this edition's heads; the footnote prints none. The values are printed without unit marks and are given as degrees and minutes.

line from both tips of ☾ was drawn to Aldebaran, Canis Minor was distant from the meridian toward the west 37° 30′, so that the straight line seemed to be drawn through the centre of ☾ from the ecliptic [In obſeruatorio vero ſuperiori verſus Meridiem per Armillas minores æquatorias obſeruarunt Petrus Jacobi et Gellius Saſcerides ſeorſim, quod tunc cum linea recta ab vtroque apice ☾ duceretur in Aldeboram, diſtaret Canis Minor a Meridiano verſus occaſum P. 37 M. 30 ita vt linea recta per ☾ centrum ab Ecliptica duci videretur.]. *But the distance from the lower horn of ☾ to the star itself appeared as it were of the size of the apparent lunar diameter* [Diſtantia vero ab inferiori cornu ☾ ad ipſam ſtellam apparuit quaſi ad quantitatem diametri lunaris apparentem.]. *But Petrus Jacobi then observed the same distance with the Radius as 0° 30′, which agrees fairly well with the preceding observations obtained at the same time in another place by different observers with other instruments; the time, however, that is gathered from this distance of Canis Minor from the meridian, west, is 1^h $40¾^m$ P.M.N* [Verum Petrus Jacobi obſeruauit eandem diſtantiam per Radium tunc 0 Gr. 30 M. quod ſatis bene cum præcedentibus obſeruationibus eodem tempore alio in loco a diuerſis obſeruatoribus per alia organa habitis conuenit, tempus autem quod colligitur e diſtantia hac Canis minoris a Meridiano Occidentali eſt 1.40¾ M.P.M.N][780]

Examination of the preceding observation of ☾ to Aldebaran, compared with the one that was near the 90th degree in ☾[1] [Examinatio præcedentis obſeruationis ☾ ad Aldeboram collata cum ea quæ fuit iuxta 90 gradum in ☾[1].]

Since the diameter of ☾ is 32, therefore its nearest limb has a latitude of 4° 58′, since [the latitude] of Aldebaran is 5° 30′; and the centre of ☾ [has] the same [latitude] 4° 42′ as to the visible latitude. Therefore, since the true latitude was then, according to the reckoning of the tables, precisely 4°, hence the parallax of latitude [is] 42′ [Quia diameter ☾ eſt 32 igitur limbus eius proximus habet latitudinem 4 Gr. 58 M. ſiquidem. Aldeboræ eſt 5 Gr. 30 M. et centrum ☾ eandem 4 42 quo ad viſam latitudinem, quare cum vera latitudo fuerit tunc iuxta numerationem tabularum præciſe 4 Graduum, hinc parallaxis latitudinis 42′.]. *But the parallax in the circle of altitude is 57′, according to the altitude of ☾ of 16°* [Parallaxis vero in circulo altitudinis exiſtit 57′, iuxta Altitudinem 16 Gr. ☾.]. *Therefore, since two sides in a right-angled triangle are given, the third is also given, by 7 of Reinhold's*[781] *primum mobile, or our rule 2 of plane [triangles]* [Ergo cum dentur duo latera in triangulo rectangulo, datur etiam tertium per 7 Reinholdi primi Mobilis vel 2 dogma planorum noſtrum.]. *This comes out, when the operation is completed, as 38′, and it is the parallax of longitude* [Quod euadit abſoluta operatione Minutorum 38 & eſt Parallaxis Longitudinis.]. *But from the computation to the 90th degree, [at] 6^h 58^m, when the Moon was [in] 1° 1′ ♊, the interval was 6^h 44^m; and since the diurnal motion of ☾, according to the following observation made a little before the 90th degree of the day immediately following, is 12° 34′ with the correction applied, the true place of ☾ at the said hour was in 4° 33′ ♊, whereas, with the parallax of*

[780] in *1.40¾ M.* the 1 is printed without a unit and is given as hours; the line ends at *P.M.N*, with no point.

[781] identified as Erasmus Reinhold

longitude applied, it ought then to have been in 4° 39′ ♊ (for it was 6^h 58^m when it was in the 90th [degree], in 1° 1′ ♊), the difference being 6′; and this hardly came about on account of our having examined the parallax of this [one] as though ☾ were in the ecliptic [At ex ſupputatione ad 90 gradum H. 6 M. 58 quando luna erat 1 Gr. 1 M. ♊ fuit interuallum H. 6 M. 44 cumque motus diurnus ☾ iuxta ſequentem obſeruationem factam paulo ante 90 gradum diej mox inſequentis adhibita correctione ſit 12 Gr. 34′ fuit locus ☾ verus prædicta Hora in 4.33 ♊, cum tamen adhibita parallaxi longitudinis debuißet tunc eße in 4 Gr. 39 M. ♊ (fuit enim H. 6.58′ cum eßet in 90 in 1 Grad. 1 M. ♊) differentia exiſtente 6 ſcrupulorum, quæ vix ob id euenit quod parallaxin huius, tanquam in Ecliptica eßet ☾, ſcrutati ſumus.]. *For on that account it would be made smaller by hardly a single minute; but I rather think [it] came about because the Moon, at about 15° of altitude, was inducing a greater refraction than Aldebaran, and therefore [it] seemed to be joined with the star sooner than actually happened, the refraction itself making the parallax of longitude somewhat smaller, so that it appeared only 32′ whereas it ought to have been 38′; a test of this it will be possible to set up in other lunar observations* [Nam vix vnico Minuto ob id minor redderetur, ſed exiſtimo potius factum, quia luna majorem refractionem circa grad. 15 Altitudinis ingerebat, quam Aldeboram, ideoquo [recte: ideoque] citius videbatur coniungi cum ſtella quam revera accidit ipſa refractione parallaxin longitudinis aliquantulum minorem efficiente, ita vt apparuerit ſaltem 32′ cum debuißet eße 38′, cuius experimentum in alijs lunaribus obſeruationibus inſtitui poterit.]. *In the Sun this refraction in longitude would amount to hardly 3′, or approximately* [In Sole vix 3 ſcrupulorum vel circiter fieret hæc refractio in longitudinem.]. *Whether in ☾, because it is nearer to the vapours, and shines with a duller light, [it] turns out greater, a trial will have to be made* [An in ☾ quod vaporibus ſit vicinior, et hebetiori lumine ſplendeat, maior euadat, periculum faciendum erit.][782]

N. B. I also investigated, from the Prutenic calculation, the parallax of ☾ for both times, both when it was near the 90th degree and when [it was] at an altitude of nearly 16°; and I found that at about 7^h, from the double distance from the vertex, 83°, and the doubled [distance] of ☾ from ☉, 254, and its equated anomaly, the parallax in the circle of altitude comes out 35½′ [N. B. Inquiſiui etiam ex calculo Prutenico parallaxin ☾ ad vtraque tempora, tam cum eßet iuxta 90 Gradum quam cum in altitudine 16 fere partium, & inueni quod iuxta Hor. 7 e diſtantia a vertice dupla 83^9 et duplata ☾ a ☉ 254 atque anomalia eius coæquata prouenit parallaxis in circulo altitudinis M. 35½.]. *But in the latter, from the altitude of 16° and on that account the doubled distance 148 from the vertex, and the double longitude 260⅓, and the equated anomaly 36½,* [In poſteriori vero ex altitudine 16 partium & ob id duplata diſtantia 148 a vertice & duplici longitudine 260⅓, anomaliaque coæquata 36½, proue-][783]

[782] the pair *4 42* and the pair *4.33* are printed without unit marks and are given as degrees and minutes. In *H. 6.58′* the minutes carry a minute mark; with *H.* before them they are given as minutes of time. A point is printed after *ſiquidem*.

[783] the page ends at *proue-*; the word and the sentence end on the next page.

[1] Afterwards written up by Tycho on two leaves, which are inserted in codex D [Poſtea a Tych[[o/c]]ne in duobus foliis conſcripta, quæ in codice D inſerta ſunt.]

the parallax in the circle of altitude comes out [as] nearly 51′, to which there correspond a parallax of longitude of 36½ and a parallax of latitude of 35′; and thus the longitude of ☾ would have been [nit parallaxis in circulo altitudinis 51 M. fere, quibus reſpondet parallaxis Longitud. 36½ et parallaxis Latitudinis 35 M., atque ſic fuißet ☾ longitudo][784]

Reading	Value
true, then [vera tunc]	*4° 37½* ♊
but the proper motion from the 90th degree up to this point was [motus vero proprius a 90 Gr. hucusque erat]	*3° 31½*
therefore ☾ would then have been in [fuißet itaque ☾ tunc in]	*1° 6′* ♊
but it was being observed by the instrument, in the 90th [degree], [in] [ſed obſeruabatur per inſtrumentum in 90]	*1° 1′* ♊
Difference [Differentia]	*0° 5′*

[785]

But it is to be noted that, since the true latitude according to the reckoning was, at 1^h 42^m, when [it] was being joined to Aldebaran, 4° 0′, and the parallax of latitude coming out from the calculation is 35, it ought then to have a visible latitude of 4° 35′ south; [the latitude] which was seen in the sky (as is clear from the preceding) [as] 4° 42′, and on that account greater than correct by 7′. The cause of this matter has to be inquired into at another time [Notandum vero, quod cum latitudo vera ſecundum numerationem fuerit H. 1 M. 42 quando iungebatur Aldeboræ 4 Gr. 0 M. et parallaxis latit. e calculo proueniens ſit 35, debet tunc habere latitudinem viſam 4 Gr. 35 M. Meridianam, quæ in cœlo videbatur (vt e præcedentibus patet) 4 Gr. 42 M., et ob id 7 Minutis iuſto maior. Cuius rei cauſa alias inquirenda venit.]

Note. I afterwards found that a perceptible error lies hidden in the greatest latitude of ☾, which I found to be greater than the Ptolemaic [one] by a quarter of a degree; if this is applied here, everything will fit much better [Nota. Ego poſtea inueni quod error ſenſibilis lateat in latitudine ☾ maxima, quam ego quarta parte gradus Ptolemaica maiorem adinveni, hæc ſi hic applicetur multo melius omnia quadrabunt.]

[784] the sentence begins on the previous page (*proue-*); *prouenit* is rendered "comes out" here, where the word ends.

[785] "Reading" and "Value" are this edition's heads. *vera tunc* completes the sentence above (… ☾ *longitudo vera tunc*). A horizontal rule is printed under 3 Gr. 31½ M.; dot leaders run from the words to the values in the last three lines. The values *1 6* and *1 1* stand under the *Gr.* and *M.* of the values above and are given as degrees and minutes; the last line prints *0 5 M.*, and its 0 is given as degrees.

On 10 January, P. M. [DIE 10 JANUARIJ P. M.]

Observation of ☾ *when [it] was approaching the 90th degree* [Obſeruatio ☾ cum appropinquaret 90 gradui.]

Time	Reading	Value
7^h 2⅓^m [H. 7 2⅓′]	Declination of the upper limb of ☾ [Decl. ſuper. limbi ☾]	17° 41½′
	of the lower [inferioris]	17° 11′
	Diameter of ☾ [Diameter ☾]	0° 30½′
	Declination of the centre [Declin. centri]	*17° 26′*

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Time	♃, east [♃ orient.]	Western limb of ☾, east [Occ. limb. ☾ or.]	Equatorial distance [Diſt. æquat.]	Altitude of the upper horn of ☾ [Alt. ſup. cornu ☾]
7^h 9^m 40^s [7^h 9′ 40″]	48° 14¾′	22° 32′	25° 42¾′	48⅙° [48⅙]
7^h 10^m 41^s	48° 0′	22° 16½′	25° 43½′	
7^h 11^m 45^s	47° 43′	22° 1′	25° 42′	48° 17′
7^h 13^m 0^s	47° 22½′	21° 43′	25° 39½′	48° 20′
7^h 14^m 30^s	46° 58′	21° 18′	25° 40′	48° 26′
7^h 17^m 31^s	46° 14½′	20° 35′	25° 39½′	48° 39⅚′
7^h 19^m 51^s	45° 37½′	20° 1′	25° 36½′	48° 50′
7^h 22^m	Repeated declination of the upper horn of ☾ [Repetita declin. ſuper. cornu ☾]			
			17° 42′	48° 58½′
		of the lower [inferioris]	17° 12½′	
		Diameter	0° 29½′	
7^h 26^m 25^s	44° 1¾′	18° 26′	25° 35¾′	49° 17½′
7^h 27^m 55^s	43° 39½′	18° 3¾′	25° 35¾′	49° 21′

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786 "Time", "Reading" and "Value" are this edition's heads. The minutes of the time carry a minute mark after *H. 7*; they are given as minutes of time. The values are printed without unit marks and are given as degrees and minutes. The declination of the centre is printed 17 26, while the two limbs as printed, 17 41½ and 17 11, have the mean 17° 26¼′; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

787 "Time" is this edition's head; the other four heads are printed, each on two lines. The first time carries unit marks (*H*, ′, ″); the other times, printed without them, are given as hours, minutes and seconds (7 22 as hours and minutes); the values, printed without unit marks, as degrees and minutes. The first entry in the last column is printed *48⅙*, a single figure with a fraction, and is given as degrees. At 7^h 10^m 41^s nothing is printed in the last column. The label at 7^h 22^m runs across the ♃ and western-limb columns; the line below it prints *17 42* in the equatorial-distance column and *48 58½* in the altitude column, and the lines *inferioris* and *Diameter* print their values in the equatorial-distance column — the values are given where they are printed, not under the heads they would belong to.

[It] was not clear enough, *but observ. through intervening clouds* [Non fuit ſatis ſerenum, ſed per intermedias nubes obſerv.]

Afterwards the observations were being repeated [Poſtea repetebantur obſeruationes.]

Time	Reading	Value
$8^h\ 10^m$	*Declination of the upper limb of* ☾ [Declin. ſuper. limbi ☾]	*17° 44¼′*
	of the lower [inferioris]	*17° 15′*
	Difference [Differentia]	*0° 29¼′*
$8^h\ 15½^m$	*Declination of the upper limb* [Declin. ſuper. limbi]	*17° 43′*
	of the lower [inferioris]	*17° 16′*
	Altitude of the upper horn of ☾ [Alt. ſup. cornu ☾]	*51° 24½′*

788

☾ *was in the 90th degree this evening [at]* $8^h\ 0^m$ [☾ fuit hoc veſperi in 90 gradu H. 8 M. 0.]

Note. At the hour $7^h\ 28^m$*, at which the Moon was being taken from* ♃ *by equatorial distance [as] 25° 35½′ nearly, and from its centre 25° 20′, the declination being 17° 27′, its longitude was in 13° 52′* ♊*, with a visible latitude of 5° 7½′ south. But because it was half an hour before the 90th degree, the parallax of longitude, as it were 4½, was to be subtracted; therefore the true longitude at the said time [was] 13° 47½′* ♊ [Nota. Ad horam 7.28 M. qua luna capiebatur a ♃ per diſtant. æquat. 25 Gr. 35½ M. fere, & a centro eius 25 20, declinatione exiſtente 17 27, fuit longitudo eius in 13 52 M. ♊ cum Latit. 5 7½ Merid. viſa. At quia fuit dimidia hora ante 90 gradum, fuit parallaxis Longit. quaſi 4½ auferenda, quare vera longitudo ad dictum tempus 13 47½ ♊]

Reading	Value
The Prutenic calculation has [Prutenic. Calcul. habet]	*14° 29′*
The Alphonsine has [Alphonſinus habet]	*14° 32′*

789

On 15 January, A. M. [DIE 15 JANUARIJ A. M.]

788 "Time", "Reading" and "Value" are this edition's heads. The rows at $8^h\ 10^m$ stand at the foot of the left column, those at $8^h\ 15½^m$ at the head of the right column; a vertical rule divides the columns. The times and values are printed without unit marks and are given as hours and minutes and as degrees and minutes. *inferioris* at $8^h\ 15½^m$ is printed with a dotless second i.

789 "Reading" and "Value" are this edition's heads. In *7.28 M.* the 7 is printed without a unit and is given as hours. The pairs *25 20*, *17 27*, *5 7½*, *13 47½*, *14 29* and *14 32* are printed without unit marks and are given as degrees and minutes; in *13 52 M.* the 13 is given as degrees.

Time	Reading	Value
$1^h\ 37^m$ [$1^H37'$]	A. M. ☾ in the 90th degree from the Ascendant, according to the computation [A. M. ☾ in 90 gradu ab Aſcendente juxta ſupputationem.]	
$12^h\ 16⅙^m$	The western limb of ☾ was in the meridian, and the upper limb had the altitude [Occ. limb. ☾ fuit in Merid., habuitque ſuper. limbus altitudinem]	47° 19¼′
$12^h\ 18^m\ 30^s$ [12 18 30″]	Eastern limb of ☾ in the meridian, altitude of the lower limb of ☾ [Orient. limb. ☾ in Merid., alt. infer. limbi ☾]	46° 45½′
	Apparent diameter of ☾ [Diameter ☾ apparens]	0° 33¾′
$12^h\ 56⅓^m$	Declination [Declin.]	
	of the upper limb of ☾ [ſuper. limbi ☾]	13° 6½′ north [13 6½ B.]
	of the lower [inferioris]	12° 34½′
	Diameter of ☾ [Diameter ☾]	0° 32′
	Declination of the centre of ☾ [Declin. centri ☾]	12° 50½′

790

Time	Eastern limb of ☾, west [Or. limb. ☾ occ.]	The heart of ♌, east [Cor ♌ or.]	Equatorial distance [Diſt. æquat.]
$1^h\ 3^m\ 8^s$	10° 45½′	4° 3½′	14° 49′
$1^h\ 5^m\ 20^s$	11° 18½′	3° 31′	14° 49½′
$1^h\ 7^m\ 25^s$	11° 49′	2° 59′	14° 48′
$1^h\ 8^m\ 50^s$	12° 11½′	2° 35½′	14° 47′
$1^h\ 10^m\ 58^s$	12° 40½′	2° 6′	14° 46½′
$1^h\ 13^m\ 15^s$	13° 14′	1° 30½′	14° 44½′

791

Time	Reading	Value
$1^h\ 16¾^m$	Declination of the upper limb of ☾ [Declin. ſuper. limbi ☾]	13° 3½′
	of the lower [Inferioris]	12° 31′
	Diameter	0° 32½′
	At that time the altitude of the upper limb of ☾ was [Tunc fuit Alt. ſuper. limbi ☾]	45° 38′

790 "Time", "Reading" and "Value" are this edition's heads. The first time carries unit marks (*H*, ′) and 12 18 30 a second mark (″); the times 12 16⅙ and 12 56⅓, printed without them, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The labels at $1^h\ 37^m$, $12^h\ 16⅙^m$ and $12^h\ 18^m\ 30^s$ run over two or three lines; each value stands on the last line of its label. *Diameter* ☾ stands on one line and *apparens 0 33¾* on the next.

791 "Time" is this edition's head; the other three heads are printed, each on two lines, at the head of the left column, with no date heading above them. The times, printed without unit marks, are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes.

792

Time	♃, west [♃ occid.]	Eastern limb, west [Or. limb. occ.]	Equatorial distance [Diſt. æquat.]
$1^h\ 23^m\ 40^s$	49° 41½′	15° 44¾′	33° 56¾′
$1^h\ 25^m\ 55^s$	50° 12½′	15° 15½′	33° 57′
$1^h\ 27^m\ 37^s$	50° 45′	16° 50′	33° 55′
$1^h\ 30^m\ 2^s$	51° 15½′	17° 19′	33° 56½′
$1^h\ 31^m\ 25^s$	51° 40½′	17° 42′	33° 58½′

793

Time	Reading	Value
$1^h\ 34^m$	Declination of the upper limb of ☾ [Declin. ſuper. limbi ☾]	13° 1′
	of the lower [Inferioris]	12° 29¾′
	Diameter	0° 31¼′

794

Between the eastern limb of ☾ and ♃, by the old sextant △ [Inter or. limb. ☾ et ♃ per Sext. △ Vet.]

Time	Reading	Value	Remark
$1^h\ 40^m\ 30^s$		33° 59¾′	*good, use this [one]* [bona, vtere hac.]
$1^h\ 41^m\ 21^s$		34° 0¼′	*Good observations near the 90th degree* [Bonæ obſeruationes iuxta 90 Grad.]
$1^h\ 42^m\ 5^s$		34° 0⅚′	
$1^h\ 43^m\ 29^s$		34° 1¼′	
$1^h\ 47^m$	Repeated declination of the limb of ☾ [Repetita declin. limbi ☾]		
	upper [ſuper.]	12° 59¾′	
	of the lower [Inferioris]	12° 26½′	
	Diameter	0° 33¼′	

792 "Time", "Reading" and "Value" are this edition's heads. The label at $1^h\ 16¾^m$ runs over two lines, its value on the second; the three declination values stand in the column headed *Cor ☋ or.* above, the altitude *45 38* in the column headed *Diſt. æquat.*. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

793 "Time" is this edition's head; the other three heads are printed, each on two lines. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes. At $1^h\ 25^m\ 55^s$ the printed values do not close: 50° 12½′ less 15° 15½′ is 34° 57′, against the 33° 57′ printed; the other four rows close.

794 "Time", "Reading" and "Value" are this edition's heads. The values stand in the column headed *Diſt. æquat.* above. The time is given as hours and minutes, the values as degrees and minutes.

795

Between the eastern limb of ☾ and the heart of ♌, by the old sextant △ [Inter or. limb. ☾ et cor ♌ per Sext. △ veterem.]

Time	Reading	Value
1^h $54½^m$		14° 9′
1^h $55⅙^m$		14° 7⅔′
1^h 56^m	The same, repeated [Eadem repetita]	14° 7′
1^h 58^m	Repeated [Repetita]	14° 6½′
2^h 0^m	Declination of the upper limb of ☾ [Decl. ſuper. limbi ☾]	12° 57′
	of the lower [inferioris]	12° 25′
	Diameter	0° 32′

796

These preceding observations of ☾ were made with the sky moderately clear [Antecedentes hæ obſeruationes ☾ cœlo mediocriter ſereno ſunt factæ.]

On the same day, 15 January [EODEM DIE 15. JANUARIJ.]

P. M., [at] 5^h 52^m 32^s, the middle of the body of ☾ was rising, and Aldebaran then had [a] distance from the meridian [of] 27° 18′ east [P. M. H. 5 52′ 32″ oriebatur medium corporis ☾ᵉ & habuit tunc Aldeb. diſt. a Merid. 27 18 orient][797]

Observation of ☾ by the sextant, in order to investigate its parallax [Obſeruatio ☾ per Sext. propter eius parallaxin indagandam.]

Time	Between ♃ and the eastern limb of ☾ [Inter ♃ et orient. limb. ☾]	Altitude of the upper limb of ☾ [Alt. ſup. limb. ☾]
7^h 45^m 50^s	45° 15′	14° 50′
7^h 48^m 0^s	45° 15⅔′	15° 8½′
7^h 53^m 59^s	45° 16′	15° 55½′
7^h 55^m 5^s	45° 17′	16° 3′
7^h 56^m 15^s	45° 19′	16° 12′
7^h 57^m 0^s	Declination of the upper limb of ☾ [Declin. ſup. limbi ☾]	10° 17′
8^h 0^m 30^s	45° 21′	16° 44′
8^h 1^m 25^s	45° 22′	16° 55′
8^h 2^m 20^s	45° 23½′	17° 0′

[795] "Time", "Reading", "Value" and "Remark" are this edition's heads. The remark *Bonæ obſeruationes iuxta 90 Grad.* is printed over three lines beside the rows 1^h 41^m 21^s to 1^h 43^m 29^s, and is given whole on the first of them; no brace is printed. The declination values stand further to the right than the distances. The times, printed without unit marks, are given as hours, minutes and seconds (1 47 as hours and minutes); the values as degrees and minutes.

[796] "Time", "Reading" and "Value" are this edition's heads. The declination values stand further to the right than the distances. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

[797] *27 18* is printed without unit marks and is given as degrees and minutes.

Time	Between ♃ and the eastern limb of ☾ [Inter ♃ et orient. limb. ☾]	Altitude of the upper limb of ☾ [Alt. ſup. limb. ☾]
$8^h\ 3^m\ 16^s$	45° 24′	17° 8′

798

Time	*Eastern limb of ☾, east* [Orient. limb. ☾ or.]	*Aldebaran, west* [Aldeb. occ.]	*Equatorial distance* [Diſt. æqua.]	*Altitude of the upper limb of ☾* [Alt. ſup. limb. ☾]
8^h 14^m	*72° 10′*	*8° 8⅔′*	*80° 18⅔′*	*18° 34′*
8^h $16⅓^m$	*71° 37′*	*8° 44′*	*80° 21′*	*18° 43′*
		♃, *east* [♃ orient.]		
8^h 20^m	*70° 43⅔′*	*25° 7½′*	*45° 36⅙′*	*19° 19′*
8^h 22^m	*70° 10¾′*	*24° 34′*	*45° 36¾′*	*19° 36′*
8^h 25^m	*Declination of the lower limb of ☾* [Declin. infer. limbi ☾]			*9° 44′ north* [9 44 Bor.]

799

Afterwards ☾ again from ♃ by the sextant [Poſtea denuo ☾ a ♃ per Sext.]

Time	Reading	Value	*Altitude of the lower limb of ☾* [Alt. infer. limb. ☾]
8^h 32^m	*Between ♃ and the eastern limb of ☾* [Inter ♃ & or. limb. ☾]	*45° 40¾*	*20° 27′*
8^h $33⅚^m$		*45° 42′*	*20° 40′*
8^h $35⅓^m$		*45° 43′*	*20° 51′*
8^h 37^m		*45° 43½*	*21° 5′*
8^h $40½^m$	*Between the eastern limb of ☾ [and] the lower head of ☊* [Inter or. limb. ☾ infer. caput ☊]	*36° 53¾′*	*21° 33′*
8^h $42⅔^m$		*36° 54¼*	*21° 48′*
8^h $44¼^m$		*36° 55¼*	*22° 1′*
8^h $50⅓^m$		*36° 57½*	*22° 46′*

798 "Time" is this edition's head; the other two heads are printed, each on two lines. At 7^h 57^m 0^s the label runs across the first value column and the value *10 17* stands in the altitude column; it is given where it is printed. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

799 "Time" is this edition's head; the other four heads are printed, each on two lines, and the equatorial-distance head prints *æqua.*. ♃ *orient.* stands alone on its own line over the second value column, where *Aldeb. occ.* stands in the heads. At 8^h 25^m the label runs across the columns and the value *9 44* stands in the altitude column, *Bor.* on the line below it; it is given where it is printed. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

800

Time	Reading	Value
$8^h\ 46^m$	*Declination of the upper limb of* ☾ [Declin. ſup. limb. ☾]	*10° 10¼′*
$8^h\ 48^m$	*of the lower* [inferioris]	*9° 38½′*
	Diameter of ☾ [Diameter ☾]	*0° 31¾′*
	Therefore the declination of the centre of ☾ *[was]* [Ergo declin. centri ☾]	*9° 54′ nearly* [9 54 fere]

801

☾ appeared [to be] in the same longitude as the heart of ♌, for a line drawn from the heart through it was falling nearly on the pole of the ecliptic, the difference being small [Videbatur ☾ in eadem longitudine cum corde ♌, nam linea ducta a corde per ipſam incidebat fere in polum Eclipticæ, parua exiſtente differentia.]

Time	Reading	Value
$9^h\ 8^m$	*Declination of the upper limb of* ☾ [Declin. ſuper. limb. ☾]	*10° 7⅔′*
	of the lower [Inferioris]	*9° 34′*
	Apparent diameter of ☾ [Diameter ☾ appar.]	*0° 33⅔′*

802

Time	Reading	Value	Second value
$9^h\ 12½^m$	*Repeated declination of the upper [limb]* [Repetita decl. ſuper.]	*10° 7½′*	
	of the lower limb [Inferioris limbi]	*9° 34′*	
	Apparent diameter of ☾ [Diameter ☾ appar.]	*0° 33½′*	
	At that time the altitude of the lower limb of ☾ *was* [Fuit tunc alt. infer. limbi ☾]		*25° 38½′*
$9^h\ 22^m$	*Between the northern limb of* ☾ *and Regulus* [Inter.bor.limb. ☾ & Regulum]	*4° 40′*	*26° 45′*
$9^h\ 24¾^m$		*4° 41′*	*27° 7′*
$9^h\ 27^m$		*4° 40′*	*27° 25′*

800 "Time", "Reading" and "Value" are this edition's heads; the altitude head is printed, on two lines. The labels at $8^h\ 32^m$ and $8^h\ 40½^m$ each run over two lines (the second line of each beside the next time) and are given whole on the first row. The times are printed in the order shown, 8 50⅓ before the 8 46 of the next table. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

801 "Time", "Reading" and "Value" are this edition's heads. The values stand in the altitude column of the table above; *fere* stands alone on the line below *9 54*. The times are given as hours and minutes, the values as degrees and minutes.

802 "Time", "Reading" and "Value" are this edition's heads. The first label runs over two lines, its value on the second; *Diameter* ☾ stands on one line and *appar. 0 33⅔* on the next. The time is given as hours and minutes, the values as degrees and minutes.

803

N. B. This difference between Regulus and ☾ was only by reason of the latitude, for the longitude was nearly the same [N. B. Hæc differentia inter Regulum & ☾ erat ſaltem ratione latitudinis, nam longitudo ferme erat eadem.]

All these observations on ☾, moreover, were made in order to investigate the parallax [Omnes autem hæ obſeruationes in ☾ factæ ſunt propter parallaxin indagandam.]

On 16 January, A. M. [DIE 16 JANUARIJ A. M.]

Observation of ☾ about the 90th degree [Obſeruatio ☾ circa 90 gradum.]

Moreover, ☾ ought to be in the 90th degree at about the third hour P. M. N. [Debet autem ☾ eße in 90 Gr. iuxta horam tertiam P. M. N.]

Time	Reading	Value
$2^h\ 46^m\ 40^s$	Declination of the upper limb of ☾, north [Declin. ſuper. limbi ☾ Bor.]	9° 17′
	of the lower [Inferioris]	8° 43′
	Diameter	0° 34′

804

Time	Canis Minor, west [Canis min. occ.]	Eastern limb of ☾, west [Or. limb. ☾ occ.]	Equatorial distance [Diſt. æquat.]
$2^h\ 54^m\ 10^s$	62° 5½′	24° 54¾′	37° 10¾′
$2^h\ 57^m\ 15^s$	62° 50′	25° 36¼′	37° 13¾′
$2^h\ 59^m\ 0^s$	63° 15¼′	26° 4¾′	37° 10½′

805

From this the clock can be verified, although [it] was not very clear [Hinc poteſt verificari horologium quamuis non eßet bene ſerenum.]

By the trigonal sextant [Per Sextant. trigonicum.]

803 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads over these rows. The label at $9^h\ 12½^m$ runs over two lines, its value on the second; *Diameter* ☾ stands on one line and *appar. 0 33½* on the next; the label at $9^h\ 22^m$ runs over two lines. The altitude *25 38½* and the three figures below it stand in a second column at the right. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

804 "Time", "Reading" and "Value" are this edition's heads. The first label runs over two lines (*Declin. / ſuper. limbi ☾ Bor.*), its value on the second, *Bor.* standing before the value. The time, printed without unit marks, is given as hours, minutes and seconds; the values as degrees and minutes.

805 "Time" is this edition's head; the other three heads are printed, each on two lines. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

Time	Reading	Value
$3^h\ 1^m\ 40^s$	Between the eastern limb of ☾ and the lower head of ♊ [Inter or. limb. ☾ et infer. cap. ♊]	39° 53′
$3^h\ 3^m\ 10^s$		39° 53⅔′
$3^h\ 4^m\ 25^s$		39° 53⅚′
$3^h\ 5^m\ 10^s$		39° 54′
$3^h\ 6^m\ 20^s$		39° 55′
$3^h\ 9^m\ 15^s$	Between Spica ♍ and the eastern limb of ☾ [Inter Spicam ♍ et or. limb. ☾]	52° 5¾′
$3^h\ 10^m\ 15^s$		52° 6′
$3^h\ 11^m\ 17^s$		52° 6⅓′
$3^h\ 12^m\ 25^s$		52° 7½′

806

N. B. These do not correspond to the motion of ☾ [N. B. Hæc non reſpondent motui ☾.]

When ☾ was being observed at these distances [it] was very clear [Cum ☾ in his diſtantijs obſeruaretur erat bene ſerenum.]

[At] about the middle time of the observation the altitude of the upper limb of ☾ was 38° [Circa medium tempus obſeruationis fuit altitudo ſuper. limbi ☾ 38 part.]

The altitude of Spica, moreover, when ☾ was being observed from it, was 23° [Alt. autem Spicæ quando ab ea obſeruabatur ☾ fuit 23 partium.]

Time	Reading	Value
$3^h\ 18^m\ 30^s$	Declination of the upper limb of ☾ [Declin. ſuper. limbi ☾]	9° 9¾′ north [9 9¾ B.]
	of the lower limb [Infer. limbi]	8° 37½′
	Diameter of ☾ [Diameter ☾]	0° 32¼′
$3^h\ 28^m\ 45^s$	Declination of the upper limb of ☾ [Decl. ſup. limbi ☾]	9° 9½′
	of the lower limb of ☾ [Infer. limbi ☾]	8° 35′
	Apparent diameter of ☾ [Diam. ☾ apparens]	0° 34½′

807

Afterwards ☾ was being observed in equatorial distance from Spica, for verifying the clock. In the following [observations it] was not sufficiently clear [Poſtea obſeruabatur ☾ in diſtantia æquat. a Spica pro verificando horolog. In ſequentibus non erat ſatis ſerenum.]

806 "Time", "Reading" and "Value" are this edition's heads. Each label runs over two lines, beside two times, and is given whole on the first row. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

807 "Time", "Reading" and "Value" are this edition's heads. *Declin.* and *Decl.* stand on the line of their times, the rest of each label on the line below, with the value; *Diam.* ☾ stands on one line and *apparens 0 34½* on the next. These rows stand near the head of the right column, below the remark *Alt. autem Spicæ … 23 partium.* (its first two lines); the rows to $3^h\ 12^m\ 25^s$ and the three remarks *N. B. Hæc non …*, *Cum* ☾ … and *Circa medium … 38 part.* stand at the foot of the left. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

Time	Eastern limb of ☾, west [Or. limb. ☾ occ.]	Spica ♍, east [Spica ♍ or.]	Equatorial distance [Diſt. æquat.]	Altitude of the upper limb of ☾ [Alt. ſup. limb. ☾]
$3^h\ 34^m$	5♓ 4° 47⅓′	14° 16′	49° 3⅓′	35⅔° [35⅔]
$3^h\ 38^m$	3♓ 5° 42¼′	13° 15′	48° 57¼′	
$3^h\ 40^m$	1♓ 6° 4½′	12° 54½′	48° 59′	
$3^h\ 47^m$	3♈ 7° 55¼′	10° 57¾′	48° 53′	34° 35′
$3^h\ 49^m$	5♈ 8° 15¼′	10° 39¼′	48° 54½′	34° 20′
$3^h\ 50^m$	4♈ 8° 43′	10° 9′	48° 52′	34° 10′

808

Time	Reading	Value
$3^h\ 53^m\ 25^s$	Declination of the upper limb of ☾ [Declin. ſuper. limbi ☾]	9° 4½′
	of the lower [Inferioris]	8° 31′
	Apparent diameter of ☾ [Diameter ☾ apparens]	0° 33½′

809

At the next following noon the clock was moving faster than it should by only 35ˢ over 24 hours, so the times assigned earlier are sufficiently in order [Proxime ſequenti Meridie horologium ſaltem 35″ iuſto celerius mouebatur per 24 horas, vnde tempora prius aßignata ſatis bene ſe habent.][810]

On 24 January *[DIE 24 JANUARIJ.]*

Time	Reading	Value
$6^h\ 38½^m$ A. M. [6ʰ38½ᴹ A. M.]	*Declination of the upper horn of* ☾ [Declin. ſup. cornu ☾]	*18° 59′ south* [18 59 Mer.]
	of the lower [Inferioris]	*19° 29½′*
		0° 30½′
	Altitude of the lower horn of ☾ [Alt. inf. cornu ☾]	*12° 30′*

811

[808] "Time" is this edition's head; the other four heads are printed, each on two lines. The first entry in the last column is printed *35⅔*, a single figure with a fraction, and is given as degrees; at $3^h\ 38^m\ 33^s$ and $3^h\ 40^m\ 10^s$ nothing is printed in that column. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

[809] "Time", "Reading" and "Value" are this edition's heads. The values stand in the altitude column of the table above. The time is given as hours, minutes and seconds, the values as degrees and minutes.

[810] *35″* is printed with a second mark and is given as seconds of time.

[811] "Time", "Reading" and "Value" are this edition's heads. *Declin.* stands on the line of the time, the rest of the label on the line below, with the value. The third value, *0 30½*, stands on its own line with no label. The values are printed without unit marks and are given as degrees and minutes.

The eastern limb of ☾ was being observed throughout [Obſeruabatur vbique orientalis limbus ☾.]

Time	*By the equatorial armillae, between ☾ and Spica* [Per Arm. æquat. inter ☾ et Spicam]	*Altitude of the lower limb of ☾* [Altitudo infer. limbi ☾]	*Distance of Spica from the meridian* [Diſt. Spicæ a Merid.]
$6^h\ 45^m$	*64° 50′*	*12° 35′*	*43° 27′*
$6^h\ 52¾^m$	*64° 52′*	*12° 50′*	*45° 25′*

812

Therefore set [it] that at that time, when Spica was distant from the meridian toward the west 43° 27′, the equatorial distance of the eastern limb of ☾ from Spica was 64° 49½′; and when Spica was away 45° 25′, set 64° 53′ [Pone itaque quod tunc cum Spica diſtabat a Meridiano verſus occ. 43 Gr. 27 M. fuerit Diſtant. æquat. orient. limbi ☾ a Spica 64 49½ & cum Spica abeßet P. 45 25 M. pone 64.53][813]

Time	Reading	Value	*Altitude of the lower limb of ☾* [Altit. infer. Limbi ☾]
$6^h\ 59^m$	*Declination of the lower limb* [Decl. infer. limbi]	*19° 29′*	
$7^h\ 0^m$	*of the upper limb of ☾* [ſuper. limbi ☾]	*18° 57½′*	*13° 10′*

814

On 5 February [DIE 5 FEBRUARIJ.]

In the evening [Ad Veſperas.]

Time	Reading	Value
$6^h\ 28^m$	The western limb of ☾ passed through the meridian and had the altitude of the upper horn [tranſiuit occid. limbus ☾ per Merid. et habuit alt. ſup. cornu]	49° 22½′
	The lower horn [Inferius cornu]	48° 50′
	Diameter of ☾ [Diameter ☾]	0° 32½′
$6^h\ 32½^m$	Declination of the upper horn of ☾ [Declin. ſuper. cornu ☾]	15° 20′
	of the lower horn of ☾ [Inferioris cornu ☾]	14° 47′
	Diameter of ☾ [Diameter ☾]	0° 33′

[812] "Time" is this edition's head; the other three heads are printed, each on three lines. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

[813] *64 49½* and *64.53* are printed without unit marks and are given as degrees and minutes; *64.53* is printed with a point between the figures. The page ends at *pone 64.53*.

[814] "Time", "Reading" and "Value" are this edition's heads; the fourth head is printed on two lines, *Altit. infer.* on the line of the first time and *Limbi ☾* on the line below it. *Decl.* stands on the line of the first time, the rest of the label on the line below, with the value. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

815

Time	*Western limb of ☾, west* [Occid. limb. ☾ occ.]	*Aldebaran, east* [Aldebor. or.]	*Equatorial distance* [Diſt. æquat.]	*Altitude of the upper horn* [Altit. ſuper. cornu]
$6^h\ 45^m$	4° 25′	4° 7½′	8° 32½′ *set 8° 33′* [pone 8 33]	49° 20′
$6^h\ 46^m$	4° 52′	3° 39½′	8° 31½′ *set 8° 32′* [pone 8 32]	49° 15′
$6^h\ 51⅔^m$	5° 59½′	2° 30½′	8° 30′ *better than the former, set 8° 29′* [melior priore, pone 8 29]	49° 0′
$6^h\ 53¼^m$	6° 22⅓′	2° 5′	8° 27⅓′ *set here 8° 28′* [pone hic 8 28]	48⅚° [48⅚]

816

These are in some way to be limited, so that at the last observation 8° 28′ is set, then 8° 29′ [Hæc veniunt aliquo modo limitanda, ita vt vltima obſeruatione ponatur 8 28, deinde 8 29.][817]

Time	Reading	Value
$6^h\ 56½^m$ [$6^H56½'$]	*Declination of the upper limb of ☾* [Declin. ſuper. limbi ☾]	*15° 20′ north* [15 20 B.]
	of the lower limb [Infer. limbi]	*14° 48′*
	Apparent diameter [Diameter appar.]	*0° 32′*
$7^h\ 2⅓^m$	*Aldebaran passed through the meridian when the bright [star] of ♈ was toward the west* [Tranſiuit Aldeb. per Merid. quando Luc. ♈ fuit verſus occaſum]	*37° 9½′*
	and [it] had the altitude [habuitque altitudinem]	*49° 42′*

818

[815] "Time", "Reading" and "Value" are this edition's heads. The first label runs over three lines, its value on the third; *Declin.* stands on the line of the time *6 32½*, the rest of the label on the line below, with the value. The times, printed without unit marks, are given as hours, minutes and seconds (*6 28 10*) and as hours and minutes (*6 32½*); the values as degrees and minutes.

[816] "Time" is this edition's head; the other four heads are printed, on two or three lines each. Each of the four lines *pone 8 33*, *pone 8 32*, *melior priore, pone 8 29* and *pone hic 8 28* stands on its own line below a row, the words to the left and the figures under the equatorial-distance column; each is given in that column. The last entry in the altitude column is printed *48⅚*, a single figure with a fraction, and is given as degrees. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

[817] *8 28* and *8 29* are printed without unit marks and are given as degrees and minutes.

[818] "Time", "Reading" and "Value" are this edition's heads. *Declin.* stands on the line of the first time, the rest of the label on the line below, with the value. The label at *7 2⅓* runs over three lines, its value on the third; *habuitque* stands on its own line and *altitudinem* on the next, with the value. The first time is printed with a raised ^{H} and a raised mark after *56½*. The times are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

Note. The clock was not corrected for many days, so the times are to be corrected from the transit of Aldebaran [Nota. Horologium multis diebus non erat correctum, itaque tempora ſunt e tranſitu Aldebor. corrigenda.]

Examination of the Place of ☾ [Examinatio Loci ☾]

On 9 January [DIE 9 JANUARIJ.]

Time	Reading	Value
$7^h\ 4^m$ [7^H 4′]	Equatorial distance of the western limb of ☾ from the bright [star] of ♈ [Diſt. æquat. occ. limbi ☾ a luc. ♈]	33° 31′
	add [adde]	17′
	Difference of right ascension of the centre of ☾ [Differ. Aſc. R. centri ☾]	33° 48′

819

Time	Reading	Value
$7^h\ 2^m$	☾ exactly in the 90th degree, [☾ exacte in 90 gradu,]	
	then the place in [tunc locus in]	1° 0′ ♊
	Right ascension of the bright [star] of ♈ [Aſcenſ. R. Luc. ♈]	26° 1½′
	Right ascension of the centre of ☾ [Aſcenſ. R. centri ☾]	59° 49½′
	Declination of the centre of ☾ [Declin. centri ☾]	16° 2′ north [16 2 B.]
	Corresponding longitude [Reſp. Longitudo]	1° 0′ 36″ ♊
	Latitude [Latitudo]	4° 29′ 15″ south [4 29 15 M.]
$7^h\ 21^m$	Between the western limb of ☾ and the bright [star] of ♈ [Inter occid. limb. ☾ et luc. ♈]	32° 15½′
	Add the semidiameter [Adde ſemid.]	16′
	Distance of the centre [Diſtantia centri]	32° 31½′
	Declination of the centre [Declin. centri]	16° 4′ north [16 4 B.]
	Declination of the bright [star] of ♈ [Declin. Luc. ♈]	21° 28⅚′
	Right ascension of ☾ [Aſc. R. ☾]	59° 58′
	Corresponding longitude [Reſp. Longitudo]	1° 9′ 2″ ♊
	Latitude [Latitudo]	4° 28′ 59″ south [4 28 59 M.]

820

819 "Time", "Reading" and "Value" are this edition's heads. *Diſt. æquat.* stands on the line of the time, the rest of the label on the line below, with the value. A horizontal rule stands under *adde 17*. The time is printed with a raised ^{H} and a raised mark after *4*. The lone figure *17*, standing in the minutes place, is given as minutes; the other values, printed without unit marks, as degrees and minutes.

820 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column, after the rows at 7^H *4′* at the foot of the left. The label at *7 21* runs over two lines, its value on the second. The lone figure *16*, standing in the minutes place, is given as minutes. The times, printed without unit marks, are given as hours and minutes; the values of three figures as degrees, minutes and seconds, the others as degrees and minutes.

On 14 January [DIE 14 JANUARIJ.]

Time	Reading	Value
$13^h\ 40^m$	Distance between the eastern limb of ☾ and ♃ [Diſt. inter or. limb. ☾ & ♃]	33° 59¾′
	subtract [ſubtr.]	16¼′
	Distance of the centre of ☾ [Diſt. centri ☾]	33° 43½′
	Declination of the centre of ☾ [Decl. centri ☾]	12° 44′ north [12 44 B.]
	Declination of ♃ [Declinatio ♃]	23° 27′ north [23 27 B.]
[At] 8^h [H. 8]	the right ascension of ♃ was [fuit Aſcenſ. R. ♃]	97° 58′ 20″
	subtract [ſubtrahe]	1′ 0″
$13^h\ 39^m$	Right ascension of ♃ [Aſc. R. ♃]	97° 57′ 20″
	Difference of ascension of ☾ [Differ. Aſcenſ. ☾]	33° 45′ 16″
	Right ascension of ☾ [Aſcenſ. R. ☾]	131° 42′ 36″
$13^h\ 55^m$	Between the eastern limb of ☾ and the heart of ♌ [Inter or. limb. ☾ et cor ♌]	14° 9′
	Add [Adde]	16′
	Distance of the centre [Diſtantia Centri]	14° 25′
	Declination of the centre [Declin. centri]	12° 41′ north [12 41 B.]
	Declination of the heart of ♌ [Declin. cordis ♌]	13° 57⅔′ north [13 57⅔ B.]
$13^h\ 37^m$	Set the right ascension of the centre of ☾ [Pone Aſcenſ. R. centri ☾]	131° 41′ 40″
	Declination of ☾, north [Declin. ☾ Bor.]	12° 44′ 30″
	Corresponding longitude [Reſp. Longitudo]	10° 39′ 0″ ♌
	Latitude [Latitudo]	5° 3′ 57″ south [5 3 57 M.]
$13^h\ 39^m$	☾ in the 90th [degree]. Place of ☾ [☾ in 90. Locus ☾]	10° 40′ ♌

821

On 16 January [DIE 16 JANUARIJ.]

Time	Reading	Value
$15^h\ 2^m$	Between the eastern limb of ☾ and the lower head of ♊ [Inter or. limb. ☾ et inf. cap. ♊]	39° 53′
	subtract [ſubtrahe]	16′
	Distance of the centre [Diſtantia centri]	39° 37′

821 "Time", "Reading" and "Value" are this edition's heads. The labels at *13 40*, *13 55* and *13 37* each run over two lines, the value on the second. *H. 8* stands in the time position and is given as hours. The lone figures *16¼* and *16*, standing in the minutes place, are given as minutes; *1 0*, standing under the minutes and seconds places, as minutes and seconds. In the last row ♌ stands at the right of the column, apart from *10 40*. The times, printed without unit marks, are given as hours and minutes; the values of three figures as degrees, minutes and seconds, the others as degrees and minutes.

Time	Reading	Value
	Declination of the centre [Declinatio centri]	8° 57′ north [8 57 B.]
	Declination of the head of ♊ [Declinat. cap. ♊]	28° 56′ 40″

822

Time	Reading	Value
$15^h\ 9^m$	Between Spica ♍ and the eastern limb of ☾ [Inter Spicam ♍ et or. limbum ☾]	52° 5′ 45″
	add [adde]	16′ 15″
	Distance of the centre of ☾ [Diſtantia centri ☾]	52° 22′
	Declination of the centre of ☾ [Declinatio centri ☾]	8° 55′ north [8 55 B.]
	Declination of Spica ♍ [Declinatio Spicæ ♍]	8° 57⅙′ south [8 57⅙ M.]
	Set, [at] $15^h\ 0^m$, the right ascension of the centre of ☾ [Pone H. 15 M. 0 Aſc. R. centri ☾]	146° 24′
$15^h\ 4^m$	☾ in the 90th degree. Place of ☾ [☾ in 90 Gradu. Locus ☾]	
		25° 37′ ♌ [25 Gr. 37 M. ♌]
		2′ [2]
		25° 39′ ♌ [25 39 ♌]

823

Reading	Value
Corresponding longitude [Reſp. Longitudo]	25° 37′ 5″ ♌
Latitude [Latitudo]	4° 19′ 42″ south [4 19 42 M.]

824

[822] "Time", "Reading" and "Value" are this edition's heads. The first label runs over two lines, its value on the second. A horizontal rule stands under *ſubtrahe 16*. The lone figure *16*, standing in the minutes place, is given as minutes. The time, printed without unit marks, is given as hours and minutes; the last value as degrees, minutes and seconds, the others as degrees and minutes.

[823] "Time", "Reading" and "Value" are this edition's heads. The first label runs over two lines, its value on the second; a horizontal rule stands under *adde 16 15*, which stands under the minutes and seconds places and is given as minutes and seconds. *Pone H. 15 M. 0* stands on its own line, *Aſc. R. centri* ☾ on the next, with the value. The last three figures stand below *Locus* ☾ at the left of the column: the lone *2* under *37*, given as minutes, then a horizontal rule, then *25 39* ♌. The times, printed without unit marks, are given as hours and minutes; the first value as degrees, minutes and seconds, the others as degrees and minutes.

[824] "Reading" and "Value" are this edition's heads. These lines stand to the right of *25 Gr. 37 M.* ♌ … *25 39* ♌, divided from them by a short vertical rule: *Reſp.* on the line of *25 Gr. 37 M.* ♌, *Longitudo* with its value on the line of *2*, *Latitudo* with its value on the line of *25 39* ♌. The values, printed without unit marks, are given as degrees, minutes and seconds.

On 2 March, P. M. *[DIE 2 MARTIJ P. M.]*

At 8^{h} 32^{m} P. M. ☾, applying very close to ♄ near the upper horn, since [it] appeared to have nearly the same latitude as it, was 32′ distant with the Radius, and the altitude of the lower limb of ☾ was then 5° 40′. But a line from the middle [star], or the bright [star], of the Pleiades passed together through ♄ [and], as it were, the middle of the lunar body [H. 8 M. 32 P. M. ☾ admodum prope applicans ♄ juxta ſuperius cornu, quod fere eandem cum eo obtinere latitudinem viſa eſt, diſtabat per Radium 32 M. eratque tunc Altit. inferioris limbi ☾ 5 Gr. 40 M. Linea vero a mediale ſiue Lucida Pleiadum per ♄ medium quaſi corporis lunaris vna tranſibat.]

Time	Reading	Value	*Altitude of the lower limb of* ☾ [Alt. inf. limb. ☾]
9^{h} 2^{m}	*The same distance with the Radius* [Eadem diſt. per Rad.]	*0° 31′*	*3° 0′*
9^{h} 5½^{m}		*0° 28′*	*2° 15′*

825

A straight line through the middle of ☾ into ♄ went, as it were, into Capella [Linea recta per Medium ☾ in ♄ quaſi in Capellam ibat.]

On 3 March, P. M. *[DIE 3 MARTIJ P. M.]*

Time	Reading	Value
5^{h} 56^{m} [5^{H}56^{M}]	*Declination of the upper horn of ☾* [Declin. ſuper. cornu ☾]	*11° 52′ north* [11 52 B.]
5^{h} 57^{m}	*Declination of the lower limb* [Decl. infer. limbi]	*11° 27½′*
	Diameter	*0° 24½′*
5^{h} 58½^{m}	*Repeated declination of the upper* [Repetita declin. ſuper.]	*11° 54′*
5^{h} 59^{m}	*of the lower limb* [infer. limbi]	*11° 26½′*
	Diameter	*0° 28′*
	Declination of the centre of ☾ [Declinatio centri ☾]	*11° 40′*

826

These following azimuths are counted from the meridian toward the west, as earlier for ☉ [Hæc ſequentia Azimuta numerantur a Merid. ad occaſum vt prius in ☉^{le}.]

825 "Time", "Reading" and "Value" are this edition's heads; the fourth head is printed on two lines, *Alt. inf.* on the line of *tranſibat.* and *limb. ☾* on the line of the first time. *Eadem diſt.* stands on the line of the first time, *per Rad.* on the next, with the values. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

826 "Time", "Reading" and "Value" are this edition's heads. The first time is printed with raised ^{H} and ^{M}. The times are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. In the repeated pair the declinations of the upper and lower limb, 11 54 and 11 26½, differ by 27½′, while the diameter below them is printed 0 28; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

Time	Reading	Value
$6^h\ 8^m\ 14^s$	Azimuth of the western limb of ☾ [Azim. occid. limbi ☾]	57° 18′
	Altitude of the lower limb of ☾ [Altit. infer. limbi ☾]	33° 26′

827

taken suddenly, when the upper iron, which supports the quadrant, was obstructing less; [it] had not, however, entirely passed that very [one] [ſubito capta, cum ferrum ſuperius, quod quadrantem fulcit, minus impediret, non tamen omnino id ipſum prætergreßa erat.][828]

Time	Azimuth of the western limb of ☾ [Azim. occid. limbi ☾]	Altitude of the lower limb of ☾ [Altit. infer. limbi ☾]
$6^h\ 13^m\ 3^s$ [$6^H13'\ 3''$]	58° 30′	32° 52¾′
$6^h\ 15^m\ 4^s$	59° 0′	32° 39¾′
$6^h\ 17^m\ 0^s$	59° 30′	32° 20′

829

Time	Reading	Value
$6^h\ 18^m\ 27^s$	Declination of the upper limb of ☾ [Decl. ſuper. limbi ☾]	11° 57′
$6^h\ 19^m\ 7^s$	of the lower limb of ☾ [Inferioris limbi ☾]	11° 28¼′ north [11 28¼ B.]
	Diameter of ☾ [Diameter ☾]	0° 28¾′

830

Time	Azimuth of the western limb of ☾ [Azim. occ. limbi ☾]	Altitude of the lower limb of ☾ [Altit. infer. limbi ☾]
$6^h\ 23^m\ 0^s$	61° 0′	31° 42⅔′
$6^h\ 25^m\ 15^s$	61° 30′	31° 26′
$6^h\ 27^m\ 13^s$	62° 0′	31° 12′
$6^h\ 29^m\ 10^s$	62° 30′	30° 58½′

831

827 "Time", "Reading" and "Value" are this edition's heads. The time, printed without unit marks, is given as hours, minutes and seconds; the values as degrees and minutes.

828 *ſubito capta …* stands on the lines after the altitude row, at the foot of the left column, and begins in lower case.

829 "Time" is this edition's head; the other two heads are printed, each on two lines. These rows stand at the head of the right column. The first time is printed with a raised H and raised marks after *13* and *3*. The times are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes.

830 "Time", "Reading" and "Value" are this edition's heads. The values stand in the altitude column of the table above. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

831 "Time" is this edition's head; the other two heads are printed, each on two lines. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

Time	Reading	Value
$6^h\ 30^m\ 35^s$	Declination of the upper limb of ☾ [Declinatio ſuper. limbi ☾]	11° 58½′
$6^h\ 31^m\ 0^s$	of the lower [infer.]	11° 28½′
$6^h\ 33^m\ 34^s$	Repeated [declination] of the upper [Repet. ſuper.]	11° 57¾′

832

On 4 March [DIE 4 MARTIJ.]

Time	Reading	Value
$8^h\ 24^m$ [$8^H24'$]	Declination of the upper horn of ☾ [Decl. ſuper. cornu ☾]	14° 40′ north [14 40 B.]
	of the lower [inferioris]	14° 9′
	Diameter	0° 31′
	Altitude of the lower limb [Alt. infer. limbi]	24° 30′

833

Time	Reading	Value	Altitude of the lower limb of ☾ [Alt. infer. limbi ☾]
$8^h\ 29½^m$	Between the western limb of ☾ and Aldebaran [Inter occ. limb. ☾ & Aldeb.]	11° 12½′	23° 35′
$8^h\ 30⅔^m$		11° 11¾′	23° 20′
$8^h\ 31½^m$		11° 11¼′	22° 58′
$8^h\ 32⅙^m$		11° 10¾′	22° 49′
$8^h\ 35⅔^m$	Declination of the upper limb [Decl. ſup. limbi]	14° 41′ north [14 41 B.]	22° 20′
$8^h\ 36¾^m$	of the lower limb [Infer. limbi]	14° 9½′	
	Apparent diameter [Diam. app.]	0° 31½′	

834

On 5 March, P. M. *[DIE 5 MARTIJ P. M.]*

Observation of ☾ when [it] was very close by Aldebaran, having just now passed that star and being a little more northerly than it [Obſeruatio ☾ cum proxime eßet iuxta Aldeboram, iam iam eam ſtellam prætergreßa et parum ea Borealior exiſtens.]

832 "Time", "Reading" and "Value" are this edition's heads. *Declinatio ſuper.* stands on the line of the first time, *limbi* ☾ on the line below, with the value. The values stand in the altitude column of the table above. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

833 "Time", "Reading" and "Value" are this edition's heads. The time is printed with a raised H and a raised mark after *24*, and is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

834 "Time", "Reading" and "Value" are this edition's heads; the fourth head is printed on two lines at the right of the column, *limbi* ☾ on the line of the first time. The first label runs over two lines, its values on the second; at *8 35⅔* and *8 36¾* the label begins on the line of the time and *limbi* with the value stands on the line below. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

Time	Reading	Value
$6^{h}\ 15^{m}\ 1^{s}$ [$6^{H}15'1''$]	Aldebaran, west, from the meridian [Aldeb. occid. a Merid.]	26° 34¼′
$16^{m}\ 1^{s}$ [16 1]	The western limb of ☾ from the meridian [Occid. limbus ☾ a Merid.]	26° 57½′

835

By the greatest armillae [per Armillas maximas.]

The Moon then appeared, with the Radius, higher than Aldebaran by q. 15′ as regards the lower limb, and having passed the middle conjunction with Alde- [Videbatur tunc Luna per Radium ſuperior Aldeb. q. 15 Minutis quoad limbum inferiorem, et prætergreßa mediam coniunctionem cum Alde-][836]

baran [by] about ⅕ of one degree by sight [bora quaſi ⅕ vnius gradus ad viſum.][837]

But note: here and in the following, the observation with the Radius [is] not to be relied on too much [Sed nota, hic & in ſequentibus obſeruationi per Radium non nimis fidendum.]

Time	Reading	Value
$6^{h}\ 24^{m}\ 14^{s}$	Aldebaran from the meridian, by the armillae [Aldeb. a Merid. per Arm.]	28° 54¼′
$6^{h}\ 25^{m}\ 0^{s}$	The western limb of ☾ from the meridian [☾ limbus occid. a Mer.]	29° 12′
$6^{h}\ 34^{m}\ 25^{s}$	Aldebaran and the western limb of ☾ were at an equal removal from the meridian as regards the poles of the World, by the armillae [Aldeb.& occid. limbus ☾ erant in æquali remotione a Meridiano quo ad polos Mundi per Arm.]	31° 32½′
	and the azimuth of the western limb of ☾ was then [fuitque tunc Azim. occ. limbi ☾]	44° 40′
	But the altitude of the lower limb of ☾ [Infer. vero limbi ☾ Altitud.]	43° 42′

838

By the greater subterranean armillae [Per Armillas mai. ſubterran.][839]

Time	Reading	Value
$6^{h}\ 36^{m}\ 57^{s}$	Declination of the lower limb of ☾ [Declin. infer. limbi ☾]	15° 56′
	of the upper limb of ☾ [ſuperioris limbi ☾]	16° 27¼′

[835] "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a raised ^{H} and raised marks after *15* and *1*. The second time is printed *16 1*, with no hour figure, and is given as minutes and seconds. The second label runs over two lines, its value on the second. The values, printed without unit marks, are given as degrees and minutes.

[836] *q.* is printed abbreviated and is kept. The page ends at *Alde-*, the last line of the right column, broken with a hyphen.

[837] *bora* completes *Alde-*, the last word of the previous page; the word and the sentence begin there.

[838] "Time", "Reading" and "Value" are this edition's heads. The first two labels run over two lines, *per Arm.* and *a Mer.* on the second line with the values. The text at *6 34 25* runs over seven lines, its values at the right on the fourth and sixth lines and *43 42* on its own line under *Altitud.*. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

[839] this line stands centred on its own line between *43 42* and the next time.

Time	Reading	Value
		0° 31¼′
$6^h\ 39^m\ 25^s$	Declination of Aldebaran, north [Declin. Aldeb. Bor.]	15° 36¼′

840

Diagram. A line figure set in the left column between the declination rows and the distance rows. Two parallel horizontal lines, upper and lower; between them a crescent whose two points rest on the upper and lower lines at the left and whose outer edge curves to the right; a shorter horizontal line from the left meets the outer edge of the crescent at mid-height; a vertical line runs from the upper line down through the lower line to a star-mark.

- A (above the upper line, at the vertical line): A
- B (right of the vertical line, at the level of the shorter horizontal line): B
- C (right of the vertical line, just above the lower line): C
- D (right of the star-mark at the foot of the vertical line): D

Time	Reading	Value
$6^h\ 42⅓^m$	BD distance of Aldebaran from the middle of the western limb [BD diſtantia Aldeb. a medio occid. limbi]	0° 31′
$6^h\ 44½^m$	The same distance [Eadem diſtantia]	0° 29½′
$6^h\ 47⅚^m$	AD distance of Aldebaran from the upper limb [AD diſtantia Aldeb. a ſup. Limb.]	0° 50′
$6^h\ 50^m$	CD, Aldebaran from the lower limb of ☾ [CD Aldeb. ab infer. Limbo ☾]	0° 15′
$6^h\ 52½^m$	The same CD and better [Eadem CD et melior]	0° 16′

841

With the Radius, therefore, these, as I said, [are] not to be relied on too much, but rather the declination [Per Radium, itaque his, vt dixi, non nimium fidendum, ſed potius declinationi.]

On 9 March, P. M. *[DIE 9 MARTIJ P. M.]*

$8^h\ 48^m$ [$8^H48'$] ☾ in the 90th degree according to the computation [☾ in 90 gradu iuxta ſupput.]

$7^h\ 54^m$ ☾ passed through the meridian with the western limb and had the altitude of the horn [7 54 tranſiuit ☾ occ. limb. Merid. & habuit cornu alt.][842]

[840] "Time", "Reading" and "Value" are this edition's heads. *0 31¼* stands alone on its line under the values, with no label. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

[841] "Time", "Reading" and "Value" are this edition's heads. The first, third and fourth labels run over two lines, their values on the second. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

[842] the time *$8^H48'$* is printed with a raised ^{H} and a raised mark after *48*; the time *7 54*, printed without unit marks, is given as hours and minutes.

Instrument	*Upper* [Superius]	*Lower* [Inferius]
By the revolving [quadrant] [Per volubil.]	*49° 52¼′*	*49° 19′*
By the mural [quadrant] [Per Mural.]	49° 51′	49° 18⅓′

843

Time	*Declination of the upper horn of* ☾ [Decl. ſuper. cornu ☾]	*Of the lower* [Inferioris]	*Diameter*
8ʰ 7ᵐ	*15° 43′*	*15° 9′*	*0° 34′*
8ʰ 11ᵐ	*15° 41′*	*15° 9′*	*0° 32′*
8ʰ 13½ᵐ	*15° 42¾′*	*15° 8¾′*	*0° 34′*
8ʰ 17ᵐ	*15° 41¼′*	*15° 9½′*	*0° 31¾′*

844

The declination comes out 15° 25′. [Prouenit declinatio 15 25.]

The clock was first verified from the eye of ♉ *at 8½ʰ exactly* [Horolog. verificabatur primum ab oculo ♉ ad horam 8½ exacte.]

There follows the observation of ☾ *near the 90th degree* [Sequitur obſeruatio ☾ iuxta 90 gradum.]

Time	*Aldebaran, west* [Aldeb. occ.]	*Western limb of* ☾*, west* [Occ. limb. ☾ occ.]	*Equatorial distance* [Diſt. æquat.]	Remark
8ʰ 32⅙ᵐ	*64° 6′*	*10° 27½′*	*53° 38½′*	
8ʰ 34¼ᵐ	*64° 36½′*	*10° 56⅙′*	*53° 40⅓′*	
8ʰ 37ᵐ 5ˢ [8 37 5″]	*65° 19½′*	*11° 36½′*	*53° 43′*	
8ʰ 38⅙ᵐ	*65° 36½′*	*11° 52¾′*	*53° 43¾′*	
8ʰ 40¾ᵐ	*66° 19½′*	*12° 36′*	*53° 43½′*	*doubtful (for both)* [dubiæ]
8ʰ 43ᵐ	*66° 50′*	*13° 2′*	*53° 48′*	
8ʰ 44½ᵐ	*67° 11′*	*13° 25′*	*53° 46′*	*better* [melior]
8ʰ 48½ᵐ	*68° 14′*	*14° 25′*	*53° 49′*	*good* [bona]

845

Then ☾ *was in the very 90th degree* [Tunc erat ☾ in ipſo 90 gradu.]

843 "Instrument" is this edition's head; the other two heads are printed. The values, printed without unit marks, are given as degrees and minutes.

844 "Time" is this edition's head; the other three heads are printed, each on two lines. These rows stand at the head of the right column. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

845 "Time" and "Remark" are this edition's heads; the other three heads are printed, each on two lines. A brace joins the last values of the rows at *8 40¾* and *8 43*, with *dubiæ* after it. At *8 37* the time is followed by *5* with a raised double mark, given as seconds; the other times, printed without unit marks, are given as hours and minutes. The values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
$8^h\ 50¾^m$	*Repeated declination of the upper horn of* ☾ [Repetita declin. ſuper. cornu ☾]	*15° 39′*
	of the lower horn of ☾ [Inferioris cornu ☾]	*15° 6½′*
	Apparent diameter of ☾ [Diameter apparens ☾]	*0° 32½′*
	Therefore the true declination of the centre of ☾ [Ergo vera declinatio centri ☾]	*15° 23′*

846

Afterwards ☾ *was observed the other way round from the heart of* ☋ *as follows* [Poſtea obſeruabatur ☾ vice verſa a corde ☋ vt ſequitur.]

Time	*The heart of* ☋, *east* [Cor ☋ or.]	☾, *west* [☾ occid.]	*Equatorial distance* [Diſt. æquat.]	Remark
$8^h\ 54^m$	*13° 56½′*	*15° 38¼′*	*29° 34¾′*	
$8^h\ 56⅓^m$	*13° 21′*	*16° 10¼′*	*29° 31¼′*	*doubtful* [dubia]
$8^h\ 57½^m$	*13° 4½′*	*16° 27′*	*29° 31½′*	*better* [melior]
$8^h\ 58¾^m$	*12° 46′*	*16° 47′*	*29° 33′*	
$9^h\ 1^m$	*12° 10½′*	*17° 21⅔′*	*29° 32⅙′*	*better and brighter* [melior et clarior]
$9^h\ 5⅓^m$	*11° 8′*	*18° 23′*	*29° 31′*	
$9^h\ 7^m$	*10° 43′*	*18° 44¼′*	*29° 27¼′*	*doubtful* [dubia]
$9^h\ 8½^m$	*10° 22⅙′*	*19° 6½′*	*29° 28⅔′*	*better and clearer* [melior & ſerenior]

847

Time	*Declination of the upper horn of* ☾ [Declin. ſuper. cornu ☾]	*Of the lower* [Inferioris]	*Apparent diameter* [Diameter apparens]	*Declination of the centre* [Declin. centri]
$9^h\ 10^m$	*15° 36½′*			
$9^h\ 11^m$	…	*15° 3½′*	*0° 33′*	*15° 20′*
$9^h\ 15½^m$	*15° 35⅓′*	*15° 3′*	*0° 32⅓′*	*15° 19′*

848

On 10 March [DIE 10 MARTIJ.]

846 "Time", "Reading" and "Value" are this edition's heads. *Repetita declin.* stands on the line of the time, *ſuper. cornu* ☾ on the line below with its value; *Ergo vera declinatio* stands on one line and *centri* ☾ with the value on the next. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

847 "Time" and "Remark" are this edition's heads; the other three heads are printed, each on two lines. At *9 1* and *9 8½* the remark runs over two lines, *et clarior* and *ſerenior* at the right on the line below. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

848 "Time" is this edition's head; the other four heads are printed, the first on three lines and the others on two. At *9 11* three points stand in the first value place. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

Time	Reading	Value
2^h 29⅓^m [2^H29⅓^P.]	M. Declination of the upper limb of ☾ [P. M. Declinatio ſuper. limbi ☾]	13° 45′ north [13 45 B.]
	of the lower [Inferioris]	13° 16½′
	Altitude of the lower limb [Alt. infer. limbi]	10° 18′

849

Time	Equatorial distance of the western limb of ☾ and the centre of ☉ [Diſt. æquat. occ. limbi ☾ et centri ☉]	Altitude of ☉ [Altit. ☉]	Altitude of the lower limb of ☾ [Alt. inf. limbi ☾]
2^h 48^m 30^s	128° 25⅙′	24° 24′	12° 51′
2^h 54^m 0^s	128° 30′	23° 50′	13° 33′
2^h 56^m 2^s	128° 31′	23° 30′	13° 50′
2^h 57^m 30^s	128° 32′	23° 25′	14° 5′
2^h 58^m 59^s	128° 32′	23° 20′	14° 16′
3^h 0^m 10^s	128° 33′	23° 10′	14° 23′
3^h 2^m 0^s	128° 34′	23° 2′	14° 36′
3^h 4^m 0^s	128° 34¾′	22° 50′	14° 52′

850

Time	Reading	Value	Second value
3^h 5^m 50^s	Declination of the upper limb of ☾ [Declinatio ſup. limb. ☾]	13° 40¾′	
	of the lower [Inferioris]	13° 11½′ north [13 11½ B]	15° 8′
	Diameter	29¼′	

851

Time	Equatorial distance [Diſt. æquat.]	Altitude of ☉ [Alt. ☉]	Value
3^h 13⅓^m	128° 39½′	21° 40′	16° 10′
3^h 15^m 45^s	128° 41′	21° 30′	16° 29′
3^h 17^m 15^s	128° 42¾′	21° 20′	16° 42′

849 "Time", "Reading" and "Value" are this edition's heads. The time is printed with a raised ^{H} and a raised mark after *29⅓*, and is given as hours and minutes. *P. M. Declinatio* stands on the line of the time, *ſuper. limbi* ☾ on the line below with the value. The values, printed without unit marks, are given as degrees and minutes.

850 "Time" is this edition's head; the other three heads are printed, the first on three lines and the others on two. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

851 "Time", "Reading", "Value" and "Second value" are this edition's heads. *Declinatio* stands on the line of the time, *ſup. limb.* ☾ on the line below with the value. The values stand after their labels, and *15 8* in the third value column of the table above, under *Alt. inf. limbi* ☾. *29¼* stands in the minutes place and is given as minutes. The time, printed without unit marks, is given as hours, minutes and seconds; the other values as degrees and minutes.

Time	Equatorial distance [Diſt. æquat.]	Altitude of ⊙ [Alt. ⊙]	Value
$3^h\ 19^m\ 20^s$	128° 43¼′	21° 5′	16° 51′
$3^h\ 21^m\ 5^s$	128° 44′	20° 50′	17° 8′

852

Time	Reading	Value	Second value
$3^h\ 23^m$	Declination of the upper horn [Decl. ſup. cornu]	13° 40′ north [13 40 B]	
	of the lower [Inferioris]	13° 10′	17° 26′
$3^h\ 25^m$	Repeated declination of the upper [Decl. repet. ſup.]	13° 39½′	
	of the lower [Inferioris]	13° 9¾′	17° 40′

853

Time	Equatorial distance [Diſt. æquat.]	Altitude of ⊙ [Altit. ⊙]	Altitude of the lower limb of ☾ [Altit. infer. lim. ☾]
$3^h\ 33^m\ 45^s$	128° 49¼′	19° 18′	18° 53′
$3^h\ 35^m\ 40^s$	128° 50′	19° 5′	19° 8′
$3^h\ 37^m\ 15^s$	128° 52′	18° 50′	19° 24′
$3^h\ 38^m\ 35^s$	128° 52½′	18° 40′	19° 33′
$3^h\ 40^m\ 30^s$	128° 53½′	18° 30′	19° 46′

854

Time	Reading	Value	Second value
$3^h\ 42^m$	Declination of the upper limb of ☾ [Declinatio ſup. limbi ☾]	13° 37½′	
	of the lower [Infer.]	13° 7′ north [13 7 B]	20° 0′

855

[852] "Time" and "Value" are this edition's heads; the page prints two heads only, over the first and second value columns, and none over the third. The first time, printed as two figures, is given as hours and minutes; the others, of three figures, as hours, minutes and seconds. The values, printed without unit marks, are given as degrees and minutes.

[853] "Time", "Reading", "Value" and "Second value" are this edition's heads. At each time the first word of the label stands on the line of the time and the rest on the line below with the value; *17 26* and *17 40* stand in the third value column of the table above. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

[854] "Time" is this edition's head; the other three heads are printed, each on two lines. The times, printed without unit marks, are given as hours, minutes and seconds; the values as degrees and minutes.

[855] "Time", "Reading", "Value" and "Second value" are this edition's heads. *Declinatio* stands on the line of the time, *ſup. limbi* ☾ on the line below with the value; *20 0* stands in the third value column of the table above. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

Time	Reading	Value	*Diameter*
6^h 29½^m	*Declination of the upper horn* [Declin. ſup. cornu]	*13° 21′*	
	of the lower horn [Inferioris cornu]	*12° 50′*	*0° 31′*

856

Time	*Western limb of* ☾, *east* [Occid. limb. ☾ or.]	♃, *west* [♃ occid.]	*Equatorial distance* [Diſt. æquat.]
6^h 34^m	*31° 19¼′*	*2° 2¼′*	*33° 21½′*
6^h 35⅙^m	*30° 58¾′*	*2° 23⅙′*	*33° 22′*
6^h 36½^m	*30° 40½′*	*2° 41½′*	*33° 22′*
6^h 38⅔^m	*30° 7′*	*3° 16⅓′*	*33° 23⅓′*

857

The altitude of ☾ *at about these observations was about 40°* [Altit. ☾ iuxta has obſeruationes fuit quaſi G. 40.]

Time	Reading	Value
6^h 40⅓^m	*Declination of the upper horn of* ☾ [Declinatio ſuper. cornu ☾]	*13° 20½′*
	of the lower [Inferioris]	*12° 49⅚′*
		30⅔′

858

Reading	Value
Altitude of the upper horn of ☾ in the meridian, by the Tychonic quadrant [Altit. ſuper. cornu ☾ in Merid., per Q. Tychon.]	47° 12½′
of the lower [Inferioris]	46° 40′

859

856 "Time", "Reading" and "Value" are this edition's heads; *Diameter* is printed, at the right on the line of *Inferioris*, with its value on the line below. *Declin.* stands on the line of the time; *Inferioris* and *cornu* stand on two lines, the value on the second. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

857 "Time" is this edition's head; the other three heads are printed, each on two lines. These rows stand at the head of the right column. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes. In the row of 6^h 35⅙^m the printed values 30 58¾ and 2 23⅙ add to 33° 21′ 55″, while the equatorial distance is printed 33 22; the other three rows add exactly. The figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

858 "Time", "Reading" and "Value" are this edition's heads. *Declinatio ſuper.* stands on the line of the time, *cornu* ☾ on the line below with the value. *30⅔* stands alone under the minutes of the values and is given as minutes. The time, printed without unit marks, is given as hours and minutes; the other values as degrees and minutes.

859 "Reading" and "Value" are this edition's heads. The first label runs over two lines, its value on the second. The values, printed without unit marks, are given as degrees and minutes.

Afterwards ☾ was observed approaching the 90th degree [Poſtea obſeruabatur ☾ appropinquans 90 gradui.]

Time	Reading	Value
$9^h\ 54^m$	*Declination of the upper horn of* ☾ [Declinatio ſuper. cornu ☾]	*12° 57′*
	of the lower horn of ☾ [Infer. cornu ☾]	*12° 24¾′*
	Diameter of ☾ [Diameter ☾]	*32¼′*
	The altitude of the lower limb of ☾ *was then* [Altit. infer. limbi ☾ tunc erat]	*44° 32′*
$9^h\ 59½^m$		*44° 17′*

860

Time	*Lower head of* ♊, *west* [Infer. cap. ♊ occ.]	☾, *west, western limb* [☾ occ. Limb. occ.]	*Equatorial distance* [Diſtantia æquatoria]
$9^h\ 59½^m$	*40° 17¾′*	*19° 0′*	*21° 17¾′*
			Set 21° 17′ [Pone 21 17]
$10^h\ 1½^m$	*40° 37′*	*19° 18′*	*21° 19′*
$10^h\ 2⅙^m$	*40° 56′*	*19° 36′*	*21° 20′*
$10^h\ 3⅓^m$	*41° 3′*	*19° 44½′*	*21° 18½′*
$10^h\ 5^m$	*41° 37½′*	*20° 18′*	*21° 19½′*
	The heart of ♌, west [Cor ♌ occ.]		*Set 21° 20′* [Pone 21 20]
$10^h\ 8^m$	*5° 52′*	*21° 1½′*	*15° 9½′*
$10^h\ 10^m$	*6° 17½′*	*21° 28′*	*15° 10½′*
$10^h\ 12⅓^m$	*6° 55′*	*22° 3⅓′*	*15° 8⅓′*
$10^h\ 14⅓^m$	*7° 24′*	*22° 32′*	*15° 8′*

861

Time	Reading	Value
$10^h\ 16½^m$	*Declination of the upper horn of* ☾ [Declinatio ſuper. cornu ☾]	*12° 54′*
	of the lower horn of ☾ [Inferioris cornu ☾]	*12° 21½′*
	Apparent diameter [Diameter apparens]	*32½′*

860 "Time", "Reading" and "Value" are this edition's heads. *Declinatio* stands on the line of the time, *ſuper. cornu* ☾ on the line below with the value; *Altit. infer. limbi* ☾ and *tunc erat* stand on two lines, the value on the second. *32¼* stands in the minutes place and is given as minutes. The times, printed without unit marks, are given as hours and minutes; the other values as degrees and minutes.

861 "Time" is this edition's head; the other three heads are printed, each on two lines. The two *Pone* lines stand at the right under the third value column. *Cor ♌ occ.* stands at the left over the first value column of the four rows below it, on the line of *Pone 21 20*, in roman type. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

862

[At] 10⅙^{h} ☾ [was] around the 90th degree, longitude 10° 35⅔′ ♌, latitude 5° 10′ 58″ south [Hora 10⅙ ☾ circa 90 gradum, Longitudo 10 G. 35⅔′ ♌, Latitudo 5 G. 10′ 58″ Mer.]

On 10 March[1] [DIE 10 MARTIJ[1]]

The Moon around the 90th degree [at] 10⅙^{h} [Luna circa 90 gr. H. 10⅙.]

[1] Struck through with a line. From codex V. [Linea inducta. E codice V.]

Time	Reading	Value
10^{h} 7⅔^{m} [H. 10 M. 7⅔]	Distance of the centre of ☾ from the lower head of ♊ [Diſt. centri ☾ ab inf. cap. ♊]	21° 35½′
	assuming the semidiameter [as] 16′ [aßumendo ſemid. 16^{m}]	
	Right ascension of the lower head of ♊ [Aſc. R. inf. cap. ♊]	109° 59′ 10″
	Therefore the right ascension of ☾ [Ergo Aſc. R. ☾]	131° 34′ 40″
	Declination of the centre of ☾ [Declin. centri ☾]	12° 39′ north [12 39 B.]
10^{h} 12⅔^{m} [H. 10 M. 12⅔]	Distance of the centre of ☾ from the heart of ♌ [Diſt. centri ☾ a corde ♌]	14° 54′ 30″
	Right ascension of the heart of ♌ [Aſc. R. Cordis ♌]	146° 33′ 50″
	Therefore the right ascension of ☾ [Ergo Aſc. R. ☾]	131° 39′ 20″
10^{h} 10^{m} [H. 10 M. 10]	Right ascension of ☾, limited [Aſc. R. ☾ limitata]	131° 37′ 0″
	Declination of the centre of ☾ [Declin. centri ☾]	12° 39′ north [12 39 B.]
	Corresponding longitude [Reſp. Longitudo]	10° 35⅔′ ♌
	Latitude [Latitudo]	5° 10′ 58″ south [5 10 58M.]

863

On 11 March, in the morning *[DIE 11 MARTIJ, MANE.]*

862 "Time", "Reading" and "Value" are this edition's heads. *Declinatio* stands on the line of the time, *ſuper. cornu* ☾ on the line below with the value. *32½* stands in the minutes place and is given as minutes. The time, printed without unit marks, is given as hours and minutes; the other values as degrees and minutes.

863 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the left column with no date line; they follow the entry for 10 March that closes the preceding page. At each time the first label runs over two lines, the value on the second; *aßumendo ſemid. 16^{m}* stands on a line of its own with no value at the right, the *16* carrying a raised *m*. The times are printed after *H.* and *M.* and are given as hours and minutes. The values printed with unit marks (*21°35½′*, *14°54′30″*, *131°37′ 0″*, and *109 59 10″*, marked after its last figure only) are given with them; the others, printed without marks, are given as degrees, minutes and seconds (three figures) or degrees and minutes (two).

Time	Reading	Value
3h 56½m [3H56½′]	*☾ was distant from the heart of ♌ by the western limb* [☾ diſtabat a corde ♌ per occidentalem limbum]	*11° 51½′*
3h 58m	*Declination of the upper limb of ☾* [Declin. ſuper. Limbi ☾]	*12° 15½′*
4h 1m	*of the lower* [Inferioris]	*11° 50′*

864

The altitude of ☾ around that time about 2° [Altitudo ☾ circa id tempus quaſi 2 G.]

This observation on ☾ is moderate for investigating its parallax, but account [is] to be taken of its refraction. [Hæc obſeruatio in ☾ eſt mediocris ob parallaxin eius indagandam, ſed habenda ratio refractionis eius.]

[At] 4h 4m the declination of the heart of ♌ was taken, 14° 1⅙′; the altitude of the heart of Leo was then about 9° [H. 4 M. 4 accipiebatur declin. cordis ♌ 14 1⅙, fuit tunc altitudo cordis leonis 9 G. quaſi.]

This declination was taken so that the refraction of the heart of ♌ in declination might be searched out as regards a lower position. [Hæc declin. accipiebatur vt refractio cordis ♌ in declinatione quo ad decliuiorem ſitum expiſcaretur.]

On 12 March [DIE 12 MARTIJ.]

Time	Reading	Value	Altitude of the lower limb of ☾ [Alt. inf. limb. ☾]
9h 26m [9H26.′]	P. M. Declination of the lower limb of ☾ [P. M. Declin. infer Limb. ☾]	4° 53′ north [4 53 B.]	37° 23′
	of the upper [Superioris]	5° 25′	
		0° 32′	

865

Time	Western limb of ☾, east [Occ. limbus ☾ orient.]	The heart of ♌, east [Cor ♌ or.]	Equatorial distance [Diſt. æquat.]	Value
9h 29m 20ſ	5° 45½′	3° 7¾′	12° 37¾′	37° 30′
9h 32m 40ſ	4° 55¼′	2° 15½′	12° 39¾′	38° 0′

864 "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a raised H and a raised mark after *56½*; the text after it runs over two lines, the value on the second. *Declin.* stands on the line of the time *3 58*, *ſuper. Limbi ☾* on the line below with the value. The other times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

865 "Time", "Reading" and "Value" are this edition's heads; *Alt. inf. limb. ☾* is printed, at the right over its value, on two lines. The time is printed with a raised H and a raised mark after *26*, and is given as hours and minutes. *P. M. Declin. infer* stands on the line of the time, *Limb. ☾* on the line below with the values. *0 32* stands alone under the values of the declinations, with no label. The values, printed without unit marks, are given as degrees and minutes.

866

The heart of ♌ was not seen any further because of clouds. [Cor ♌ vlterius non conſpiciebatur propter nubes.]

Time	Reading	Value
$9^h\ 37^m$	Declination of the upper limb [Declin. ſuper. limb.]	5° 21¾′ north [5 21¾ Bor.]
	of the lower limb [Inferioris limb.]	4° 51½′
	Diameter of ☾ [Diameter ☾]	30¼′

Among denser clouds (for all three) [Inter nubes denſiores][867]

On 13 March [DIE 13 MARTIJ.]

Time	Reading	Value
$11^h\ 28^m\ 13^s$ [$11^H\ 28'\ 13''$]	The western limb of ☾ passed through the meridian, and the upper limb had the altitude [tranſiuit occid. limbus ☾ per Meridianum, & habuit ſuperior limbus altit.]	34° 30′
	Lower limb [Inf. limb.]	33° 56′
	Then Spica, east, was [Tunc fuit Spica or.]	21° 20′

868

On 14 March, A. M. [DIE 14 MARTIJ, A. M.]

Time	Reading	Value
$2^h\ 17^m$	☾ was computed [to be] in the 90th degree from the Ascendant [☾ in 90 gradu ab Aſcend. ſupputabatur.]	
$1^h\ 45^m$	Declination of the upper limb of ☾ [Declinatio ſuper. limbi ☾]	0° 0′
	of the lower [Inferioris]	0° 34′ south [0 34 Au.]

866 "Time" and "Value" are this edition's heads; the other three heads are printed, each on two lines. The fourth value pair stands in the column of the head *Alt. inf. limb.* ☾ printed above the rows at $9^H26'$; no head is printed over it here. The first time carries a raised double mark after *20*; the times are given as hours, minutes and seconds, the values, printed without unit marks, as degrees and minutes.

867 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column. *Declin.* stands on the line of the time, *ſuper. limb.* on the line below with the value; *Inferioris* and *limb.* stand on two lines, the value on the second. *Inter nubes denſiores* stands at the right of these rows, beyond a brace spanning them, on four lines. *30¼* stands in the minutes place and is given as minutes. The time, printed without unit marks, is given as hours and minutes; the other values as degrees and minutes.

868 "Time", "Reading" and "Value" are this edition's heads. The time is printed with a raised ^{H}, a raised mark after *28* and a raised double mark after *13*. The text after it runs over three lines, the value on the third. The page does not say what quantity the value after *Spica or.* is. The values, printed without unit marks, are given as degrees and minutes.

869

Time	The heart of ♌, west [Cor. ♌ occ.]	Western limb of ☾, west [Occ. limbus ☾ occ.]	Equatorial distance [Diſtantia æquatoria]
1h 52m 0s	64° 6′	35° 8¼′	28° 57¾′
1h 54m 15s	64° 36′	35° 36′	29° 0′
1h 55m 55s	65° 3′	36° 0½′	29° 2½′
1h 57m 10s	65° 20½′	36° 18′	29° 2½′
	Altitude of the upper limb of ☾ 26¾° [Alt. ſup. limbi ☾ 26¾]		
2h 7½m	67° 55′	38° 49¼′	29° 5¾′
2h 9m	68° 21½′	39° 16′	29° 5½′
2h 10m 35s	68° 44½′	39° 36′	29° 8½′
2h 11m 55s	69° 3′	39° 54′	29° 9′

870

Time	Reading	Value
2h 13m	Declination of the upper limb of ☾, south [Declin. ſuper. limbi ☾ auſt.]	0° 8′
	of the lower limb [Inferioris limbi]	0° 40′
	Diameter	0° 32′

871

Time	Western limb of ☾, west [Occ. limbus ☾ occ.]	Spica ♍, west [Spica ♍ occ.]	Value
2h 15m 15s	40° 38¾′	20° 31′	20° 7¾′
2h 16m 50s	41° 2¾′	20° 56′	20° 6¾′
2h 20m	41° 46½′	21° 40′	20° 6½′ doubtful [dubia]
2h 21m 30s	42° 9¾′	22° 4½′	20° 5¼′
2h 23m 5s	42° 31½′	22° 28′	20° 3½′
2h 24m 20s	42° 52′	22° 49′	20° 3′
2h 23m 5s	Altitude of the upper limb of ☾ [Alt. ſup. limb. ☾]		24⅓°

869 "Time", "Reading" and "Value" are this edition's heads. The text at *2 17* runs over two lines. *Declinatio* stands on the line of the time *1 45*, *ſuper. limbi* ☾ on the line below with the value. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

870 "Time" is this edition's head; the other three heads are printed, each on two lines. *Alt. ſup. limbi* ☾ *26¾* stands on a line of its own between the rows, the figure immediately after the label and not in a value column; *26¾*, a single figure with a fraction, is given as degrees. The times of three figures are given as hours, minutes and seconds, those of two as hours and minutes; the values, printed without unit marks, as degrees and minutes.

871 "Time", "Reading" and "Value" are this edition's heads. *Declin.* stands on the line of the time, *ſuper. limbi* ☾ *auſt.* on the line below with the value. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

872

Time	Reading	Value
2^h 27^m	Repeated declination of the upper limb of ☾ [Repetita declin. ſup. limbi ☾]	0° 10′ south [0 10 au.]
	of the lower limb of ☾ [Inferioris limbi ☾]	0° 42½′
2¼^h [Hora 2¼]	Longitude of ☾ [Longitudo ☾]	26° 30½′ ♍
	Latitude [Latitudo]	1° 57⅓′ south [1 57⅓ m.]

873

On 14 March[1] [DIE 14 MARTIJ[1].]

Time	Reading	Value
2^h 12^m [H. 2 M. 12]	Right ascension of ☾ from the heart of ♌ [Aſc. R. ☾ a corde ♌]	175° 58′ 45″
2^h 15^m [H. 2 M. 15]	Right ascension of ☾ from Spica ♍ [Aſc. R. ☾ a Spica ♍]	176° 1′ 25″
2¼^h [H. 2¼]	set the right ascension of ☾ [pone Aſc. R. ☾]	176° 1′
	Arc of inclination 7⅙ subt. [Arcus inclinat. 7⅙ ſubt.]	
	Declination [Declinatio]	0° 24′ 0″ south [0 24 0m.]
	Corresponding longitude [Reſp. Longitudo]	26° 30½′ ♍
	Latitude [Latitudo]	1° 57⅓′ south [1 57⅓ m.]

874

[872] "Time" and "Value" are this edition's heads; the other two heads are printed, each on two lines, and none is printed over the third value column. *dubia* stands on a line of its own at the right, under the third value of the row at *2 20* and above that of the row at *2 21 30*. In the last row the time is printed *2 23 5*, as in the row two above it; *Alt. ſup. limb.* ☾ follows the time, and *24⅓* stands under the degrees of the third value column; *24⅓*, a single figure with a fraction, is given as degrees. The times of three figures are given as hours, minutes and seconds, the time *2 20* as hours and minutes; the other values, printed without unit marks, as degrees and minutes.

[873] "Time", "Reading" and "Value" are this edition's heads. *Repetita declin.* stands on the line of the time, *ſup. limbi* ☾ on the line below with the value. *Hora 2¼* stands at the left of *Longitudo* ☾. The time *2 27*, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

[874] "Time", "Reading" and "Value" are this edition's heads. At *H. 2 M. 12* and *H. 2 M. 15* the label runs over two lines, the value on the second; at *H. 2¼* the value stands on the line of the label. The times are printed after *H.* and *M.* and are given as hours and minutes, *H. 2¼* as 2¼^h. *7⅙ ſubt.* stands immediately after its label, not in the value column; *7⅙*, printed without unit marks, is left without a unit. The first value is printed with degree, minute and second marks; the other values, printed without unit marks, are given as degrees, minutes and seconds (three figures) or degrees and minutes (two).

The equation of time is nil. [Æquat. temp. nulla eſt.]

Reading	Value
Simple motion from Tab. Prut., of longitude [Simpl. motus ex Tab. Prut.] [Longitudinis]	2^{sex} 58° 31′ 0″ [2ſex 58°31′ 0″]
Anomaly [Anomalia]	2^{sex} 31° 25′ 16″
Our simple [motion] of ☉ [Noſter ſimplex ☉lis]	0^{sex} 0° 53′ 7″

875

On 1 April [DIE 1 APRILIS.]

Time	Reading	Value
1^h 32^m [1^H32P.	M. ☾ was computed [to be] in the 90th degree from the ascendant [P. M. ☾ in 90 gradu ab aſcendente ſupputabatur]	
1^h 13^m	Declination of the upper horn of ☾ [Declinatio ſuper. cornu ☾]	15° 34′ north [15 34 B.]
	of the lower horn of ☾ [Infer. cornu ☾]	15° 9′
	Apparent diameter [Diam. app.]	0° 25′
1^h 16^m	Repeated declination of the upper [Repetita decl ſuperioris]	15° 34′
	of the lower [Inferioris]	15° 10′
	Apparent diameter [Diam. app.]	0° 24′

876

Time	☉, west [☉ occid.]	Western limb of ☾, east [Occ. limb. ☾ or.]	Equatorial distance [Diſt. æquat.]	Remark
1^h 19^m	$40^s19°$ 50′	18° 10′	38° 0′	
1^h 22^m	$32^s20°$ 34¼′	17° 29½′	38° 3¾′	
1^h 24^m	$20^s21°$ 2¼′	17° 0′	38° 2¼′	
1^h 26^m	$10^s21°$ 28¼′	16° 35′	38° 3¼′	
1^h 28^m	$12^s21°$ 51½′	16° 16½′	38° 8′	doubtful [dubiæ] (for all four)
1^h 30^m	$50^s22°$ 38⅓′	15° 33½′	38° 11⅚′	
1^h 32^m	$42^s23°$ 8′	15° 1′	38° 9′	
1^h 34^m	$40^s23°$ 36¼′	14° 30′	38° 6¼′	

875 "Reading" and "Value" are this edition's heads. *Simpl. motus ex Tab. Prut.* stands on a line of its own; *Longitudinis* on the line below, indented, with the value. That value is printed with a raised *ſex* after the first figure and degree, minute and second marks after the others. The values of the next two rows, printed without unit marks, stand under the four figures of the first and are given in its units.

876 "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a raised H and a raised mark after *32*; the text after it runs over two lines and ends without a point. *Declinatio* stands on the line of the time *1 13*, *ſuper. cornu* ☾ on the line below with the value; *Repetita decl* (no point) stands on the line of the time *1 16*, *ſuperioris* on the line below with the value. The other times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

Time	⊙, west [⊙ occid.]	Western limb of ☾, east [Occ. limb. ☾ or.]	Equatorial distance [Diſt. æquat.]	Remark
1h 36m 5s	23° 58′	14° 9½′	38° 7½′	
1h 37m 15s	24° 15′	13° 52½′	38° 7½′	

877

Time	Reading	Value
1h 39m	Declination of the upper horn of ☾ [Declinatio ſuper. cornu ☾]	15° 36′
	of the lower [Inferioris]	15° 10⅓′ north [15 10⅓ Bor.]
		0° 25⅔′

878

Time	First value	Second value	Third value	Remark
1h 41m 58s	25° 26¾′	12° 40¾′	38° 7½′2 [38 7½2]	doubtful [dubia]
1h 43m 45s	25° 53¾′	12° 16½′	38° 10¼′3 [38 10¼3]	
1h 45m 20s	26° 18¼′	11° 52¾′	38° 11′	
1h 46m 50s	26° 38½′	11° 32′	38° 10½′	
1h 47m 40s	26° 52¾′	11° 19′	38° 11¾′	
1h 48m 30s	27° 9′	11° 4½′	38° 13½′	

879

Time	Reading	Value
1h 51m	Declination of the upper horn of ☾ [Declin. ſuper. cornu ☾]	15° 36′
	of the lower horn of ☾ [Inferioris cornu ☾]	15° 10½′
	Apparent diameter of ☾ [Diameter ☾ apparens]	0° 25½′
2h 33½m	The western limb of ☾ passed through the meridian. Altitude of the upper horn by the revolving quadrant [Tranſiuit occid. limbus ☾ per Merid. Altitud. ſuper. cornu per Q. volub.]	49° 46′

877 "Time" and "Remark" are this edition's heads; the other three heads are printed, each on two lines. *dubiæ* is printed once, as *du- / biæ*, at the right beyond a brace spanning the four rows 1h 28m 12s to 1h 34m 40s; it is given once, on the first of them, with its scope. The times are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes.

878 "Time", "Reading" and "Value" are this edition's heads. *Declinatio* stands on the line of the time, *ſuper. cornu* ☾ on the line below with the value. *0 25⅔* stands alone under the values, with no label. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

879 All five heads are this edition's; the page prints no heads over these rows, each a time followed by three value pairs, like the rows of the table above the declinations (⊙ *occid.*, *Occ. limb.* ☾ *or.*, *Diſt. æquat.*). *dubia* is printed over the lines of the first two rows, *du-* on the first and *bia* on the second, with no brace; it is given once, on the first row. The footnote cues 2 and 3 stand after *7½* and *10¼*. The times are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes.

Time	Reading	Value
	of the lower horn [Inferioris cornu]	49° 21′ 0° 25′

880

On the same day in the evening [Die eodem veſperi]

Time	*Between the western limb of* ☾ *and Aldebaran* [Inter occ. limb. ☾ et Aldeb.]	*Altitude of the lower horn of* ☾ [Altit. infer. cornu ☾]
8h 44½m [8H44½′]	*2° 29′ 45″*	*12° 43′*
8h 45¾m	*2° 28′ 40″*	*12° 24′*
8h 47¼m	*2° 27′ 30″*	*12° 7′*

881

From this, a comparison having been made with that observation which was made at the 90th degree, a test can be made of the parallax of ☾*. But one must consider that Aldebaran and* ☾ *were almost in the same visible latitude.* [Hinc collatione facta cum ea obſeruatione quæ fiebat apud 90 gradum, poteſt fieri periculum de ☾ parallaxi. Oportet autem conſiderare quod fuerint fere in eadem latitudine viſa Aldeboram & ☾.]

On 5 April [DIE 5 APRILIS.]

Time	Reading	Value
6h 33m [6H33′]	P. M. in the 90th degree according to the computation [P. M. in 90 gradu juxta computationem.]	
6h 30½m	Declination of the upper horn of ☾ [Decl. ſuper. cornu ☾]	16° 28½′
6h 31⅙m	of the lower horn of ☾ [Infer. cornu ☾]	15° 59′
	Apparent diameter of ☾ [Diam. ☾ app.]	0° 29½′

882

880 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column. *Declin.* stands on the line of the time *1 51*, *ſuper. cornu* ☾ on the line below with the value. The text at *2 33½* runs over three lines, the value on the third. *0 25* stands alone under the values of the altitudes, with no label. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

881 "Time" is this edition's head; the other two heads are printed, each on two lines. The first time is printed with a raised H and a raised mark after *44½*; the times are given as hours and minutes. The values under the first head, three figures printed without unit marks, are given as degrees, minutes and seconds; those under the second, two figures, as degrees and minutes.

882 "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a raised H and a raised mark after *33*; its text runs over two lines and names no body. *Infer. cornu* ☾ stands on the line of the time *6 31⅙*, indented under *ſuper. cornu* ☾; *Diam.* ☾ *app.* stands under it with no time. The other times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

Time	Equatorial distance between the western limb of ☾ and ☉ [Dift. æquat. inter occid. limb. ☾ et ☉]	Altitude of ☉ [Altitudo ☉]
6^h $35\frac{1}{3}^m$	87° 47′	3° 0′
6^h $37\frac{1}{2}^m$	87° 47′	2° 40′
6^h $39\frac{1}{3}^m$	87° 47⅔′	2° 20′
6^h $41\frac{1}{3}^m$	87° 46½′	2° 10′
6^h 44^m	87° 48¼′	2° 5′
6^h 45^m	87° 49½′	1° 55′

883

Time	Reading	Value
6^h 46^m	Declination of the upper horn of ☾ [Declinatio ſuper. cornu ☾]	16° 27′
	of the lower horn of ☾ [Infer. cornu ☾]	15° 58′
	Apparent diameter [Diameter apparens]	0° 29′
7^h $3\frac{1}{3}^m$	Repeated declination of the upper horn [Repetita decl. ſuper. cornu]	16° 26¼′ north [16 26¼ B.]
	of the lower [Inferioris]	15° 55½′

884

Time	♃, west [♃ occid.]	Western limb of ☾, west [Occ. limb. ☾ occ.]	Equatorial distance [Dift. æquat.]
7^h 6^m 0^s	31° 31′	19° 12′	12° 19′
7^h 7^m 10^s	31° 50′	19° 30½′	12° 19½′
7^h 8^m 10^s	32° 6½′	19° 47′	12° 19½′

885

The fixed beam was somewhat of a hindrance. [Trabs fixa nonnihil impedimento fuit.]

[1] From codex V. [E codice V.]

[2] The codex has 6¼. [Codex habet 6¼.]

[3] The codex has 9¼. [Codex habet 9¼.]

883 "Time" is this edition's head; the other two heads are printed, each on two lines. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

884 "Time", "Reading" and "Value" are this edition's heads. At *6 46* the word *Declinatio*, and at *7 3⅓* the words *Repetita decl.*, stand on the line of the time; the rest of each label stands on the line below with the value. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

885 "Time" is this edition's head; ♃ *occid.* is printed on one line, the other two heads each on two. The times are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes.

Time	Reading	Value
7^h $10½^m$	Declination of the upper horn of ☾ [Declin. ſuper. cornu ☾]	16° 25½′
	of the lower horn [Inferioris cornu]	15° 55½′
		0° 30′

886

By the sextant △. [Per Sext. △.]

Time	Reading	Value
7^h $15½^m$	Between the western limb of ☾ and ♃, nearest to it [Inter occid. limb. ☾ et ♃ ipſi proxim.]	13° 43½′
7^h $16⅓^m$		13° 43¾′
7^h 17^m		13° 44′
7^h $17½^m$		13° 44′
7^h 20^m	Repeated declination of the upper horn [Repetita declin. ſuper. cornu]	16° 25′
	of the lower [Inferioris]	15° 53½′
		0° 31½′

887

Note. ☾ was at the greatest remoteness of both epicycles. [Nota. Erat ☾ in maxima remotione vtriusque Epicycli.]

For the latitude and parallax of ☾. [Pro latit. et parallaxi ☾.]

Time	Reading	Value
6^h 34^m [6^H34^M]	Declination of ☾ [Declinatio ☾]	16° 13′
	True longitude [Longitudo vera]	20° 40′ ♋
	True altitude [Altitudo vera]	48° 45′
	Observed latitude [Latitudo obſeruata]	5° 45′
	Distance from ☊ [Diſtantia a ☊]	13° 26′
	Corresponding latitude [Reſp. Latitudo]	5° 6′
	Set the greatest [latitude] in □ thus [Pone Maximam in □ ſic]	5° 16′
	Parallax in altitude [Parallaxis in Altitudine]	0° 39′

[886] "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the left column with no date line; they follow the entry for 5 April that closes the preceding page. *Declin.* stands on the line of the time, *ſuper. cornu* ☾ on the line below with the value. *0 30* stands alone under the values, with no label. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

[887] "Time", "Reading" and "Value" are this edition's heads. The label *Inter occid. limb.* ☾ / *et* ♃ *ipſi proxim.* runs over two lines, the first on the line of *7 15½*, the second on the line of *7 16⅓*, each line with its own value; it is given whole on the first row. *Repetita declin.* stands on the line of the time *7 20*, *ſuper. cornu* on the line below with the value. *0 31½* stands alone under the values, with no label. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

888

Which, subtracted from the observed latitude, leaves the true [latitude] 5° 6′, which agrees with the calculation. [Quæ ſubducta ab obſeruata Latit., relinquit veram 5 6, quæ cum calculo conuenit.]

These [are] [Greek: ἐν πλάτει (en platei, "in breadth")] to demonstrate that those [things] which were inserted in the admonition of Book 2 of the Progymnas. concerning ☾ were observed for the most part near □, and therefore agree with that greatest latitude which was afterwards investigated in the same places.[1] [Hæc ἐν πλάτει ad demonſtranda ea quæ admonitioni Libri 2 progymnas. de ☾ inſerta ſunt iuxta □ ut plurimum obſeruata eße, atque ideo conuenire cum ea Latitudine maxima quæ poſtea ijsdem locis perueſtigata eſt[1].]

On 5 April[2] [DIE 5 APRILIS[2].]

Time	Reading	Value
7^{h} 20^{m} [H. 7 M. 20]	Distance of the western limb of ☾ from ☌ [Diſt. occ. limbi ☾ a ☌]	13° 43′ 40″
	Semidiameter of ☾ add. [Semid. ☾ add.]	15′ 0″
	Distance of the centre [Diſt. centri]	13° 58′ 40″
	Declination of the centre of ☾ [Declin. centri ☾]	16° 9½′
	Declination of ☌ [Declin. ☌]	23° 30′ north [23 30 B.]
	Therefore the right ascension of ☾ [Ergo Aſc. R. ☾]	111° 48′ 0″
	Corresponding longitude [Reſp. Longit.]	21° 0⅔′ ♋

889

Side or angle	Value
BA	74° 50½′
CA	66° 30′
BC	13° 58′ 40″
BAC	12° 40′

888 "Time", "Reading" and "Value" are this edition's heads. The time is printed with a raised H and a raised M and is given as hours and minutes. The values, printed without unit marks, are given as degrees and minutes.

889 "Time", "Reading" and "Value" are this edition's heads. The time is printed after *H.* and *M.* and is given as hours and minutes. *Diſt. occ. limbi* stands on the line of the time, ☾ *a* ☌ on the line below with the value, which is printed with degree, minute and second marks. A horizontal rule is printed under *15 0*, above *13 58 40*. *15 0*, printed without unit marks, is given as minutes and seconds. *Declin.* stands on a line of its own, *centri* ☾ on the line below with the value. The other values, printed without unit marks, are given as degrees, minutes and seconds (three figures) or degrees and minutes (two). The four lines *BA–BAC* below stand at the left of these rows, in the place of the times, beside the lines *Semid.* ☾ *add.* to *centri* ☾ *16 9½*.

890

On 6 April, P. M. [DIE 6 APRILIS P. M.]

Observation of ☾ approaching the 90th degree. [Obſeruatio ☾ 90 gradui appropinquantis.]

Time	Reading	Value
$7^h\ 34^m$ [$7^H 34'$]	Declination of the upper horn of ☾ [Declin. ſuper. cornu ☾]	14° 19′ north [14 19 B.]
	of the lower [Inferioris]	13° 47′
		0° 32′
$7^h\ 36^m$	Repeated declination of the upper [Repetita declin. ſuper.]	14° 18′ north [14 18 B.]
	of the lower [Inferioris]	13° 46½′
		0° 31½′

891

Time	♃, west [♃ occid.]	Western limb of ☾, west [Occ. limb. ☾ occ.]	Equatorial distance [Diſt. æquat.]
$7^h\ 40½^m$	39° 27′	13° 40½′	25° 46½′
$7^h\ 41^m\ 50^s$	39° 46′	14° 0′	25° 46′
$7^h\ 43^m$	40° 3⅔′	14° 16′	25° 47⅔′
$7^h\ 44^m\ 10^s$	40° 20¾′	14° 33′	25° 47¾′
$7^h\ 45^m\ 35^s$	40° 42½′	14° 54′	25° 48½′

892

Time	Reading	Value
$7^h\ 47½^m$	Declination of the upper horn of ☾ [Decl. ſuper. cornu ☾]	14° 16′ north [14 16 B.]
	of the lower horn of ☾ [Inferioris cornu ☾]	13° 44¼′
		0° 31¾′

893

By the old sextant [Per Sext. veterem]

890 "Side or angle" and "Value" are this edition's heads; the page prints only the letters and the figures. The values, printed without unit marks, are given as degrees, minutes and seconds (three figures) or degrees and minutes (two).

891 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column. The first time is printed with a raised ^{H} and a raised mark after *34. 0 32* and *0 31½* stand alone under the values, with no label. The times are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

892 "Time" is this edition's head; the other three heads are printed, each on two lines. The times of three figures are given as hours, minutes and seconds, those of two as hours and minutes; the values, printed without unit marks, as degrees and minutes.

893 "Time", "Reading" and "Value" are this edition's heads. *0 31¾* stands alone under the values, with no label. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

Time	Reading	Value
7^h $50\frac{1}{3}^m$	Between the western limb of ☾ and ♃ [Inter occid. limb. ☾ et ♃]	26° 9⅙′
7^h 51^m		26° 10′
7^h $51\frac{1}{2}^m$		26° 10½′
7^h 52^m		26° 11′
7^h 53^m		26° 11¼′
7^h $54\frac{2}{3}^m$	Repeated declination of the upper [Repetita decl. ſuper.]	14° 14¼′ north [14 14¼ B.]
	of the lower [Inferioris]	13° 43½′
		0° 30¾′

894

Time	♃, west [♃ occid.]	Western limb of ☾, west [Occid. limb. ☾ occ.]	Equatorial distance [Diſt. æquat.]
7^h 57^m 20^s	43° 38′	17° 45⅓′	25° 52⅔′
7^h 58^m 30^s	43° 56′	18° 2½′	25° 53½′

895

Time	Reading	Value
8^h $0\frac{1}{6}^m$	Declination of the upper horn of ☾ [Declin. ſuper. cornu ☾]	14° 13¼′ north [14 13¼ B.]
	of the lower [Inferioris]	13° 43′
	Diameter of ☾ [Diameter ☾]	0° 30¼′

896

On 6 July [DIE 6 JULIJ.]

Time	Reading	Value
10^h 0^m [10^H 0′]	P. M. ☾ was computed [to be] in the 90th degree. [P. M. ☾ in 90 gradu ſupputabatur.]	
9^h 3^m	Declination by the armillae, south, of the upper limb of ☾ [Declin. per Armillas Au. ſup. limb. ☾]	18° 22′
9^h $3\frac{1}{2}^m$	of the lower [Inferioris]	18° 54′

894 "Time", "Reading" and "Value" are this edition's heads. The label *Inter occid. limb. ☾ / et ♃* runs over two lines, the first on the line of *7 50⅓*, the second on the line of *7 51*, each line with its own value; it is given whole on the first row. *0 30¾* stands alone under the values, with no label. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes. In 0° 30¾′ the numerator of the fraction is uncertain on this copy: it may also be read as an 8 (8/4, which is not a fraction form); the value is given as ¾ either way.

895 "Time" is this edition's head; the other three heads are printed, each on two lines. The times are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes.

896 "Time", "Reading" and "Value" are this edition's heads. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

Time	Reading	Value
	Apparent diameter [Diameter appar.]	0° 32′
9^h 4½^m	The western limb of ☾ passed through the meridian. [Tranſiuit occid. limbus ☾ per merid.]	
	Altitude of the upper horn [Altit. ſuper. cornu]	15° 44′
	by the revolving [quadrant], of the lower [per Volubil., Inferioris]	15° 12′

897

[1] Cf. vol. IV p. 43 (De mundi æth. rec. phæn. p. 40). [Cf. T. IV p. 43 (De mundi æth. rec. phæn. p. 40).]

[2] From codex V. [E codice V.]

Reading	Value
Altitude by the Tychonic [quadrant], upper [Altitudo per Tychon., ſup.]	15° 44¾′
lower [inf.]	15° 13′

898

On 4 August, P. M. [DIE 4 AUGUSTI, P. M.]

Time	Reading	Value
8^h 37^m [8^H37^m]	P. M. ☾ in the 90th degree from the ascendant according to the computation. [P. M. ☾ in 90 gradu ab aſcendente juxta ſupputationem.]	
8^h 58⅙^m	The western limb of ☾ passed the meridian and had the altitude by the revolving [quadrant] [Tranſiuit occid. limb. ☾ Merid. & habuit altitudinem per Volub.]	
	upper horn [ſuperius cornu]	15° 20½′
	lower [Inferius]	14° 47½′
	Diameter of ☾ [Diameter ☾]	0° 33′
	By the Tychonic [quadrant], upper horn [Per Tychon., ſuper. cornu]	15° 20′
	lower horn [Inferius cornu]	14° 46½′
	Diameter of ☾ [Diameter ☾]	0° 33½′
9^h 1^m	Declination of the upper limb [Declin. ſuper. limbi]	18° 47½′ south [18 47½ Au.]
	of the lower [Inferioris]	19° 20′
	Apparent diameter of ☾ [Diameter ☾ app.]	0° 32½′

[897] "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a raised ^{H} and a raised mark after *0*; its text runs over two lines. *Declin. per Armillas Au.* stands on the line of the time *9 3*, *ſup. limb.* ☾ on the line below with the value. The text at *9 4½* runs over two lines and has no value. *per Volubil.,* stands on the line of *Inferioris*, before it. The other times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

[898] "Reading" and "Value" are this edition's heads. These lines stand at the head of the left column with no time and no date line; they follow the entry for 6 July that closes the preceding page. The values, printed without unit marks, are given as degrees and minutes.

899

By the sextant △ [Per Sext. △]

Time	Reading	Value
$9^h\ 13^m$	Distance between the western limb of ☾ and the head of Ophiuchus [Diſt. inter occ. limb. ☾ et caput Ophiuchi]	36° 57′
$9^h\ 14^m$		36° 58′
$9^h\ 15^m$		36° 59½′
$9^h\ 17^m$	Between the western limb of ☾ and the mouth of Pegasus [Inter occ. limb. ☾ et Os Pegaſi]	50° 15½′
$9^h\ 18^m$		50° 15¼′
$9^h\ 20^m$		50° 15′
$9^h\ 21^m$		50° 14½′
$9^h\ 24^m$	Declination of the upper limb of ☾ [Declin. ſuper. limb. ☾]	18° 46′
	of the lower limb [Infer. Limbi]	19° 19′

900

The assigned times have been verified. [Tempora aßignata ſunt verificata.]

On 5 August [DIE 5 AUGUSTI.]

Time	Reading	Value
$8^h\ 52^m$ [$8^H52'$]	P. M. ☾ in the 90th degree from the Ascendant [P. M. ☾ in 90 gradu ab Aſc.]	
$9^h\ 8½^m$	Declination of the upper limb of ☾ [Declin. ſuper. limbi ☾]	17° 35¾′ south [17 35 [[3/8]]/4 M.]
$9^h\ 9¼^m$	of the lower limb of ☾ [Infer. Limbi ☾]	18° 8¾′
		0° 33′

901

899 "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a raised H and a raised mark after *37*; its text runs over two lines and has no value. The text at *8 58⅙* runs over two lines and has no value; the altitudes follow on the lines below it. The other times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

900 "Time", "Reading" and "Value" are this edition's heads. The label *Diſt. inter occ. limb. ☾ / et caput Ophiuchi* runs over two lines, the first on the line of *9 13*, the second on the line of *9 14*; the label *Inter occ. limb. ☾ et Os / Pegaſi* runs over two lines, the first on the line of *9 17*, the second on the line of *9 18*; each line carries its own value, and each label is given whole on its first row. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

901 "Time", "Reading" and "Value" are this edition's heads. The line at *8H52′* is the last of the left column; the rows from *9 8½* stand at the head of the right column. That time is printed with a raised H and a raised mark after *52*. *0 33* stands alone under the values, with no label. The other times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes. In 17° 35¾′ and 18° 8¾′ the numerator of the fraction is uncertain on this copy (heavily inked and closed on the left, like an 8): it may also be read as an 8 (8/4, which is not a fraction form); the value is given as ¾ either way.

By the old sextant. [Per Sext. Vet.]

Time	Reading	Value
$9^h\ 18^m\ 5^s$	Between the western limb of ☾ and the head of Ophiuchus [Inter occ. limbum ☾ et Caput Ophiuchi]	45° 15′
$9^h\ 19^m\ 10^s$		45° 15½′
$9^h\ 20^m\ 20^s$		45° 15⅔′
$9^h\ 25^m\ 15^s$	Between the western limb of ☾ and the mouth of Pegasus [Inter occ. limb. ☾ et Os Pegaſi]	38° 8¾′
$9^h\ 28^m\ 45^s$		38° 8′
$9^h\ 31^m\ 0^s$		38° 7¼′
$9^h\ 32^m$	Declination of the upper limb of ☾ [Declin. ſup. limbi ☾]	17° 34¾′ south [17 34 [[3/8]]/4 A.]
	of the lower [Inferioris]	18° 7¾′
	Apparent diameter of ☾ [Diameter ☾ apparens]	0° 33′
$9^h\ 48^m\ 18^s$	The bright [star] of the Vulture passed through the meridian, altitude [Tranſiuit Luc. Vult. per Mer., Alt.]	41° 58′
$9^h\ 49^m\ 1^s$	The western limb of ☾ passed through the meridian. Altitude by the revolving [quadrant] of the upper limb [Tranſiuit ☾ occ. limb. per Merid. Alt. per volub. ſup. limbi]	16° 32½′
	of the lower limb [Inferioris limbi]	16° 2′
	Diameter	0° 30½′
	by the Tychonic quadrant [per Q. Tychon.]	
	Altitude of the upper limb of ☾ [ſuper. limbi ☾ Alt.]	16° 32½′
	of the lower [Inferioris]	15° 59½′
	Diameter	0° 33′
$9^h\ 52½^m$	Repeated declination of the upper limb [Repetita declin. ſuper. Limbi]	17° 33′
	of the lower [Inferioris]	18° 5½′ south [18 5½ Au.]
$9^h\ 57^m\ 10^s$	Repeated distance between ☾ and the mouth of Pegasus [Repetita diſtantia inter ☾ et Os Pegaſi]	37° 56½′
$9^h\ 59^m\ 20^s$	by the sextant △ [per Sext. △]	37° 56′

902

[902] "Time", "Reading" and "Value" are this edition's heads. The labels *Inter occ. limbum* ☾ / *et Caput Ophiuchi* and *Inter occ. limb.* ☾ / *et Os Pegaſi* each run over two lines, each line with its own time and value; each is given whole on its first row. The text at *9 48 18* runs over two lines, the value on the second. The text at *9 49 1* runs over two lines and its value stands alone on a third. *per Q. Tychon.* stands on a line of its own, with no value. At *9 57 10* the label runs over three lines: *Repetita diſtantia* on the line of the time, *inter* ☾ *et Os* on the next line with the value *37 56½*, *Pegaſi* on the line of *9 59 20*; *per Sext.* △ stands on the line below that, with the value *37 56*. The label is given whole on its first row, and *per Sext.* △ on the row of the second value, where it is printed. The times of three figures are given as hours, minutes and seconds, those of two as hours and minutes; the values, printed without unit marks, as degrees and minutes. In 17° 34¾′ and 18° 7¾′ (at $9^h\ 32^m$) the numerator of the fraction is uncertain on this copy (closed on the left, like an 8): it may also be read as an 8 (8/4, which is not a fraction form); the value is given as ¾ either way.

Investigation of the place of ☾ according to the observations made on 4 and 5 August, when [it] was near the meridian [INQUISITIO LOCI ☾ SECUNDUM OBSERUATIONES DIE 4 ET 5 AUGUSTI FACTAS, CUM PROPE MERID. ESSET.]

On 4 August, P. M. [DIE 4 AUGUSTI, P. M.]

Time	Reading	Value
9^h 13^m [H. 9 13′]	Right ascension of the head of Ophiuchus [Aſcenſ. R. Capitis Ophiuchi]	258° 56′
	Angle addend. [Ang. addend.]	19° 20⅚′
	Right ascension of the centre of ☾ [Aſcenſ. R. centri ☾]	278° 17′
	Declination of the same, south [Declinatio eiusdem auſtr.]	19° 2′
	Longitude [Longitudo]	7° 51′ ♑
	Latitude [Latitudo]	4° 15½′ north [4 15½ B.]
9^h 20^m [H. 9 20]	Right ascension of the mouth of Pegasus [Aſc. R. oris Pegaſi]	320° 58′
	Right ascension of ☾ [Aſc. R. ☾]	278° 19½′
	Declination, south [Decl. au.]	19° 2′

903

	From observation [Ex obſeruatione]	From Prutenic, Mästlin's [Ex Prut. Mæſt.]	From Alphonsine, Cyprian's [Ex Alph. Cyp.]
Longitude [Long.]	7° 53⅓′ ♑	8° 21′ ♑	7° 56′ ♑
Latitude [Lat.]	4° 15⅓′ north [4 15⅓ B.]	4° 57′ north [4 57 B.]	4° 56′ north [4 56 B.]

904

Parallax of ☾ at an altitude of 15° from Tab. Pruten. 1° 1′ 30″. [Parallaxis ☾ in altitudine 15 partium ex Tab. Pruten. 1°1′30″.]

On 5 August [DIE 5 AUGUSTI.]

903 "Time", "Reading" and "Value" are this edition's heads. The first time is printed after *H.*, with a raised mark after *13*; the second after *H.*, without marks; both are given as hours and minutes. *Aſcenſ. R.* stands on the line of the first time, *Capitis Ophiuchi* on the line below with the value; *Declinatio eiusdem* and *auſtr.* stand on two lines, the value on the second. The values, printed without unit marks, are given as degrees and minutes. The right ascension of the head of Ophiuchus, 258 56, and the angle 19 20⅚ add to 278° 16⅚′, while the right ascension of the centre of ☾ is printed 278 17; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

904 The three column heads are printed, in smaller type; the first column has no head. These rows stand at the head of the right column of the lower block. *Ex Alph.* stands a little higher than the other two heads, *Cyp.* below it. The values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
9^h 18^m	Right ascension of the head of Ophiuchus [Aſc. R. capitis Ophiuchi]	258° 56′
	Right ascension of the centre of ☾ [Aſc. R. centri ☾]	292° 54⅔′
	Its declination [Declinatio eius]	17° 50½′

905

Time	Reading	Value
	Longitude [Longitudo]	21° 48½′ ♑
	Latitude [Latitudo]	3° 57⅙′ north [3 57⅙ B.]
9^h 28^m	Right ascension of the centre [Aſc. R. centri]	292° 58′
	Declination, south [Decl. au.]	17° 50′

906

	From observation [Ex obſerv.]	From Prutenic, Mästlin's [Ex Prut. Mæſtl.]	From Alphonsine, Cyprian's [Ex Alph. Cypr.]
Longitude [Longit.]	21° 52⅙′ ♑	22° 8′ ♑	21° 52′ ♑
Latitude [Latit.]	3° 57⅙′ north [3 57⅙ B.]	4° 39⅓′ north [4 39⅓ B.]	4° 38′ north [4 38 B.]

907

Parallax of altitude at 16°: 59′ 48″. [Parallaxis Altitudinis 16 Partium 59′ 48″.][908]

N.B. For examining the latitude of ☾ *or the parallax*[1]*, or also the refraction.* [N.B.Pro latitudine ☾ vel parallaxi[1] aut etiam refractione examinanda.]

In the year 1587, on 4 August, at the hour exactly 9 P. M., ☾ *was on the meridian, near the tropic of* ♑*, and its highest part had* [Anno 1587 die 4 Auguſti hora exquiſite 9 P. M. fuit ☾ in Meridiano propinqua tropico ♑ et habuit ſuprema pars ejus]

[905] "Time", "Reading" and "Value" are this edition's heads. *Aſc. R. capitis* stands on the line of the time, *Ophiuchi* on the line below with the value. The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes.

[906] "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the left column with no date line; they follow the rows for 5 August at *9 18* (right ascension of the head of Ophiuchus, right ascension of the centre of ☾, its declination) that close the preceding page. The first two rows have no time. The time *9 28*, printed without unit marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[907] The three column heads are printed, in smaller type; the first column has no head. *Ex obſerv.* stands on one line, level between the two lines of the other heads. The values, printed without unit marks, are given as degrees and minutes.

[908] *Partium* follows *16*; *59′* (with a raised mark) and *48″* (with a raised double mark) follow *Partium*.

Reading	Value
the altitude [Altitudinem]	*15° 20′*
the lowest [part] [Infima]	*14° 47′*
Apparent diameter [Diameter apparens]	*0° 33′*

909

Reading	Value
Therefore the true altitude of the centre of ☾ [Ergo vera altitudo centri ☾]	*15° 3½′*
From these the refraction takes away at most [His aufert refractio ad ſummum]	*5′*
so that the true apparent altitude is [vt ſit vera alt. viſa]	*14° 58½′*
If this is taken away from the altitude of the equator [Hæc ſi auferatur ab alt. æquat.]	*34° 5½′*
so that the true declination is [vt ſit vera decl.]	*19° 7′*
But the longitude of ☾ *by observation, if [it] is brought back there, was in* [Longitudo autem ☾ per obſeruationem ſi eo reuocetur, fuit in]	*7° 44′* ♑
with latitude [cum latitud.]	*4° 16′ north* [4 16 B.]
The declination of that place in the ecliptic is [Declin. eius loci in Ecliptica eſt]	*23° 18′*
If the observed declination is taken away from this [Hinc ſi auferatur obſeruata declin.]	*19° 7′*
There results the apparent latitude [Prouenit latitudo viſa]	*4° 11′*
But the true latitude was [Vera autem latitudo erat]	*4° 58′*
Therefore the parallax of latitude [Ergo parallaxis latitudinis]	*0° 47′*

910

The observed parallax of altitude is nearly the same. [Eſt idem fere parallaxis altitudinis obſeruata.]

Note that the observed latitude noted earlier exceeds by 5′; [this] comes about because account of the refraction was not taken there, which takes away those 5′. [Nota, quod Latitudo obſeruata prius annotata 5 ſcrup. excedit, fit propterea quod non illic habita eſt ratio Refractionis, quæ quina illa minuta detrahit.]

But by computation from the Prutenic tables it is found that the parallax of ☾ *in the circle of altitude should have been 61½′; for the double [distance] of* ☾ *from the Sun was 263° 2′, and the equated anomaly 218° 15′, from which, at the double distance from the vertex 150, which corresponds to 15° of altitude, this parallax of* ☾ *results.* [Per ſupputationem autem e Tabulis Prutenicis inuenitur, quod parallaxis ☾ in circulo altitudinis debuerit eße M. 61½, fuit enim duplex ☾ a Sole 263 G. 2 M. & coæquata anomalia 218 G. 15 M. vnde in duplici diſtantia a vertice 150 quæ reſpondet 15 grad. Altitudinis prouenit hæc parallaxis ☾.]

909 "Reading" and "Value" are this edition's heads. The values, printed without unit marks, are given as degrees and minutes.

910 "Reading" and "Value" are this edition's heads. These rows stand in the right column, beside the rows of the left column. *His aufert refractio* and *ad ſummum* stand on two lines, the value *5* alone on the second, in the minutes place; it is given as minutes. The other values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Parallax of ☾ according to Tab. Prut. [Parallaxis ☾ ſecundum Tab. Prut.]	*61′ 30″*
Parallax of ☾ obtained from observation [Parallaxis ☾ ex obſeruatione habita]	*47′ 0″*
The difference between the two, which we sought [Differentia vtriusque quam quæſiuimus]	*14′ 30″*

911

N.B. It is therefore clear that the parallaxes investigated by observation and computation differ by a quarter of a degree; therefore some perceptible error must lie beneath, either in the lunar parallaxes or in the latitudes, or also with the refraction not duly established. As far as the parallaxes by computation are concerned, they can hardly be smaller, but are rather to be admitted [as] larger, since the Ptolemaic hypothesis itself makes them rather larger than the Copernican [hypothesis], and in no way smaller. It will therefore be more probable either that some error lies hidden concerning the greatest lunar latitude, not found exactly enough, or changed from the times of Ptolemy up to now, or also that in the lunar refraction the matter stands much otherwise than in the Sun, and that it turns out much greater in the Moon than in the Sun or the other heavenly bodies. [N. B. Patet itaque, quod quarta parte gradus varientur parallaxes per obſeruationem & ſupputationem inquiſitæ, oportet itaque aut in parallaxibus lunaribus aut in latitudinibus, aut etiam refractione non rite conſtituta, ſenſibilem aliquem ſubeße errorem. Quantum ad parallaxes per ſupputationem attinet, vix minores eße poßunt, ſed potius maiores admittendæ, ſiquidem ipſa Ptolemaica Hypotheſis eas Coperniana maiores potius & nullatenus minores efficit. Probabilius itaque erit vel circa latitudinem maximam lunarem, non ſatis exacte inuentam, vel a Ptolomæj temporibus huc vſque mutatam latere errorem aliquem, aut etiam in refractione lunari multo aliter quam in ſole rem ſe habere, eamque in luna multo maiorem evadere quam in ſole vel reliquis ſideribus.]

But since we have subtracted 5′ in place of refraction, as much as the Sun can hardly produce at an altitude of 15°, and it is more probable that the Moon cannot bring in a greater refraction in such a position, and [it] would be excessive if it [were] up to 20′, as is required here (if some agreement were to be reconciled), therefore at the limit of greatest latitude, either not correctly found by Ptolemy or changed up to now, a perceptible error exists, which can in no way be excused on account of the changed declination of the ecliptic, as in the fixed stars and perhaps also in the other [Verum, cum nos refractionis loco detraximus 5 minuta, quantum vix Sol in altitudine 15 partium efficere poteſt, & veroſimilius ſit lunam non poße refractionem in tali ſitu maiorem ingerere, & nimia foret, ſi ea ad 20 ſcrupula prout hic requiritur (ſi congruentia aliqua concilianda foret) idcirco in limite maximæ latitudinis, vel a Ptolomæo non recte inventa vel hucuſque mutata, error ſenſibilis exiſtit,

911 "Reading" and "Value" are this edition's heads. The first value is printed with a raised mark and a raised double mark; the second and third, printed without unit marks, are given as minutes and seconds, as the first.

qui propter mutatam declinationem Eclipticæ nullatenus excuſari poteſt, vt in ſtellis fixis et forte etiam in reliquis pla-][912]

[1] Cf. vol. II pp. 137 and 411 of our edition (Progymn. pp. 125 and 460). [Cf. T. II pp. 137 et 411 noſtræ editionis (Progymn. pp. 125 et 460).]

planets. For on account of the closer approach of the ecliptic to the equator now than formerly, the greatest latitude of the Moon in that place would have to become narrower than it formerly was by more than a third part of a degree, whereas rather, from the preceding observations, it is required that the northern latitude be greater now in the southern part of the ecliptic than formerly. But think about these [matters] and inquire into the accurate truth, which can be done when ☾ similarly crosses the meridian near the beginnings of Cancer, being near the limits of greatest latitude, and by observing its latitude and parallax near the nodes at the beginnings of ♋ and ♑. But since this matter is of great moment, let us also examine the observation of the following day on the Moon, which was made near its passage through the meridian. [netis.Nam propter propiorem acceßum Eclipticæ ad æquatorem nuncquam olim, oporteret in eo loco maximam latitudinem Lunæ anguſtiorem fieri quam olim erat tertia plus parte gradus, cum potius ex obſeruationibus præcedentibus requiratur, vt maior nunc ſit latitudo Borea in parte Eclipticæ Auſtrina quam olim. Verum de his cogita & inquire accuratam veritatem, id quod poteſt fieri, cum ☾ ſimiliter iuxta Cancri initia Meridianum tranſit, exiſtens iuxta limites maximæ latitudinis, et obſeruando latitudinem et parallaxin eius iuxta nodos in initijs ♋ et ♑. Verum cum res hæc magni ſit momenti, examinemus etiam diej ſequentis obſeruationem in luna, quæ fiebat prope tranſitum ejus per Meridianum.][913]

On 5 August at 26^{m} [H. M. 26] the longitude of ☾ from observation was 21° 52′ ♑, and the latitude 3° 57⅙′. But if account is taken of the refraction, as before, the latitude of ☾ was approximately only 3° 53′; and since ☾ was then beyond the 90th degree by about half an hour, the parallax in the circle of altitude is found from the Prutenic tables [to be] 59¾′. For the double longitude from ☉ is 287° 36′ and the equated anomaly of ☾ 230° 47′, and the parallax of latitude varies imperceptibly in such a position. But from the tables the latitude of ☾ at that time is at most 4° 40′, which observation gave [as] 3° 53′, so that from this the parallax of latitude is 0° 47′, or rather, on account of some distance of ☾ from the 90th [degree], 0° 46′; but that which is derived from the tables would be about 0° 59′. [Die 5 Auguſti H. M. 26 fuit ex obſeruatione longitudo ☾ 21 grad. 52′ ♑, & latitudo 3 grad. 57⅙′. Verum ſi habeatur ratio refractionis, vt prius, fuit proxime latitudo ☾ ſaltem 3 grad. 53′ et quoniam tunc ☾ erat vltra 90 gradum quaſi dimidia hora parallaxis in circulo altitudinis e Tabulis Prutenicis reperitur 59¾′. Nam duplex longitudo a ☉ eſt 287 grad. 36′ & coæquata anomalia ☾ 230 grad. 47′, et parallaxis latitudinis in tali ſitu inſenſibiliter variatur. Eſt autem ex tabulis tunc latitudo ☾ ad ſummum 4 grad. 40′ quam obſeruatio dedit 3 grad. 53 vt ſit hinc parallaxis latitudinis 0

[912] The page ends at *pla-*; *netis.* stands at the head of p. 172, and the word is given there.

[913] *netis.* at the head of the page completes *pla-* at the foot of p. 171; the word is given whole here, as "planets".

gr. 47′ vel potius ob aliqualem ☾ a 90 diſtantiam 0 grad. 46′; at ea quæ e tabulis elicitur eßet proxime 0 grad. 59′.][914]

And from this it follows again that in about 13′ (which agrees with the previous [one] within 1½) some error underlies either the greatest latitude of ☾ or its parallax, or also with the refraction not yet sufficiently subtracted; which [error] is to be unravelled and made manifest in its own time (d. v.) in the manner said above. [Atque hinc rurſus ſequitur in 13 proxime ſcrupulis (quod cum priori in 1½ conſentit) vel in latitudine ☾ maxima vel in parallaxi eius vel etiam refractione adhuc non ſatis ſubtracta, errorem aliquem ſubeßе, qui ſuo tempore (d. v.) modo ſupra dicto eſt enucleandus et manifeſtandus.]

Investigation of the place of the Moon for 5 August at 9^h $48\frac{1}{3}^m$, when the bright [star] of the Vulture had nearly passed the meridian[1] [Inquiſitio loci Lunæ ad diem 5 Auguſti H. 9 M. 48⅓, quando Lucida Vulturis ferme tranſijt Meridianum[1].]

Method of correcting the time. [Ratio emendationis temporis.]

Time	Reading	Value
9^h 48^m [H. 9 M. 48]	Place of ☉ [Locus ☉^{lis}]	22° 8⅓′ ♌
	Right ascension [Aſc. R.]	144° 31′
	Right ascension of Aquila [Aſc. R. Aquilæ]	292° 38½′
9^h $52\frac{1}{2}^m$ [H 9 M. 52½]	Corresponding [Reſp.]	148° 7½′
	Interval between the transit of the Vulture and ☾, 43^s [43″], to which in right ascension correspond [Interuallum inter tranſitum Vulturis et ☾ 43″ quibus in Aſc. R. reſpondent]	11′
	Semidiameter of ☾ add. [Semidiam. ☾ add.]	15′
		26′ add. [26 add.]
	Right ascension of the Vulture [Aſc. R. Vulturis]	292° 38′
	Right ascension of ☾ [Aſc. R. ☾]	293° 4′
	Declination from the meridian altitude [Declin. ex Altit. Mer.]	17° 48¼′ south [17 48¼ Mer.]
	Corresponding longitude [Reſp. Longit.]	21° 57′ 48″ ♍
	For the reduction to [its] own orb [Pro reduct. ad orb. prop.]	4′ 45″ subt. [4 45 ſubt.]
		21° 53′ 3″ ♍

[914] No figure is printed between *H.* and *M.* The second *53*, printed after *3 grad.* without a mark, is given as minutes.

915

But if for this time, namely $10^h\ 4^m$, corrected by our equation, the true place of ☾ is sought by the modern calculation, it will be 21° 51½′ ♍, which differs from the observed [place] by only 1½′. [Quod ſi ad hoc tempus nempe H. 10 M. 4 per noſtram æquationem correctum, quæratur per calculum neotericum verus locus ☾, erit ille 21°51½′ ♍, qui ſesquialtero tantum minuto ab obſeruato differt.][916]

On 17 August, A. M. [DIE 17 AUGUSTI A. M.]

☾ *was observed in this way; but [it] was still before the 90th degree.* [Obſeruabatur ☾ hoc modo, erat autem adhuc ante 90 grad.]

Time	Reading	Value
$3^h\ 59¾^m$ [$3^H59¾'$]	*Declination of the upper limb of* ☾ [Declin. ſuper. limbi ☾]	*17° 4′ north* [17 4 Bor.]
	of the lower limb [Inferioris limbi]	*16° 33½′*
	Apparent diameter [Diameter apparens]	*0° 30½′*
$4^h\ 4^m$	*Between the eastern limb of* ☾ *and Aldebaran, by the sextant* [Inter or. limb. ☾ et Aldeb. per Sextantem]	*9° 4½′*
$4^h\ 6^m$		*9° 6′*
$4^h\ 7^m$	*The same distance repeated* [Eadem diſt. repetita]	*9° 6⅔′*
$4^h\ 10^m$	*Declination of the upper horn of* ☾ [Declin. ſuper. cornu ☾]	*17° 6′*
$4^h\ 11^m$	*of the lower* [Inferioris]	*16° 35′*
	Altitude of the upper horn of ☾ *at about these times* [Altit. ſuper. cornu ☾ iuxta hæc tempora]	*43½°*
$4^h\ 16½^m$	*Repeated declination of the upper limb* [Repetita decl. ſuper. limbi]	*17° 6½′*
$4^h\ 17^m$	*of the lower limb of* ☾ [Inferioris limbi ☾]	*16° 35½′*

915 "Time", "Reading" and "Value" are this edition's heads. The time *H. 9 M. 48* stands within the label *Locus* ☉$^{l}_{i}$^{s}, after it; *Reſp.* stands before the time *H. 9 M. 52½*, on the line of the value *148 7½*; both times are given as hours and minutes. The label *Interuallum … reſpondent* runs over three lines, the value *11′* on the third; *43″*, printed with a raised double mark, is an interval of time and is given as seconds. *26 add.* stands below *15*, *293 4* (labelled *Aſc. R.* ☾) below *292° 38*, and *21 53 3* ♍ below *4 45 ſubt.*; *26 add.* and *21 53 3* ♍ carry no label. *4 45* stands under *57 48* of the line above and is given as minutes and seconds; *21 57 48* and *21 53 3* as degrees, minutes and seconds. *15* and *26* stand in the place of *11′* and are given as minutes. The other values, printed without unit marks where the reading gives none, are given as degrees and minutes.

916 The sentence runs from the foot of the left column (*neoteri-*) to the head of the right column (*cum verus locus* ☾ …); the word *neotericum* is divided between the two columns.

917

[1] From codex V. [E codice V.]

Time	Reading	Value
	The altitude of the upper horn was then [Fuit tunc Alt. ſuper. cornu]	*44⅙°*
4ʰ 21ᵐ	*Distance of the eastern limb of ☾ and Aldebaran* [Diſt. or. limbi ☾ et Aldeb.]	*9° 10½′*
4ʰ 22½ᵐ	*The same distance repeated* [Repetita eadem diſt.]	*9° 12′*
4ʰ 24½ᵐ		*9° 14′*

918

In the later observations the light of dawn hindered somewhat; nevertheless [they] were moderately and also fairly good, and credence [is to be given] rather to the two later [ones]. [In poſterioribus obſeruationibus lumen auroræ aliquantulum impediebat; erant tamen mediocriter et ſatis etiam bonæ, fideque potius duabus poſterioribus.]

Time	Reading	Value
4ʰ 27ᵐ	*Repeated declination of the upper limb* [Repetita declin. ſuper. limbi]	*17° 6¾′*
4ʰ 28ᵐ	*of the lower limb* [Inferioris limbi]	*16° 36′*
		0° 30¾′
	The altitude of the upper horn about these times was [Fuit circa hæc tempora Alt. ſuper. cornu]	*45⅙°*

919

[917] "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a raised ʰ and a raised mark after *59¾*; *Declin.* stands on its line with no value, *ſuper. limbi ☾* on the next line with the value; the same at *4 10* (*Declin. / ſuper. cornu ☾*) and at *4 16½* (*Repetita decl. / ſuper. limbi*); each label is given whole on its first row. The label *Inter or. limb. ☾ / et Aldeb. / per Sextantem* runs over three lines: the first on the line of *4 4* with no value, the second with the value *9 4½* and no time, the third on the line of *4 6* with the value *9 6*; a brace before the two values spans the three lines. The label is given whole on the first row, with the value *9 4½*. *Altit. ſuper. cornu ☾ / iuxta hæc tempora* runs over two lines with no time; its value *43½* stands in the degrees place and is given as degrees. The other times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes.

[918] "Time", "Reading" and "Value" are this edition's heads. The first line, *Fuit tunc Alt. ſuper. cornu 44⅙*, has no time; *44⅙* stands in the degrees place and is given as degrees. The label *Diſt. or. limbi ☾ / et Aldeb.* runs over two lines, the first on the line of *4 21* with no value, the second with the value *9 10½* and no time; it is given whole on its first row. The times, printed without unit marks, are given as hours and minutes; the other values as degrees and minutes.

[919] "Time", "Reading" and "Value" are this edition's heads. *Repetita declin.* stands on the line of *4 27* with no value, *ſuper. limbi* on the next line with the value; the label is given whole on its first row. The label *Fuit circa hæc tem- / pora Alt. ſuper. cornu* runs over two lines: the value *0 30¾* stands at the right of its first line, under the two values above, and *45⅙* at the right of its second line, in the degrees place; *45⅙* is given as degrees. The times are given as hours and minutes; the other values as degrees and minutes.

Afterwards ☾ was observed from the Sun near the 90th degree, as follows. At 6^{h} 4^{m} A. M. ☾ was in the 90th [degree] according to the computation. [Poſtea obſeruabatur ☾ a Sole iuxta 90 gradum vt ſequitur. H. 6 M. 4 A. M. fuit ☾ in 90 ſecundum ſupputationem.]

Time	Reading	Value
6h 2m	*Declination of the upper horn of* ☾ [Declin. ſuper. cornu ☾]	*17° 12′*
	of the lower [Inferioris]	*16° 40′*
		32′
6h 4m	*Repeated declination of the upper* [Repetita declin. ſuper.]	*17° 12′*
	of the lower [Inferioris]	*16° 41′*
		0° 31′
	Altitude of the upper limb of ☾ [Altitudo ſuper. limbi ☾]	*51° 0′*

920

Time by the clock [Tempus per Horol.]	*Distance of* ☉ *from the meridian by æquat.* [Diſt. ☉ a Mer. per æquat.]	*Distance of the eastern limb of* ☾ *and* ☉ [Diſt. orient. limb. ☾ et ☉]	*The altitude of the upper horn of* ☾ *was then* [Fuit tunc Alt. ſup. cornu ☾]
6h 7½m	*87° 26′*	*81° 48½′*	*51¼° [51¼ G.]*
6h 9⅓m		*81° 48′*	
6h 10¼m	*86° 45′*	*81° 47′*	
6h 11¾m	*86° 20′*	*81° 47′*	
6h 13m	*86° 0′*	*81° 45¾′*	
6h 14⅔m	*85° 35′*	*81° 45′*	
6h 15⅔m	*85° 20′*	*81° 44½′*	

921

Time	Reading	Value
6h 17m	*Declination of the upper limb of* ☾ [Declin. ſuper. limbi ☾]	*17° 12½′*
	of the lower [Inferioris]	*16° 42′*
		30½′
	Note. Altitude of the Sun at about these observations [Nota. Alt. Solis iuxta has obſ.]	*11¼°*
	Declination of ☉ [Declin. ☉]	*10° 26¼′*
6h 30m 35s	*The eastern limb of* ☾ *passed through the meridian* [Tranſiuit Orientalis limbus ☾ per Merid.]	
	Altitude of the upper limb [Alt. ſup. limbi]	*51° 19¼′*
	of the lower [Inferioris]	*50° 49½′*
		0° 29¾′

920 "Time", "Reading" and "Value" are this edition's heads. *32*, printed alone in the minutes place of the values above, is given as minutes. The times are given as hours and minutes; the other values as degrees and minutes.

921 The four heads are the page's, set in smaller type; *Fuit tunc* stands on a line of its own above *Alt. ſup. cornu* ☾. The times are given as hours and minutes; the pairs of figures as degrees and minutes.

922

☉ *was then beyond the 6th hour on the equator [by] 8° 20′; [it] was therefore* 6^h 33^m 20^s *when* ☾ *crossed.* [Fuit tunc ☉ vltra 6 Horam in æquatore grad. 8 M. 20. erat itaque Hor. 6 M. 33 20″ cum ☾ tranſiret.]

Thus far in the morning [it] was exceedingly clear. [Hactenus mane erat apprime ſerenum.]

At the following noon the clock was moving $4\frac{1}{3}^m$ *faster than [was] right, which error is to be corrected in the preceding times from the preceding noon.* [Horologium in Meridie ſequente iuſto celerius mouebatur M. 4⅓ qui error in præcedentibus temporibus a Meridie præcedente eſt corrigendus.]

On 18 August *[DIE 18 AUGUSTI]*

Time	Reading	Value
1^h 56^m 50^s [H. 1 56′ 50″]	*When* ☾ *was in the eastern prime vertical and near [it], the declination of the upper horn was taken* [Cum eßet ☾ in verticali præcipuo orientali & prope capiebatur declinatio ſuperioris cornu]	*17° 45′*
1^h 59^m 15^s	*of the lower* [Inferioris]	*17° 12½′*

923

Time	Reading	*Declination* [Declinatio]	*Azimuth* [Azimut]	*Altitude* [Altitudo]	Remark
1^h 58^m 0^s	*The eastern limb of* ☾ [Or. limb. ☾]		*89° 0′*	*20° 22¾′*	
2^h 0^m 50^s			*89° 30′*	*20° 44′*	
2^h 3^m 15^s			*90° 0′*	*21° 7′*	
2^h 2^m 45^s	*Lower* [Infer.]	*17° 12′*			
2^h 5^m 15^s	*Upper* [Super.]	*17° 48′*			
2^h 5^m 45^s			*90° 30′*	*21° 28¼′*	
2^h 8^m 15^s			*91° 0′*	*21° 48⅔′*	
2^h 8^m 45^s	*Upper* [Super.]	*17° 47′*			*good (for both)* [bonæ]
2^h 10^m 0^s	*Lower* [Infer.]	*17° 14½′*			
2^h 11^m			*92° 0′*	*22° 11¼′*	
2^h 12^m	*The first horn* [Primum cornu]			*22° 24¼′*	

922 "Time", "Reading" and "Value" are this edition's heads. *30½*, printed alone in the minutes place, is given as minutes; *11¼*, at the end of the line *Nota. Alt. Solis iuxta has obſ.*, stands in the degrees place and is given as degrees. The label *Tranſiuit Orientalis limbus* / ☾ *per Merid.* runs over two lines with no value. *6 17* is given as hours and minutes, *6 30 35* as hours, minutes and seconds; the other values as degrees and minutes.

923 "Time", "Reading" and "Value" are this edition's heads. The label runs over four lines, set as a block beside the first time, with the value at the right of its last line. *1 59 15* is given as hours, minutes and seconds; the values as degrees and minutes.

924

Note. In the azimuths the eastern and filled orb of ☾ was taken everywhere. In altitude the lower limb [was taken], except at 2^h 11^m: there the first lower western point was taken. [Nota. In Azimuthis vbique accipiebatur Orientalis & impletus orbis ☾. In altitudine inferior limbus excepto hora 2 M. 11 accipiebatur ibi primum acumen inferius occidentale.]

Time	Reading	Value
2^h 12^m	*Repeated declination of the upper* [Repetita decl. ſuper.]	17° 47¼′
2^h $14⅓^m$	*Lower* [Infer.]	17° 14¾′
2^h 19^m	*Declination of the heel of* ♊ [Decl. Calcis ♊]	22° 40¼′
2^h $22½^m$		22° 40¼′
2^h 25^m	*Upper limb of* ☾ [Sup. limb. ☾]	17° 47′
	of the lower [Inferioris]	17° 15½′
	Altitude of the lower limb of ☾ [Alt. inferioris limbi ☾]	24⅙° [24⅙.]
2^h 30^m	*Declination of the bright [star] of the foot of* ♊ [Decl. Luc. ped. ♊]	16° 42¾′
2^h 32^m 7^s		16° 43′
	The far end of the foot of ♊ [Extr. ped. ♊]	22° 35′

925

Afterwards the transits of three stars of ♊ *in the feet through the 90th azimuth were observed, so that from them the declination of the Moon [might be] derived.* [Poſtea obſeruabantur tranſitus trium ſtellarum ♊ in pedibus per 90 Azimutum, vt inde eruta declinatio lunæ.]

Time	Reading	Value
2^h 32^m 7^s [$2^H32'$ 7″]	*The far end of the foot of* ♊, *altitude* [Extrema pedis ♊] [Alt.]	27° 31½′
2^h 37^m 30^s	*The bright foot of* ♊ [Luc. pes ♊]	20° 14¾′
2^h 40^m 25^s	*The heel of the foot of* ♊ [Calx pedis ♊]	27° 38½′

926

924 "Time", "Reading" and "Remark" are this edition's heads. *Azimut* and *Altitudo* are printed, in smaller type, above the first row; *Declinatio* is printed, in smaller type, above the row at *2 2 45*, over the place where the declination figures stand, left of the *Azimut* column; it is given here as the head of that column. The two declinations at *2 8 45* and *2 10 0* are joined by a brace, with *bonæ* after it. The value of *Primum cornu* stands in the place of the *Altitudo* figures. The times are given as hours, minutes and seconds (hours and minutes where two figures are printed); the values as degrees and minutes.

925 "Time", "Reading" and "Value" are this edition's heads. *24⅙.*, printed with a point after it, stands in the degrees place and is given as degrees. At *2 32 7* the figure *7* stands where the labels begin, with no label; it is given as seconds. The other times are given as hours and minutes; the other values as degrees and minutes.

926 "Time", "Reading" and "Value" are this edition's heads. *Extrema pedis* ♊ stands on the line of the first time with no value; *Alt.* and the value *27 31½* stand at the right of the next line; the label is given whole on its first row. *Alt.* is printed on that line only. The times are given as hours, minutes and seconds; the values as degrees and minutes.

Hence their declination can be derived, and as much as is lacking in this [declination], just so much comes to be determined in ☾; for [they] were nearly in a similar position. [Hinc poteſt earum erui declinatio, & quantum in hac deſideratur, tantundem in ☾ limitandum venit, erant enim ferme in conſimili ſitu.]

Time	Reading	*Declination* [Declin.]	*Altitude* [Altitudo]
$2^h\ 43^m$	*The far end of the foot of* ♊ [Extr.ped. ♊]	*22° 33½′*	*of the heel* [Calcis], *28½°*
	Repeated [Repetita]	*22° 33½′*	
$2^h\ 46^m$	*The bright [star] of the foot* [Luc. pedis]	*16° 42′*	*of the bright [star] of the foot* [Luc. ped.], *21° 40′*
$2^h\ 48½^m$	*of the heel of the foot of* ♊ [Calcis ped. ♊]	*22° 40′*	
$2^h\ 50¼^m$	*The same repeated* [Ead. repet.]	*22° 40⅙′*	*of the heel* [Calcis], *28° 50′*
$2^h\ 51^m\ 55^s$	*Upper limb of* ☾ [Sup. limb. ☾]	*17° 47¼′*	
	of the lower [Inferioris]	*17° 17½′*	*27⅔°*
$2^h\ 53^m\ 55^s$	*Repeated, upper* [Repet. ſuper.]	*17° 48′*	
	of the lower [Inferioris]	*17° 17¾′*	*28°*
$2^h\ 56^m$	*Upper limb* [Super. limbi]	*17° 48¼′*	*28⅙°*
	of the lower [Inferioris]	*17° 18′*	

927

N. B. To examine the sextant, in all these observations the distance between Aldebaran and the bright [star] of ♈ *was taken in this way:* [N. B. Pro examine ſextantis in omnibus his obſeruationibus accipiebatur diſtantia inter Aldeb. et luc. ♈ hoc modo]

Reading	Value
I	*35° 31½′*
II	*35° 32′*
III	*35° 32′*

928

927 "Time" and "Reading" are this edition's heads; *Declin.* and *Altitudo* are the page's, in smaller type. The words *Calcis*, *Luc. / ped.* and *Calcis* stand in the *Altitudo* column before its figures; *Luc.* stands on the line of *2 46*, *ped. 21 40* on the next line, and the two are given together on the first row. The labels *Calcis / ped.* ♊, *Sup. / limb.* ☾, *Repet. / ſuper.* and *Super. / limbi* each run over two lines, the first on the line of the time with no value; each is given whole on its first row. *28½*, *27⅔*, *28* and *28⅙* stand in the degrees place of the *Altitudo* column and are given as degrees. Times of two figures are given as hours and minutes, of three figures as hours, minutes and seconds; the other values as degrees and minutes.

928 "Reading" and "Value" are this edition's heads. *I 35 31½* stands at the right of the line *hoc modo*; *II* and the third numeral stand under it. The third numeral is printed *III*, three italic capital *I* sorts [III]: its last sort, which looked like a figure *1* at lower magnification, has the split top serif of the *I* above it on a native-resolution crop. The values are given as degrees and minutes.

It is therefore clear that the sextant is in fairly good order. [Patet itaque quod Sextans ſatis bene ſe habeat.]

Afterwards the declination of ☾ was observed again in a space about midway between the 90th azimuthal degree and the meridian, and that in this way. [Poſtea denuo obſeruabatur ☾ declinatio in ſpatio quaſi intermedio inter 90 grad. Azimutalem & Meridianum idque hoc modo.]

Time	Reading	*Declination* [Declin.]	*Altitude of the lower limb* [Altit. infer. limbi]
$4^h\ 42\frac{1}{3}^m$	*Lower limb of* ☾ [Infer. limb. ☾]	*17° 21′*	*41° 20′*
$4^h\ 42\frac{5}{6}^m$	*of the upper* [Superioris]	*17° 51½′*	*41° 25′*
$4^h\ 43\frac{5}{6}^m$	*Lower* [Inferior.]	*17° 21′*	*41° 30′*
	of the upper [Superioris]	*17° 51′*	
$4^h\ 45^m$	*Lower* [Inferior.]	*17° 21¼′*	*41° 35′*
	of the upper [Superioris]	*17° 51¼′*	
		30′	
	Therefore the declination of the centre [Ergo declin. centri]	*17° 36′*	

929

Note. All these preceding observations are fairly good, and you can safely base yourself on them. [Nota. Omnes hæ antecedentes obſeruationes ſunt ſatis bonæ, potesque te tuto illis fundare.]

Afterwards ⊙ was observed from ☾ in this way [Poſtea obſeruabatur ⊙ a ☾ hoc modo]

Time	Reading	*Declination* [Declinatio]	*Altitude* [Altitudo]
$6^h\ 51^m$	⊙	*10° 4′*	*15¼°*
$6^h\ 52\frac{1}{2}^m$		*10° 3¼′*	
$6^h\ 53^m$		*10° 3¼′*	
$6^h\ 54^m$	*Lower horn of* ☾ [Infer. cornu ☾]	*17° 25′*	
	of the upper [Superioris]	*17° 54¾′*	
	Diameter	*0° 29¾′*	
$6^h\ 56^m$	*Lower* [Infer.]	*17° 24½′*	*51⅙°*
	of the upper [Superioris]	*17° 54½′*	
		30′	
$6^h\ 59\frac{5}{6}^m$	*Lower* [Infer.]	*17° 23½′*	*51¼°*
	of the upper [Superioris]	*17° 53¾′*	

929 "Time" and "Reading" are this edition's heads; *Declin.* and *Altit. infer. limbi* are the page's, in smaller type. The label *Infer. / limb.* ☾ runs over two lines, the first on the line of *4 42⅓* with no value, and is given whole on its first row; *Ergo de- / clin. centri* runs over two lines with its value on the second. *30*, printed alone in the minutes place, is given as minutes. The times are given as hours and minutes; the other values as degrees and minutes.

930

Afterwards ⊙ *and* ☾ *were observed in equatorial distance.* At 7^h 17^m ☾ was computed to be in the 90th degree. [Poſtea obſeruabatur ⊙ & ☾ in diſtantia æquat. H. 7 M. 17 ☾ in 90 gradu ſupputabatur eße.]

Time	☾, *east* [☾ orient.]	⊙, *east* [⊙ orient.]	*Equatorial distance* [Diſt. æquat.]
7h 3½m	*5° 32½′*	*75° 8½′*	*69° 36′*
7h 4½m	*5° 22½′*	*74° 58′*	*69° 35½′*
7h 6⅓m	*4° 57¼′*	*74° 31½′*	*69° 34¼′*
7h 8⅙m	*4° 30½′*	*74° 5′*	*69° 34½′*

931

Time	Reading	*Declination* [Declin.]	*Altitude* [Altit.]
7h 10½m	*Lower horn* [Infer. cornu]	*17° 24⅚′*	
	Upper [Super.]	*17° 54′*	☾ *51° 25′*
		29⅙′	
7h 13m	*Upper horn* [Super. cornu]	*17° 54¼′*	
	of the lower [Inferioris]	*17° 24¾′*	*51° 25′*
		0° 29½′	
7h 15⅓m	*Upper* [Super.]	*17° 54½′*	
	of the lower [Inferioris]	*17° 24¾′*	*51° 25′*
		0° 29¾′	

932

Time	☾, *east* [☾ orient.]	⊙, *east* [⊙ orient.]	*Equatorial distance* [Diſt. æquat.]
7h 18½m	*2° 10′*	*71° 40′*	*69° 30′*
7h 19½m	*1° 52¾′*	*71° 24′*	*69° 31¼′*
7h 21m	*1° 33¼′*	*71° 2′*	*with one small slit only, therefore doubtful* [vna ſaltem rimula, igitur dubia]

930 "Time" and "Reading" are this edition's heads; *Declinatio* and *Altitudo* are the page's, in smaller type. The label *Infer. / cornu* ☾ runs over two lines, the first on the line of *6 54* with no value, and is given whole on its first row. *15¼*, *51⅙* and *51¼* stand under *Altitudo* and are given as degrees; *30*, printed alone in the minutes place, as minutes. The times are given as hours and minutes; the other values as degrees and minutes.

931 "Time" is this edition's head; the other three are the page's, in smaller type. The times are given as hours and minutes; the values as degrees and minutes.

932 "Time" and "Reading" are this edition's heads; *Declin.* and *Altit.* are the page's, in smaller type. ☾ is printed before the altitude *51 25* on its first occurrence only. *29⅙*, printed alone in the minutes place, is given as minutes. The times are given as hours and minutes; the other values as degrees and minutes.

933

Time	Reading	Value
$7^h\ 23^m$	*Declination of the upper limb of* ☾ [Declin. ſuper. limb. ☾]	*17° 54½′*
	of the lower [Inferioris]	*17° 24¾′*
		30′
$7^h\ 25⅔^m$	*Repeated lower* [Repetita infer.]	*17° 25′*
	of the upper [Superioris]	*17° 54¼′*
		29¼′
$7^h\ 27^m\ 45$	*The eastern limb of ☾ passed through the meridian, having altitude in the upper* [Tranſiuit Orient. limbus ☾ per Meridianum habens Alt. in ſuper.]	⋆52° 0′⋆[1] [52 0[1]]
	[in] the lower [Inferiore]	*51° 29¾′*
		0° 30¼′

934

and at the same instant [it] had the declination [habuitque eodem inſtanti declin.]

[1] Cf. vol. II p. 412 (Prog. p. 461). [Cf. T. II p. 412 (Prog. p. 461).]

Time	Reading	Value
	of the lower limb [Inferioris limbi]	*17° 25′*
	of the upper [Superioris]	*17° 55′*
	Altitude of the lower limb of ☾ *in the meridian* [Altit. infer. Limb. ☾ in Mer.]	51° 27½′
	by the mural [quadrant], not sufficiently certain [per Muralem, non ſatis certa.]	
$7^h\ 29^m$	*Repeated declination of the lower* [Repetita declin. infer.]	*17° 25′*
	of the upper [Superioris]	*17° 55′*
	Diameter of ☾ [Diameter ☾]	*0° 30′*

935

933 "Time" is this edition's head; the other three are the page's, printed again above these rows. At *7 21* no figure stands under *Diſt. æquat.*; the words *vna ſaltem* stand in its place and *rimula, igitur dubia* on the next line at the right. The times are given as hours and minutes; the values as degrees and minutes.

934 "Time", "Reading" and "Value" are this edition's heads. The label *Tranſiuit Orient. limbus ☾ / per Meridianum habens / Alt. in ſuper.* runs over three lines, the first on the line of *7 27 45*, the value *52 0[1]* at the right of the third; it is given whole on its first row. *30* and *29¼*, printed alone in the minutes place, are given as minutes. *7 23* and *7 25⅔* are given as hours and minutes, *7 27 45* as hours, minutes and seconds; the other values as degrees and minutes. At $7^h\ 23^m$ the declinations of the upper and lower limb, 17 54½ and 17 24¾, differ by 29¾′, while the difference is printed 30; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

935 "Time", "Reading" and "Value" are this edition's heads. The first row completes a sentence that begins on the previous page. *Altit.* and *in Mer.* are italic, *infer. Limb. ☾*, the value *51 27½* and *non ſatis certa.* roman; the rest italic. The label *Altit. infer. Limb. ☾ / in Mer.* runs over two lines, the value on the second; it is given whole on its first row. *per Muralem, non ſatis certa.* stands on a line of its own, with no value. The time is given as hours and minutes; the values as degrees and minutes.

Time	☾, west [☾ occid.]	☉, east [☉ orient.]	*Equatorial distance* [Dift. æquat.]
7h 33½m	*1° 21′*	*68° 3′*	*69° 24′*
7h 34½m	*1° 37½′*	*67° 49′*	*69° 26½′*
7h 36m	*1° 56½′*	*67° 27′*	*69° 23½′*
7h 37¼m	*2° 15½′*	*67° 7′*	*69° 22½′*
7h 38¼m	*2° 31¾′*	*66° 52′*	*69° 23¾′*
			doubtful [dubia]
7h 39⅓m	*2° 45¼′*	*66° 37′*	*69° 22¼′*

936

Note. The eastern limb of ☾ was taken everywhere. [Nota. Vbique accipiebatur Orient. limb. ☾.]

Time	Reading	Value
7h 42m	Declination of the lower limb [Declin. infer. limbi]	17° 25¼′
H. M. S.	of the upper limb [Super. limbi]	17° 55′
7h 43m 25s	Declination of ☉ [Declinatio ☉]	10° 2¼′
7h 45m 25s	The same repeated [Eadem repetita]	10° 2¼′
7h 47½m	Repeated declination of the upper limb of ☾ [Repetita declin. ſup. limb. ☾]	17° 25½′
7h 48⅙m	of the lower [Inferioris]	17° 55¼′

937

At the next following noon the clock was moving 5m 10s faster than it should. [Horologium in Meridie proxime ſequenti 5′ 10″ iuſto velocius mouebatur.]

P. M. observations of ☾ [P. M. Obſeruationes ☾]

Time	Azimuth of the eastern limb of ☾ [Azimuth or. limbi ☾]	Declination of the upper limb of ☾ [Declin. ſuper. limb. ☾]	of the lower [Inferioris]	Altitude of the upper horn [Altitud. ſuper. cornu]
2h 44m	577½°	17° 47′	17° 17¾′	13° 4′
2h 48m	56° 42′	17° 47′	17° 18½′	12° 23′
2h 53m	75° 50′	17° 46½′	17° 17¼′	11° 53′

936 "Time" is this edition's head; the other three are the page's, in smaller type, *occid.* and *orient.* roman under the signs, *Diſt. æquat.* italic. *dubia* stands on a line of its own at the right, under *69 23¾* and above *69 22¼*. The times are given as hours and minutes; the values as degrees and minutes.

937 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column. *H. M. S.* is printed in small capitals in the time place on the line of *Super. limbi*, above the times of three figures. The label *Repetita / declin. ſup. limb. ☾* runs over two lines, the value on the second; it is given whole on its first row. At *7 47½* the page sets *ſup.* with *17 25½* and *Inferioris* with *17 55¼*. Times of two figures are given as hours and minutes, of three figures as hours, minutes and seconds; the values as degrees and minutes.

938

☾ could not be observed any further, since rather sparse and white clouds, very like ☾, which stood in the west, hindered [it]. [Amplius ☾ obſeruari non potuit, impedientibus rariuſculis et albis nubibus ☾ ſimillimis, quæ in occaſu conſiſtebant.]

N.B. On this day ☾ was at its greatest southern latitude, at the beginning of ♋. From this a test can be made of its latitude, applying the parallax, which it will be possible to ferret out from its declinations in a lower position before and after the meridian, compared with that declination which occurs in the meridian, and applying its noted altitude; and hence, the individual [values] being compared, a judgement formed on the latitude and parallax, or also refraction, as will be more fitting. For all these observations were taken fairly carefully, and [they] come to be compared with the observation of ☾ taken last, when about the winter solstice it was at its least altitude and also its greatest northern latitude. It is necessary to see how the declinations of the stars behave at a similar altitude; or compare with the declination of ☉ taken at an altitude of 15°. [N.B. ☾ fuit hoc die in maxima latitudine auſtrali in principio ♋, unde poteſt periculum fieri de ipſius latitudine adhibita parallaxi, quæ ex declinationibus eius in decliuiori ſitu ante et poſt meridianum expiſcari poterit, collata cum ea declinatione quæ in Meridiano ſit et adhibita annotata ipſius altitudine, hincque collatis ſingulis iudicium inſtitui de latitudine, parallaxique, vel etiam refractione, prout conuenientius fuerit. Sunt enim omnes hæ obſeruationes ſatis diligenter habitæ, conferendæque veniunt cum obſeruatione ☾ habita vltimo, cum circa ſolſtitium hibernum in minima altitudine et maxima etiam Latitudine Borea verſaretur. Oportet videre quomodo declinationes ſtellarum ſe habeant in conſimili altitudine, vel confer cum declinatione ☉ in altitudine 15 partium habita.]

Investigation of the place of ☾ for 17 and 18 August, when [it] was near the 90th degree of the ecliptic, A. M. [INQUISITIO LOCI ☾ AD DIEM 17 ET 18 AUG. CUM PROPE 90 GRAD. ECLIPTICÆ A. M. ESSET.]

On 17 August, at 6^h 5^m A. M. [DIE 17 AUGUSTI H. 6. 5 A. M.]

Reading	Value
Equatorial distance between ☉ and the eastern limb of ☾ [Diſt. æquat. inter ☉ et or. limb. ☾]	81° 47′
The altitude of ☉ was 11¼° [part. 11¼], hence for Refr. add. [Alt. ☉ fuit part. 11¼ hinc pro Refr. add.]	3′
True distance of ☉ and the eastern limb of ☾ [Diſt. ☉ et or. limb. ☾ vera]	81° 50′
Add the semidiameter of ☾ [Adde ☾ ſemidiam.]	15′
Distance of the centre of ☉ and ☾ [Diſtantia centri ☉ et ☾]	82° 5′

938 "Time" is this edition's head; the other four are the page's, in smaller type. *Declin.* is printed once, centred over the two declination columns, with *ſuper. limb.* ☾ and *Infe-rioris* under it. *77½*, a single figure with a fraction, is given as degrees. Times of three figures are given as hours, minutes and seconds, of two as hours and minutes; the other values as degrees and minutes.

939

On the 16th, at 18^h 5^m P.M., the place of ☉ 3° 4½′ ♍ from our Tables; parallax of longitude add. 2⅓′ in the altitude of ☉, east, 11¼°, for the parallax of altitude was 2′ 54″. [Die 16, H. 18 M. 5 P.M. Locus ☉ 3 4½ ♍ ex noſtris Tabulis, Parall. longitud. add. 2⅓ in altit. ☉ or. 11¼, nam parall. altit. fuit 2′ 54″.][940]

Reading	Value
Place of ☉ as seen [Locus ☉ viſus]	3° 6⅚′ ♍
For refract. subt. [Pro refract. ſubt.]	3′
Place of ☉ congr. observation [Locus ☉ congr. obſ.]	3° 4′ ♍
Right ascension of ☉ [Aſcenſ. R. ☉]	155° 1′
Difference of ascension of ☾ sub. [Differ. Aſc. ☾ ſub.]	82° 5′
Right ascension of the centre of ☾ [Centri ☾ Aſc. R.]	72° 56′
Declination, north [Declin. B.]	16° 56½′

941

	From observation [Ex obſerv.]	From Prutenic, Mästlin's [Ex Prut. Mæſt.]	From Alphonsine, Cyprian's [Ex Alph. Cypr.]
Longitude of ☾ [Long. ☾]	13° 37′ ♊	13° 44′ ♊	14° 2′ ♊
Latitude [Latit.]	5° 36⅓′ south [5 36⅓ M]	4° 48′ south [4 48 M]	4° 47¼′ south [4 47¼ M]

942

Altitude of ☾ 51¼°, Parallax of altitude 32′ 41″. Reduced time 17^h 35^m p. m. [Altitudo ☾ 51¼°, Parallaxis Altit. 32′ 41″. Tempus reductum 17.35 p. m.][943]

On 18 August [DIE 18 AUGUSTI.]

[939] "Reading" and "Value" are this edition's heads. The labels *Diſt. æquat. inter ☉ / et or. limb. ☾* and *Alt. ☉ fuit part. 11¼ hinc / pro Refr. add.* each run over two lines, the value on the second; each is given whole on its first row. *3* and *15*, printed alone in the minutes place, are given as minutes; the other values as degrees and minutes.

[940] *3 4½* is given as degrees and minutes, *2⅓* as minutes, *11¼* as degrees; the page sets them without unit marks.

[941] "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column of the lower block. *3*, printed alone in the minutes place, is given as minutes; the other values as degrees and minutes. The place of ☉ as seen, 3 6⅚ ♍, less the 3′ for refraction, gives 3° 3⅚′, while the place is printed 3 4 ♍; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

[942] The three column heads are printed, in smaller type; the first column has no head. *Ex Prut.* and *Ex Alph.* stand a line higher than *Ex obſerv.*, with *Mæſt.* and *Cypr.* under them. The values, printed without unit marks, are given as degrees and minutes.

[943] *17.35*, printed with a point between the figures, is given as hours and minutes.

Time	Reading	Value
7¼^{h} A. M. [H. 7¼ A. M.]	Equatorial distance of ☉ and the eastern limb of ☾ [diſt. æquat. ☉ et or. limbi ☾]	69° 30′
	Add for refraction of ☉ [Adde pro refractione ☉]	2′
	Add the semidiameter of ☾ [Adde ſemidiam. ☾]	15′
	True distance of the centre of ☉ and ☾ [Diſtantia centri ☉ et ☾ vera]	69° 47′

944

The altitude of ☉ was then 16° [16 p.], since now the parallax of longitude of ☉ with respect to the centre of the earth, and the parallax which refraction can cause in longitude, are equal; for in both cases the parallax comes to about 2′. Therefore the place of ☉ extracted from our Tables for the given time was retained. [Altitudo ☉ fuit tunc 16 p. cum iam parallaxis longitudinis ☉ reſpectu centri terræ, et parallaxis, quam refractio in longitudine cauſari poteſt, ſint æquales, nam vtrobique fit parallaxis 2 quaſi min. Igitur locus ☉ ex Tabulis noſtris ad tempus datum excerptus retinebatur.]

On the 17th, at 19^{h} 15^{m} P. M. [Die 17, H. 19 M. 15 P. M.]

Reading	Value
Place of ☉ [Locus ☉]	4° 5⅓′ ♍
Right ascension of the place of ☉ [Aſcenſ. R. loci ☉]	155° 59′
Distance of the centre of ☾ subt. [Diſtantia centri ☾ ſubt.]	69° 47′
Right ascension of the centre of ☾ [Centri ☾ Aſcenſ. R.]	86° 12′
Declination, north [Declin. B.]	17° 39½′

945

Reduced time 17^{d} 18^{h} 45^{m}. [Tempus red. 17^{d} 18^{h} 45^{m}.]

	From observation [Ex obſerv.]	From Prutenic, Mästlin's [Ex Prut. Mæſt.]	From Alphonsine, Cyprian's [Ex Alph. Cyp.]
Longitude [Long.]	26° 21½′ ♊	26° 42′ ♊	27° 6′ ♊
Latitude [Latit.]	5° 48⅓′ south [5 48⅓ M]	4° 59½′ south [4 59½ M]	5° 0′ south [5 0 M]

946

944 "Time", "Reading" and "Value" are this edition's heads. *H. 7¼ A. M. diſt. æquat. ☉ / et or. limbi ☾* runs over two lines, the value on the second; the label is given whole on its first row. *2* and *15*, printed alone in the minutes place, are given as minutes; the other values as degrees and minutes.

945 "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column, under the line *Die 17, H. 19 M. 15 P. M.* The values, printed without unit marks, are given as degrees and minutes.

946 The three column heads are printed, in smaller type; the first column has no head. The values, printed without unit marks, are given as degrees and minutes.

Altitude of ☾ 51¾°, Parallax of altitude 32′ 53″. [Altitudo ☾ 51¾°, Parallaxis Altit. 32′ 53″.]

For the investigation of the greatest latitude of ☾, when [it] was about the tropic *[PRO INQUISITIONE MAXIMÆ LATITUDINIS ☾ CUM CIRCA TROPICUM VERSARETUR.]*

First, on the 17th, when ☾ was as nearly as possible in the 90th degree, at 6^h 5^m P. M. N. preceding, the longitude of ☾ was, as is clear from the foregoing, in 13° 37′ ♊, its latitude as seen being 5° 36½′ south. However, the true latitude of ☾ by the reckoning of the Tables was then 4° 48′; this, subtracted from the former, leaves in this way the parallax of latitude, which was the same with the vertical circle, 0° 48′. But by the reckoning the parallax of altitude was then only 33′. And therefore the former exceeds by 15′, so that it turns out necessary that an error of 15′ lies hidden either in the latitude of ☾ or in the parallax. For the involvement of refraction has no perceptible place here, because the altitude of ☾ was greater [than] 51°; yet this deviation hardly arises from an error of the parallax. For ☾ was not far from the limits of its greatest remoteness from the earth, which make nearly the same distance for Ptolemy and Copernicus. Nor for that reason, in that position, does the parallax of ☾ indicate otherwise to the latter than to the former, so that for that reason it turns out most consistent that its parallax was only 33′, those 15′ being lacking in the true latitude. And hence it is gathered that the greatest latitude of ☾ is now 5° 15′, greater by a quarter of a degree than Ptolemy found. But let us also see the observation of the following day, taken carefully near the solstice itself. [Primum die 17 cum ☾ eßet in 90 gradu quam proxime H. 6 M. 5 P. M. N. antecedentem fuit vt ex prioribus patet longit. ☾ in 13 G. 37 M. ♊ latitudine eius viſa exiſtente 5 G. 36½ M. Mer. Fuit autem per numerationem Tabularum tunc vera latitudo ☾ 4 G. 48′ quæ demta a priori relinquit hoc modo parallaxin latitudinis quæ eadem erat cum circulo verticali 0 G. 48′. At per numerationem erat tunc ſaltem parallaxis altitudinis M. 33. Ideoque excedit prior 15 ſcrupulis, vnde vel in latitudine ☾ vel in parallaxi errorem quindenorum latere ſcrupulorum neceßarium euadit. Nam refractionis implicatio nullum hic ſenſibilem locum obtinet, eo quod altitudo ☾ eßet maior 51 grad., at vix ex errore parallaxeos hæc deuiatio contingit. Verſabatur enim ☾ non longe a limitibus maximæ ſuæ remotionis a terra, quæ eandem fere Ptolomæo & Copernico diſtantiam efficiunt. Nec ob id eo in ſitu ☾ parallaxis aliter huic quam illi inſinuat, vt ob id parallaxin eius fuiße ſaltem 33 ſcrupulorum maxime conſentaneum euadit, quindenis illis minutis in latitudine vera deſideratis.Hincque colligitur latitudinem ☾ maximam nunc eße 5 G. 15 M. quarta parte gradus maiorem quam Ptolomæus adinuenit. Sed videamus etiam ſequentis diej obſeruationem prope ipſum ſolſtitium diligenter habitam.]

Another consideration for the latitude of ☾, near the summer solstice itself. [Alia conſideratio pro latitudine ☾ juxta ipſum ſolſtitium æſtivum.]

On 18 August, at $7¼^h$ P. M. N. preceding, ☾ was nearest to the ninetieth degree, lacking parallax of longitude; therefore its place, as seen and true, by observation was in 26° 21′ ♊, with latitude as seen 5° 48½′, its true latitude by the reckoning being

4° 59½′, as it were the greatest Ptolemaic [latitude]. If you take this away from the former, 49′ remain for the parallax of ☾, which, however, it then had by the reckoning of 33′, as yesterday; these, subtracted from 49, leave 16′, by which the greatest latitude of ☾ is smaller than correct. With this posited, therefore, or thus: if you take away the parallax of altitude which is found by the reckoning from the latitude as seen itself, there remains the greatest latitude of ☾ [Die 18 Auguſti Hora 7¼ P. M. N. antecedentem, fuit ☾ proxima nonageſimo gradui carens parallaxi longitudinis, ergo locus eius viſus & verus per obſeruationem erat in 26 G. 21 M. ♊ cum latitudine viſa 5 48½, vera ipſius latitudine per numerationem exiſtente 4 59½ tanquam maxima Ptolomaica. Hanc ſi abſtuleris a priori, reſiduantur 49 pro parallaxi ☾ quam tamen tunc habebat per numerationem minutorum 33, vt heri, quæ ſublata a 49 relinquunt Min. 16 quibus Latitudo ☾ maxima iuſto minor eſt. Poſita hac igitur vel ſic, ſi auferas parallaxin altitudinis quæ reperitur per numerationem ab ipſa latitudine viſa, relinquitur maxima Latitudo ☾]

Reading	Value
Latitude as seen [Latitudo viſa]	*5° 48′*
Parallax of latitude [Parallaxis Latit.]	*33′*
True latitude of ☾ [Latitudo vera ☾]	*5° 15′*

947

It is clear, therefore, that the greatest latitude of ☾ still exceeds the Ptolemaic record by a quarter of a degree, which plainly agrees with the former. But let us make a further test of the same matter: when ☾ was crossing the meridian, having an altitude at the upper horn of 52° 0′, at the lower 51° 30′, so that the altitude of its centre is 51° 45′, the longitude of ☾, however, was then 26° 25′ ♊; its declination is 23° 28½′. But the declination of ☾ from observation was 17° 39½′; if these are taken away from the former, they leave the latitude of ☾ as seen itself, 5° 49′; and if 33′ of parallax are taken away from this, the true latitude comes out 5° 16′, which still exceeds the Ptolemaic [latitude] by very nearly a quarter of a degree. [Patet itaque, quod adhuc excedat latitudo ☾ maxima ptolomaicam annotationem quarta parte gradus, quod plane conuenit cum priori. Sed faciamus adhuc eiusdem rei periculum: cum ☾ per Meridianum tranſiret habens altitudinem in ſuperiori cornu 52 G. 0 M. in inferiori 51 30 vt ſit centri ipſius altitudo 51 G. 45 M., fuit autem tunc longitudo ☾ 26 25 ♊, eius declinatio eſt 23 G. 28½ M. At ☾ declinatio erat ex obſeruatione 17 39½, quæ ſi auferantur a priori relinquunt ipſam ☾ latitudinem viſam 5 part. 49′, a qua ſi auferantur33 minuta parallaxeos prouenit vera latitudo P. 5 M. 16, quæ adhucquadrante proxime gradus excedit Ptolomaicam.]

947 "Reading" and "Value" are this edition's heads. The sentence before the table ends at *Latitudo* ☾ with no point, and the table completes it. *5 48½*, *4 59½* and *49* in the paragraph, and *33* in the table (printed alone in the minutes place), are given as minutes or as degrees and minutes as they stand; the page sets them without unit marks. *7¼*, after *Hora*, is given as hours. In the paragraph on the 17th the latitude as seen, 5 G. 36½ M., less the true latitude, 4 G. 48′, gives 0° 48½′, while the parallax of latitude is printed 0 G. 48′; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

You can therefore use, sufficiently safely, a greatest latitude of ☾ of 5° 15′ and found a table on this, which also agrees sufficiently with those that were observed when ☾ was near the winter solstice, namely at about 4 and 5 August past. [Potes itaque ſatis tuto vti latitudine ☾ maxima part. 5 M. 15 atque huic tabulam fundare, quod etiam ſatis conſentit cum ijs quæ obſeruabantur ☾ exiſtente iuxta ſolſtitium hybernum, videlicet iuxta 4 et 5 Auguſti præteritum.]

But if you are in doubt about the parallax, you can examine it from the declination of ☾ taken near the 90th degree with the azimuthal [instrument], in the morning, and also P. M. when ☾ was low, and from that derive the measure of the parallax, a comparison being made with the declination near the 90th degree from the east, or also near the meridian. [Quod ſi de parallaxi dubitas, potes eam examinare ex declinatione ☾ habita iuxta 90 gradum azimutali, mane, et etiam P. M. cum ☾ decliuis eßet, et inde eruere parallaxis menſuram, collatione facta cum declinatione iuxta 90 grad. ab ortu vel etiam prope Meridianum.][948]

On 31 August [DIE 31 AUGUSTI.]

At $6^h\ 50^m$ P. M. ☾ was in the 90th degree according to the computation. [H. 6. 50 P. M. fuit ☾ in 90 G. iuxta ſupputationem.]

The western limb of ☾ was observed in azimuth from the meridian toward the west 4° 12′, and had an altitude at the upper horn of 15° 14′. [Occ. limbus ☾ obſeruabatur in Azimutho a Merid. verſus occ. 4° 12′ et habuit ſup. cornu Alt. 15° 14′.]

Time	Azimuth of the western limb of ☾ [Azimuth occ.] [limbi ☾]	Altitude of the upper horn of ☾ [Altitudo] [ſuper. cornu ☾]
$7^h\ 13^m\ 41^s$	6° 52′	15° 5¾′
$7^h\ 15^m\ 5^s$	7° 10′	15° 3′
$7^h\ 16^m\ 18^s$	7° 22½′	15° 1½′

949

Time	Reading	Value
$7^h\ 20⅓^m$	Between the western limb of ☾ [Inter occ. iimb. ☾] [recte: limb.] and the mouth of Pegasus [et os Pegaſi], by the sextant △ [per Sext. △]	54° 8½′
$7^h\ 22^m$		54° 7′
$7^h\ 23½^m$		54° 6½′
$7^h\ 25^m$		54° 6′

[948] *51 30*, *26 25* and *17 39½*, printed without unit marks, are given as degrees and minutes.

[949] "Time" is this edition's head; the time column carries no head on the page. The two other heads are printed, in smaller type, each over two lines. The values, printed without unit marks, are given as hours, minutes and seconds in the time column and as degrees and minutes in the others. These rows stand at the foot of the left column.

950

Time	Azimuth of the western limb of ☾ from the meridian to the west [Azim. occ. limbi] [☾ a Mer. ad occ.]	Altitude of the upper horn [Altitudo] [ſuper. cornu]
$7^h\ 28^m$	$1^s 10°\ 10'$	$14°\ 50'$
$7^h\ 28^m$	$59^s 0°\ 25'$	$14°\ 49'$
$7^h\ 30^m$	$0^s 0°\ 38'$	$14°\ 46½'$

951

On 6 September, in the evening [DIE 6 SEPTEMBRIS VESPERI.]

N. B. [It] was observed among clouds. [N. B. Inter nubes obſeruabatur.]

The eclipse of ☾ was observed in different observatories, as far as was allowed among the clouds; the times of this observation, which are assigned everywhere, have been verified against the stars. [Eclipſis ☾ obſeruabatur in diuerſis obſeruatorijs quoad inter nubes licuit, cuius obſeruationis tempora quæ vbique aßignantur, ſunt verificata ad ſtellas.]

In the subterranean observatory the Nobleman himself was present at times. [In obſeruatorio ſubterraneo Nobilis ipſe aliquando interfuit.]

By the revolving quadrant and the lesser clock, corrected. [Per Quad. volub. et horol. minus, correctum.]

At $7^h\ 53¾^m$ ☾ seemed not sufficiently full, among clouds. The bright star of the Vulture was then in azimuth from the meridian toward the east $0°\ 25'$, and had an altitude of $41°\ 58½'$. Hence from the great globe the right ascension of the midheaven was found, $292°\ 6'$, by which and the right ascension of ☉ the given assigned time was corrected; and in the same way the individual times in the following observations have been verified. [H. 7 M. 53¾ Videbatur ☾ non ſatis plena inter nubes. Fuit tunc lucida Vulturis in Azimutho a Meridiano verſus ortum 0 25 et habuit Altitudinem 41 58½. Hinc ex globo magno inventa eſt Aſc. R. M. C. 292 grad. 6 M. per quam & Aſc. R. ☉ datum tempus aßignatum eſt correctum: eodem modo & ſingula tempora in ſequentibus obſeruationibus ſunt verificata.]

At $8^h\ 30⅙^m$ the moon seemed to have lost about half, or nearly [half], the light, and that among clouds. The bright star of the Vulture was then in azimuth from the meridian toward the west $11°\ 41'$, altitude $41°\ 28¼'$; corresponding

950 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column. The label runs over three lines — *Inter occ. iimb.* ☾ on the line of *7 20⅓*, *et os Pegaſi* on the next line, and *per Sext.* △ on the line of *7 22* — and is given whole on the first row. The value *54 8½* stands on the line below *7 20⅓*, beside *et os Pegaſi*, with no time of its own, and is given with *7 20⅓*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

951 "Time" is this edition's head; the time column carries no head on the page. The two other heads are printed, in smaller type, each over two lines. The values, printed without unit marks, are given as hours, minutes and seconds in the time column and as degrees and minutes in the others. These rows stand at the foot of the right column.

right ascension of the midheaven 301° 17′. [H. 8 M. 30⅙ Videbatur luna quaſi medium vel fere amiſiße lumen, idque inter nubes. Fuit tunc lucida vulturis in Azimutho a Meridiano verſus occaſum 11 G. 41′, Altit. 41 G. 28¼′, Reſp. Aſc. R. M. C. 301 grad. 17 min.]

At 8^h 33^m a perceptibly greater part of the Moon than half seemed darkened. [H. 8 M. 33 Videbatur ſenſibiliter maior pars Lunæ quam dimidia offuſcata.]

8^h $38⅔^m$: about a third part of ☾ remained illuminated, but it was still more than a third part, so that it would be nearly 25/60. The azimuth of the bright star of the Vulture was then 14° 15′, also to the west. Altitude 41° 14′. Hence right ascension of the midheaven 303° 22′. [8 38⅔ Quaſi tertia pars de ☾ reſtabat illuminata, ſed erat adhuc plus quam tertia pars, ita eßet fere 25/60. Erat tunc Azimuth lucidæ vulturis 14 15 etiam ad occaſum. Altit. 41 14. Hinc M. C. Aſcenſ. R. 303 grad. 22 Min.]

At 8^h 43^m about a third part of ☾ remained, or rather a little less. [H. 8 M. 43 Quaſi tertia pars reſtabat de ☾ vel potius paulo minus.][952]

Diagram. Six circles in a column at the left of the page, beside the text from its head to the last line, each with a roman numeral printed at its left; they are the figures that the text calls I to VI. In each circle part of the disc is shaded with close diagonal hatching, darker and ragged along its edge; the rest is white. I (beside the entries for 8^h 47^m to 10^h 11^m): a small shaded segment at the lower left, bounded by a curve from the left side of the circle to the bottom. II (beside the entries for 11^h $25½^m$ and after): the lower-left part shaded, about half the disc, bounded by a curve from the upper left to the lower right. III (beside the table and the lines that follow it): the left part shaded, more than half the disc, bounded by a curve from near the top at the left to the lower right. IIII (beside the entries for 8^h $32⅓^m$ and 11^h 25^m): a small shaded segment at the lower left, as in I. V (beside the entry for 11^h 37^m and the lines after it, to the entry for 7^h $53½^m$): the left part shaded, bounded by a curve from the upper left to the lower right. VI (beside the last entries): most of the disc shaded, the white part a segment at the upper right, bounded by a curve from the upper left to the right side. No letters or other labels besides the numerals.

- I (left of the first circle): I
- II (left of the second circle): II
- III (left of the third circle): III
- IIII (left of the fourth circle): IIII
- V (left of the fifth circle): V
- VI (left of the sixth circle): VI

At 8^h 47^m about a quarter part remained illuminated. The star of the Vulture was [Fui] [recte: Fuit] then in azimuth, west, 17° 5′, altitude 40° 45¼′, right ascension of the midheaven 305° 25′. [H. 8 M. 47 Quaſi quarta pars reſtabat

[952] *0 25*, *41 58½*, *14 15* and *41 14*, printed without unit marks, are given as degrees and minutes. *8 38⅔* stands at the head of its line with no *H.* or *M.*; the two figures are given as hours and minutes. *25/60* is printed as a stacked fraction.

illuminata. Fui tunc Vult. ſtella in Azimuto occ. 17 G. 5′, Altit. 40 45¼, Aſcenſ. R. M. C. 305 G. 25′.]

At 9^h 44^m about a quarter part, or a very little less, appeared to shine; the altitude of its upper limb was then 25° 4′. [H. 9 M. 44 Quaſi quarta pars vel paululum minus lucere apparuit, erat tunc Altit. ſuper. limbi illius 25 G. 4′.]

At 10^h 11^m still the same quantity, about ¼ of the moon, seemed free of obscuration. [H. 10 M. 11 Adhuc eadem quantitas quaſi ¼ de luna obſcurationis expers videbatur.]

In both cases [it] appeared thus among clouds. [Vtrobique inter nubes ſic apparuit.]

At 11^h $25½^m$ the whole Moon was seen illuminated, but whether [it] had earlier emerged totally from the shadow could not be discerned because of the density of the clouds; at that time, however, [it] was in reality wholly full. [H. 11 M. 25½ Tota Luna illuminata conſpiciebatur, ſed vtrum prius vmbram totaliter fuißet egreßa, propter denſitatem nubium diſcernere non licuit, tunc autem revera tota plena fuit.]

Afterwards, when the moon, the clouds having partly dispersed, was plainly shining whole, [it] was observed in azimuth and altitude as follows; so the times added, by the given place of ☾, are also, like the preceding, sufficiently true. [Poſtea cum luna dißipatis pro parte nubibus manifeſte integra luceret, ita vt ſequitur in Azimutho & Altitudine obſeruabatur, vnde & tempora adſcripta per datum ☾ locum ſunt vt antecedentia ſatis vera.]

Time	Azimuth of the eastern limb of ☾ from the meridian to the east [Azimuth or. limbi ☾] [a Mer. ad ortum]	Altitude of the upper limb of ☾ [Altitudo ſuper.] [Limbi ☾]
11^h $36⅚^m$ [11^h $36⅚^m$]		31° 33′
11^h $38⅙^m$	7° 10′	31° 35′

953

In the southern observatory, Petrus Jacobi, by the southern armillae and the greater clock. [In obſeruatorio Auſtrali Petrus Jacobi per Armillas auſtrales & horologium maius.]

N. B. The assigned times have been verified. [N. B. Tempora aßignata ſunt verificata.]

At 7^h $53⅙^m$, when the head of Ophiuchus was distant from the meridian toward the west, by the southern armillae, 33° 0′, ☾ seemed, uncertainly however, because of the clouds, such as this. (I). [H. 7 M. 53⅙ Cum Caput Ophiuchi diſtabat a Merid. verſus occaſum per Armillas Auſtrales 33 G. 0′. Videbatur incerte tamen propter nubes ☾ talis. [I].]

953 "Time" is this edition's head; the time column carries no head on the page. The two other heads are printed, in smaller type, each over two lines. *11 38⅙*, printed without unit marks, is given as hours and minutes, like the line above it; the values, printed without unit marks, are given as degrees and minutes.

At 8^h 27½^m, Aquila west 7° 54′, ☾ appeared thus, *uncertainly*. (II). [H. 8 M. 27½ Aquila occ. 7 54 ita apparuit ☾, incerte. [II].]

At 8^h 32⅓^m, Aquila from the meridian, west, 9° 8′; also uncertainly. (III). [H. 8 M. 32⅓ Aquila a Mer. occ. 9 8 etiam incerte. [III].]

At 11^h 25^m ☾ seemed whole; ☾ itself, however, was then distant from the meridian toward the east, near the western limb, 9° 17′. But the observation was not certain, because of intervening clouds. [H. 11 M. 25 ☾ videbatur integra, diſtabat autem tunc ipſa ☾ a Meridiano verſus ortum iuxta limbum occid. 9 G. 17′. Sed non erat certa obſeruatio propter nubes intercurrentes.]

At 11^h 37^m ☾ seemed more certainly to have recovered all its light, the clouds having become thinner; but [it] was distant from the meridian toward the east, near the eastern limb, 4° 59′. This [is] more certain than the former. [H. 11 M. 37 Certius videbatur ☾ lumen ſuum totum recepiße rarioribus factis nubibus, diſtabat vero a Merid. ver ſus ortum iuxta limbum Orientalem grad. 4 min. 59. Hæc certior priore.]

In the northern observatory, Gellius, by the northern armillae and the middle clock. [In obſeruatorio Boreali Gellius per Armillas Bor. et horolog. medium.]

At 7^h 53½^m, when the head of Ophiuchus was away from the meridian, west, 33° 10′, so much seemed to be missing from ☾, but among clouds. (IIII). [H.7 M.53½ Cum Caput Ophiuchi abeßet a Merid. occ. 33 G. 10′ videbatur tantum de ☾ defeciße, ſed inter nubes. [IIII].]

At 7^h 58⅓^m, the head of Ophiuchus from the meridian toward the west 34° 21′. [It] seemed to be missing from ☾, but among clouds. (V). [H. 7 M. 58⅓ Caput Ophiuchi a Meridiano verſus occaſum 34 21. Videbatur de ☾ defeciße, ſed inter nubes. [V].]

At 8^h 29½^m this figure of ☾ appeared; it is not known whether truly. (VI). [H.8 M.29½ Videbatur hæc figura ☾, ignoratur an vere. [VI].]

Further, with the house in the way, ☾ could not be observed by the northern armillae, especially at the end, when ☾ was approaching the meridian. [Vlterius impediente domo ☾ per Armillas Boreales obſeruari non potuit, præſertim in fine cum ☾ Meridiano appropinquaret.][954]

Calculation / Time [Calculus] [Tempus]	Alphonsine, Cyprian's [Alphonſinus Cyp.]: Reduced [Reductum]	Alphonsine, Cyprian's: Reduced and equated [Reduct. & æquat.]	Prutenic, Mästlin's [Prutenicus Mæſtlini]: Reduced [Reductum]	Prutenic, Mästlin's: Reduced and equated [Red. & æquat.]	Ours [Noſter]: Reduced [Reductum]	Ours: Reduced and equated [Red. & æq.]
Ingress [Ingreßus]	8^h 37^m [8^H37^M]	8^h 48^m	8^h 8^m	8^h 19^m	8^h 5^m	8^h 16^m

[954] the page prints the figure numbers in square brackets, *[I]* to *[VI]*; they are given here in parentheses, and refer to the six circles at the left of the page. *40 45¼*, *7 54*, *9 8* and *34 21*, printed without unit marks, are given as degrees and minutes. In the entry for 8^h 47^m the page prints *Fui*.

Calculation / Time [Calculus] [Tempus]	Alphonsine, Cyprian's [Alphonſinus Cyp.]: Reduced [Reductum]	Alphonsine, Cyprian's: Reduced and equated [Reduct. & æquat.]	Prutenic, Mästlin's [Prutenicus Mæſtlini]: Reduced [Reductum]	Prutenic, Mästlin's: Reduced and equated [Red. & æquat.]	Ours [Noſter]: Reduced [Reductum]	Ours: Reduced and equated [Red. & æq.]
Middle [Medium]	$10^h\ 10^m$	$10^h\ 21^m$	$9^h\ 50^m$	$10^h\ 1^m$	$9^h\ 47^m$	$9^h\ 58^m$
End [Finis]	$11^h\ 43^m$	$11^h\ 54^m$	$11^h\ 32^m$	$11^h\ 43^m$	$11^h\ 29^m$	$11^h\ 40^m$

955

Observations of Saturn [OBSERUATIONES SATURNI.]

On 6 January, P. M. [DIE 6 IANUARIJ P. M.]

At $5^h\ 46^m\ 43^s$ ♄ had in the meridian an altitude by the revolving [quadrant] of 41° 52⅔′; by the Tychonic quadrant, with the new, 41° 52⅔′; with the old, 41° 53′. [5^H46′ 43″ ♄ in Merid. habuit Altitudinem per volubilem 41 52⅔ per Q. Tychon. nouo 41 52⅔ veteri 41 53]

Afterwards ♄ was observed from Aldebaran. [Poſtea obſeruabatur ♄ ab Aldeboram]

Time	Reading	Value
$6^h\ 20^m$	Distance of ♄ and Aldebaran [Diſt. ♄ & Aldebor.]	38° 1½′
$6^h\ 21^m$	Between ♄ and Aldebaran [Inter ♄ & Aldebor.]	38° 1¾′
	Declination of ♄ [Declinatio ♄], with one [vno]	7° 47′
	with the other [altero]	7° 47½′
$6^h\ 21½^m$	by the sextant [per Sextantem]	38° 1¾′
$6^h\ 25^m$		38° 1¾′
$6^h\ 25½^m$		38° 1¼′

956

Therefore, about this time, set the distance 38° 1½′ infallibly, and its declination 7° 47¼′; or rather seek it from its meridian altitude. [Pone itaque circa hoc tempus diſt. 38 1½ infallibiliter, & declinationem ipſius 7 47¼ vel pete eam potius ex Altitudine ipſius Meridiana.]

Then, conversely, ♄ was taken from that [star] which is the first in the wing of Pegasus. [Deinde accipiebatur ♄ viceverſa ab ea quæ eſt prima in ala Pegaſi.]

955 this table stands at the head of the page, full width, with no heading. The page sets *Calculus* over *Tempus* in the first column, and each of the three calculations (*Alphonſinus Cyp.*, *Prutenicus Mæſtlini*, *Noſter*) as one head over a pair of columns, *Reductum* and *Reduct. & æquat.* (*Red. & æquat.*, *Red. & æq.*); the English repeats the calculation's name in the second column of each pair. The values after the first, printed without unit marks, are given as hours and minutes.

956 "Time", "Reading" and "Value" are this edition's heads. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value
$6^h\ 36^m$	Between ♄ and the 1st [star] in the wing of Pegasus [Inter ♄ et I in] [ala Pegaſi]	43° 31′
$6^h\ 37^m$		43° 30′

957

Variation because of the wind and ☾. [Varietas propter ventum & ☾.]

Time	Reading	Value
$7^h\ 0^m$	Repeated declination of ♄ [Repetita declinatio ♄]	
	with one [vno]	7° 47′
	with the other [altero]	7° 47⅓′
$7^h\ 25^m$	The same declination of ♄ [Eadem ♄ decl.], with one pinnule [vno pinn.]	7° 46½′
	with the other [altero]	7° 46⅓′

958

Afterwards the place of ♄ was observed carefully, because an ecliptic conjunction by ☾ was imminent. [Poſtea diligenter locus ♄ obſeruabatur eo quod inſtaret Ecliptica per ☾ conjunctio.]

Time	Reading	Value
$7^h\ 33^m$	Between ♄ and the 1st [star] of the wing of Pegasus [Inter ♄ et I Alæ Pegaſi]	43° 29⅙′
$7^h\ 38^m$	by the old sextant [per Sextant. veter.]	43° 30′
	The same, repeated [Repetita eadem]	43° 30¼′

959

You can therefore, without any perceptible error, take the distance 43° 30′ from ♄ to the first [star] of the wing. [Potes itaque absque omni ſenſibili errore aßumere diſtantiam 43 30 a ♄ ad primam alæ.]

Time	Reading	Value
$7^h\ 41^m$	Between ♄ and the eye of ♉ [Inter ♄ et oculum ♉]	38° 1⅙′, twice [bis.]

960

957 "Time", "Reading" and "Value" are this edition's heads. The label runs over two lines — *Inter ♄ et I in* on the line of *6 36*, *ala Pegaſi* on the line of *6 37* — and is given whole on the first row; each line carries its own value. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

958 "Time", "Reading" and "Value" are this edition's heads. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

959 "Time", "Reading" and "Value" are this edition's heads. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

960 "Time", "Reading" and "Value" are this edition's heads. *bis.* stands after the value. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes. This is the last line of the left column.

Afterwards ♄ was observed by the armillae, and Aldebaran. [Poſtea per Armillas obſeruabatur ♄ & Aldeboram]

Time	♄, west [♄ occid.]	The eye of ♉, east [Oculus ♉ or.]	Equatorial distance [Diſt.] [æquat.]
$7^h\ 45\frac{1}{6}^m$	30° 40′	7° 20¾′	38° 0¾′
$7^h\ 46^m\ 22^s$	30° 57½′	7° 3′	38° 0½′
$7^h\ 47^m\ 35^s$	31° 15½′	6° 45⅓′	38° 0⅝′

961

From this the clock will be able to be verified at the same time. [Hinc poterit vna verificari horologium.]

Time	Reading	Value
$7^h\ 50^m\ 30^s$	Declination of ♄ [Declinatio ♄]	
	with one pinnule [vno pinn.]	7° 46⅔′
	with the other [altero]	7° 46¼′

962

As the application of ♄ by ☾ drew nearer, ♄ was observed anew after supper, again first, in this way. [Inſtante propius applicatione ♄ per ☾ denuo poſt cœnam obſeruabatur rurſus primo ♄ in hunc modum.]

N. B. These times have been corrected. [N. B. Hæc tempora ſunt correcta.]

Time	Reading	Value
$8^h\ 37^m$	Declination of ♄ [Declinatio ♄], with one pinnule [vno pinn.]	7° 46½′
	with the other [altero]	7° 47′
$8^h\ 44^m$	Between ♄ and Aldebaran [Inter ♄ et Aldeboram]	38° 1′
$8^h\ 45^m$		38° 0¾′
$8^h\ 47^m$		38° 0½′
	The same, repeated [Eadem repetita]	38° 1′

963

Therefore set this distance between ♄ and Aldebaran, without any perceptible error, 38° 0¾′. [Pone itaque diſtantiam hanc inter ♄ & Aldeboram, citra omnem ſenſibilem errorem 38 0¾.]

961 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, *Diſt.* standing above *æquat.* The times, printed without unit marks, are given as hours and minutes (first row) and as hours, minutes and seconds; the values as degrees and minutes. In the row of $7^h\ 47^m\ 35^s$ the printed values 31 15½ and 6 45⅓ add to 38° 0⅚′, while the equatorial distance is printed 38 0⅝ (the denominator 8 confirmed on a native-resolution crop); the other two rows add exactly. The figures are given as printed, and no correction is made.

962 "Time", "Reading" and "Value" are this edition's heads. The time, printed without unit marks, is given as hours, minutes and seconds, the values as degrees and minutes.

963 "Time", "Reading" and "Value" are this edition's heads. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	♄, west [♄] [occident.]	Aldebaran, west [Aldeb.] [occ.]	Equatorial distance [Diſt.] [æquat.]	Remark
$8^h\ 53^m\ 5^s$	46° 32¼′	8° 30½′	38° 1¾′	Times corrected [Tempora correcta]
$8^h\ 54^m\ 38^s$	46° 54½′	8° 53½′	38° 1′	
$8^h\ 59^m\ 40^s$	48° 16¾′	10° 14½′	38° 2¼′	

964

Therefore set the equatorial distance 38° 1′. [Pone itaque diſtant. æquat. 38 1]

For ☾, by [its] very near presence, was hindering an exact observation; for [it] is such that [it] suffices for the operation. [Nam ☾ admodum vicina præſentia exactam obſeruationem impediebat, eſt enim talis, vt ſufficiat operationi.]

On 6 January [DIE 6 JANUARIJ.]

For the place of ♄ from the preceding observations. [Pro loco ♄ ex antecedentibus obſeruationibus.]

Time	Reading	Value
$5^h\ 46^m$	Meridian altitude of ♄ [Altitudo ♄ Merid.]	41° 52′ 40″

965

Time	Reading	Value
	Altitude of the equator [Altitudo æquat.]	34° 5′ 20″
	Declination of ♄, north [Declinatio ♄ Bor.]	7° 47′ 20″
$6⅓^h$	Declination of ♄ by the armillae [Declinatio ♄] [per Armillas]	7° 47¼′
$6^h\ 21^m$	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	38° 1¾′
	Declination of the eye of ♉ [Declinatio oculi ♉]	15° 36⅔′
	Difference of ascension [Differentia aſcenſ.]	38° 4′ 9″
	Right ascension of the eye of ♉ [Aſc. R. oculi ♉]	63° 4′ 40″
	Right ascension of ♄ [Aſcenſ. R. ♄]	25° 0′ 31″
	Declination of ♄, north [Declinatio ♄ Bor.]	7° 47′ 20″
	Longitude [Longitudo]	26° 0′ 21″ ♈
	Latitude [Latitudo]	2° 27′ 22″ south
$6^h\ 41^m$	Between ♄ and the first [star] of the wing of Pegasus [Inter ♄ & primam] [Alæ Pegaſi]	43° 30½′

964 "Time" and "Remark" are this edition's heads; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. *Tempora correcta* stands at the right of all three rows, divided over three lines (*Tem- / pora / correcta*), and is given once, on the first row. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

965 "Time", "Reading" and "Value" are this edition's heads. The time, printed without unit marks, is given as hours and minutes, the value as degrees, minutes and seconds. This is the last line of the right column.

Time	Reading	Value
	Declination of the 1st [star] of the wing of Pegasus [Declinatio] [I Alæ Pegaſi]	13° 0¼′
	Difference of ascension [Diff. aſcenſ.]	43° 58′ 8″
	Right ascension of the 1st [star] of the wing [Aſc. R. I Alæ]	341° 3′ 20″
	Right ascension of ♄ [Aſc. R. ♄]	25° 1′ 28″
$7^h\ 37^m$	The same distance [Diſt. eadem]	43° 30′
	Difference of ascension [Diff. aſcenſ.]	43° 57′ 37″
	Right ascension of ♄ [Aſc. R. ♄]	25° 0′ 57″
$7^h\ 44^m$	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	38° 1⅙′
	Difference of ascension [Diff. aſcenſ.]	38° 3′ 29″
	Right ascension of ♄ [Aſc. R. ♄]	25° 1′ 11″
	Let the right ascension of ♄ at $7^h\ 30^m$ be set [Ponatur H. 7. 30 Aſc. R. ♄]	25° 1′ 10″
	[let the] declination [be set] [Decl.]	7° 47′ 0″
	Corresponding longitude [Reſp. Longitudo]	26° 0′ 43″ ♈
	Latitude [Latitudo]	2° 27′ 47″ south

966

On 9 January, P. M. *[DIE 9 JANUARIJ P. M.]*

At $5^h\ 35^m\ 0^s$ Saturn passed the meridian, and had a maximum altitude by the revolving [quadrant] of 41° 55¾′. [5^H 35′ 0″ tranſiuit Saturnus Merid. habuitque altit. max. per Volub. 41 55¾]

Afterwards, when supper was finished, we observed the star of ♄ in the way that follows. [Poſtea finita cœna obſeruauimus $♄^{ni}$ ſtellam in hunc qui ſequitur modum.]

Time	Reading	Value
$9^h\ 35^m$	*Between ♄ and Aldebaran, by the sextant* [Inter ♄ et Aldeb.] [per Sext.]	*37° 56′*

967

uncertain because of ☾ present at Aldebaran. [incerta propter ☾ præſentem Aldeboræ.]

966 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the left column and continue the entry for 6 January that ends the right column of the preceding page. *6⅓*, printed without unit marks in the time column, is given as hours; the other times, printed without unit marks, as hours and minutes; the values as degrees, minutes and seconds (or degrees and minutes). M. after the two latitudes is given as "south". The labels at *6 41* (*Inter ♄ & primam / Alæ Pegaſi*) and after it (*Declinatio / I Alæ Pegaſi*), and at *6⅓* (*Declinatio ♄ / per Armillas*), each run over two lines, with the value on the second; each is given whole on one row.

967 "Time", "Reading" and "Value" are this edition's heads. The label runs over two lines — *Inter ♄ et Aldeb.* on the line of *9 35*, *per Sext.* on the line of the value — and is given whole on one row. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes.

Time	Reading	Value
	The declination of ♄ *was then* [Fuit tunc Declin. ♄]	*7° 51¼′*
	But the altitude of ♄ [Altit. autem ♄]	*23° 10′*

968

But because the moon was very near Aldebaran, its brightness was preventing [it] from being able to be seen; therefore its distance was taken from the northern horn of ♉. [Verum quia luna erat admodum vicina Aldeboræ eius ſplendor impediebat, quominus videri poterat, igitur a cornu Boreali ♉ accipiebatur eius diſtantia.]

Time	♄ *from the bright foot of Erichthonius* [♄ a luc. ped.] [Erichtonij]	*Declination of* ♄, *M.* [Declinatio] [♄ M.]	*Altitude of* ♄ [Altitudo] [♄]
9h 42½m	*51° 10½′*	*7° 51½′*	*22° 5′*
9h 45m	*51° 10⅓′*	*7° 51½′*	*21° 45′*
9h 47½m	*51° 10⅓′*	*7° 51¾′*	*21° 20′*
9h 53m	*51° 10½′*	*7° 51¾′*	*20° 40′*

969

Afterwards ♄ *was also taken in equatorial distance from the heart of* ♌ *by the greatest armillae, in this way.* [Poſtea etiam accipiebatur ♄ in Diſtantia æquatoria a corde ♌ per Armillas maximas in hunc modum.]

Time	♄, *west* [♄] [occid.]	*The heart of* ♌, *east* [Cor ♌] [orient.]	*Equatorial distance* [Diſt.] [æquat.]	*Altitude of* ♄ [Altit.] [♄]
10h 1¾m	*66° 54′*	*54° 28½′*	*121° 22½′*	*19⅓°*
10h 4m	*67° 26′*	*53° 56′*	*121° 22′*	*19⅙°*
10h 7m	*68° 14½′*	*53° 8¾′*	*121° 23¼′*	*18⅚°*
10h 9m	*68° 43⅓′*	*52° 38½′*	*121° 22′*	*18⅔°*

970

Therefore, at about hour 10, set the equatorial distance of ♄ *from the heart of* ♌ *121° 22½′, imperceptibly.* [Pone itaque ad horam circiter 10 Diſt. æquat. ♄ a corde ♌ part. 121 M. 22½ inſenſibiliter.]

968 "Time", "Reading" and "Value" are this edition's heads; neither line carries a time. The values, printed without unit marks, are given as degrees and minutes.

969 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. These rows stand at the head of the right column. *M.* after ♄ in the second head is left as printed. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

970 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. The times, printed without unit marks, are given as hours and minutes; the values in the next three columns as degrees and minutes; the single figures with a fraction in the last column as degrees. In the row of $10^{h}\ 9^{m}$ the printed values 68 43⅓ and 52 38½ add to 121° 21⅚′, while the equatorial distance is printed 121 22; the other three rows add exactly. The figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

Time	Reading	Value
$10^h\ 12^m$	*Declination of* ♄, *north* [Declinatio ♄ Bor.,], *with one* [vno]	*7° 52′*
	with the other pinnule [altero pinnac.]	*7° 52¼′*

971

From this, with the preceding [observations] compared together by means of the distance of the sextant that was made, the place of ♄ *about this altitude can be verified and compared mutually, and, with its transit through the meridian compared to the transit of the bright star of* ♈, *examined. For the difference of both transits, taken above, was in time* $4^m\ 5^s$, *which makes in the equator 1° 1¼′. Therefore the right ascension of* ♄ *at that time is established from the known right ascension of the bright star of* ♈. [Hinc ex antecedentibus per diſtantiam Sextantis factam ſimul collatis poteſt verificari ♄ locus circa hanc altitudinem & inuicem conferri, cumque tranſitu eius per Meridianum collato ad tranſitum Lucidæ ♈ examinari. Erat enim differentia ſuperius accepta vtriusque tranſitus in tempore 4′ 5″ quod facit in æquatore 1 grad. 1¼ min. Conſtat itaque ♄ Aſcenſ. R. tunc ex nota Aſcenſ. R. lucidæ ♈.]

Time	Reading	Value
$11^h\ 57^m$	Distance between ♄ and the bright foot of Erichthonius shared with the northern horn of ♉ [Diſtantia inter ♄ & luc. pedem] [Erichtonij communem cum] [Bor. cornu ♉]	51° 1′
	Declination of ♄ [Declinatio ♄]	8° 1¾′
	Altitude of ♄ [Altitudo ♄]	3° 5′
$12^h\ 4½^m$	Distance between ♄ and the same [Diſt. inter ♄ & eandem]	50° 59½′
	Declination of ♄ [Declinatio ♄]	8° 6¼′
	Altitude [Altitudo]	2° 25′

972

From this observation, compared with the preceding one, which had been made at about hour 10 at an altitude of ♄ *of 22°, and with that which [was made] through the meridian, the proper motion of Saturn being applied, its refraction about the horizon can be investigated; and consequently the refraction of* ☿ *in a similar position also becomes known better than from Venus.* [Ex hac obſeruatione collata cum antecedenti, quæ facta erat circa horam 10 in Altitudine ♄ 22 part. & cum ea quæ per Meridianum adhibito motu proprio Saturni poteſt ipſius refractio circa horizontem indagari, & per conſequens etiam ☿ Refractio in conſimili ſitu innoteſcit melius, quam ex Venere.]

971 "Time", "Reading" and "Value" are this edition's heads. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

972 "Time", "Reading" and "Value" are this edition's heads. These rows are set in roman. The first label runs over three lines (*Diſtantia inter* ♄ *& luc. pedem* / *Erichtonij communem cum* / *Bor. cornu* ♉), the value on the third, and is given whole on one row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Yet a comparison can be made of both, ♀ *as well as* ♄*, as regards refraction, and applied to* ☿. [Poteſt tamen collatio fieri vtriusque tam ♀ & ♄ quoad Refractionem & applicari ☿.]

On 14 January, P. M. *[DIE 14 JANUARIJ P. M.]*

Afterwards[1] ♄ *was observed from the eye of* ♉ *by the sextant in this way, since both were sufficiently high.* [Poſtea[1] obſeruabatur ♄ ab oculo ♉ per Sextantem in hunc modum, cum ambo ſatis alti eßent.]

Time	Reading	Value
5h 47m [5H47′]	*Between* ♄ *and Aldebaran* [Inter ♄ & Aldeboram]	*37° 41¾′*
5h 50m	*Repeated between* ♄ *and Aldebaran* [Repetita inter ♄] [& Aldeb.]	*37° 41⅝′*
5h 52½m	*The same repeated again* [Eadem adhuc] [repetita]	*37° 41¾′*
	Declination of ♄ *about these times by the armillae* [Declinatio ♄ circa hæc] [tempora per Armill.]	*7° 56½′ north* [7 56½B.]
	with the other pinnule [altero pinnacidio]	*7° 56⅔′*
6h 36m	*Repeated distance of* ♄ *and Aldebaran* [Repet. diſt. ♄] [et Aldeb.]	*37° 41⅔′*

973

twice, well; therefore the earlier [ones are] also good. [bis bene, ergo priores etiam bonæ.]

But to make a test of the sextant, [the distance] between the bright star of ♈ *and Aldebaran was observed, and by the same sextant it seemed [to be] 35° 32½′;* [Pro faciendo autem periculo Sextantis obſeruabatur inter Lucidam ♈ et Aldeb. et videbatur ea per eundem Sextantem 35 32½]

35° 32⅙′ three times, good. [35 32⅙ ter, bona.]

Since, therefore, the sextant gave this distance of 35° 32⅙′ everywhere, such as we observed before, and [as it] really is, it is clear that the earlier observations are also true. [Cum itaque vbique Sextans præberet hanc diſtantiam 35 32⅙ qualem prius obſeruauimus, et reuera eſt, patet etiam priores obſeruationes veras eße.][974]

Time	Reading	Value
6h 52m	*Repeated declination of* ♄ *by the armillae, with both pinnules* [Repetita declin. ♄ per Arm.] [vtroq. pin.]	*7° 57′ north* [7 57 Bor.]
6h 57⅓m	*To verify the clock I was observing the eye of* ♉ *from the meridian* [Pro verificando] [horologio] [obſeruabam] [Oculum ♉ a] [meridiano]	*12° 7′ east* [12 7 or.]
6h 58⅓m		*11° 54½′*
6h 59m		*11° 44½′*

[973] "Time", "Reading" and "Value" are this edition's heads. The first time is printed with an hour and a minute mark; the other times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes. *B.* after the first declination is given as "north". The labels at *5 50*, *5 52½* and *6 36*, and the label of the declination, each run over two lines with the value on the second, and are given whole on one row.

[974] the two values of the distance, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value

975

Observation of ♄ on account of the refraction of ☿ [Obſeruatio ♄ ob refractionem ☿]

Time	Between ♄ and the eye of ♉ [Inter ♄ & ocul. ♉]	Altitude of ♄ [Altitudo ♄]	Declination of ♄ [Declinatio ♄]
$11^h\ 42^m$	37° 31′	2° 35′	8° 10′
$11^h\ 44^m$	37° 30′	2° 10′	8° 11½′
$11^h\ 51⅙^m$	37° 27′		
$11^h\ 52½^m$	37° 25′	about 1° [1ᵍ quaſi]	

976

Note. When ♄ was high, at about hour 5¾, [it] was distant from Aldebaran 37° 41¾′. Therefore, since its diurnal motion is only 3′, [it] could not in an interval of 6 hours become nearer to Aldebaran except by nearly a single 1′, so that the distance here ought to have been 37° 41′. Therefore at an altitude of 2° 35′ the refraction was 10′, and the same in ☿. But in declination the refraction was 13½′, and the same in ☿. [Nota. Quando ♄ altus erat circa horam 5¾ diſtabat ab Aldeboram 37 41¾, ergo cum motus eius diurnus ſit ſaltem trium minutorum non potuit interuallo 6 horarum niſi vnico ſcrupulo fere propior fieri Aldeboræ, ita vt deberet hic fuiße diſtantia 37 41. Ergo in altitudine P. 2 M. 35 fuit refractio 10′ atque idem in ☿. In Declinatione vero refractio fuit 13½ Minut. atque idem in ☿ⁱᵒ.][977]

On 15 January, P. M. *[DIE 15 JANUARIJ P. M.]*

Time	☋, *east* [☋ orient.]	♄, *east* [♄ orient.]	*Equatorial distance* [Diſt. æquat.]
$5^h\ 0^m$	*75° 2½′*	*2° 34½′*	*72° 28′*
$5^h\ 2¾^m$	*74° 35½′*	*2° 8½′*	*72° 27′*

975 "Time", "Reading" and "Value" are this edition's heads. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes. The label *Pro verificando / horologio / obſeruabam / Oculum ♉ a / meridiano* runs over five lines beside the three times *6 57⅓*, *6 58⅓* and *6 59*, each time with its value on its own line; the label is given whole on the first row.

976 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. These lines are set in roman. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; 1ᵍ is printed with a raised g (degree). No altitude or declination is printed at *11 51⅙*, and no declination at *11 52½*.

977 this note begins at the foot of the left column and continues at the head of the right column, the word *ſal- / tem* divided between them; it is given once, here. The figures *37 41¾* and *37 41*, printed without unit marks, are given as degrees and minutes.

978

Note. This agrees fairly well with those between ♀ *and* ♃. [Nota. Hæc ſatis bene conuenit cum illis inter ♀ et ♃.]

Time	Reading	Value
5h 4m 0s	*The second [star] of* ♈ *passed the meridian at an altitude of* [Tranſiuit ſecunda] [♈ Merid. in Alt.]	*52° 53½′*
5h 11m 10s	♄ *passed through the meridian at an altitude of* [Tranſiuit ♄] [per Merid. in Alt.]	*42° 4⅓′*
5h 14m 15s	*The bright star of* ♈ *passed the meridian, by the revolving quadrant* [Tranſiuit Luc. ♈ Merid.] [per Q. Volub.]	*55° 35′*
	True altitude of ♄ *through the meridian* [Vera alt. ♄ per Merid.]	*42° 3′*
5h 41½m	*Between* ♄ *and the eye of* ♉ *by the sextant* [Inter ♄ et oculum] [♉ per Sextantem]	*37° 38½′*
5h 44m		*37° 38½′*
5h 46m		*37° 38⅔′*

979

At about that very time the declination of ♄ *was also taken by the greatest armillae:* [Accipiebatur etiam circa id ipſum tempus Declinatio ♄ per Armillas maximas]

Time	Reading	Value
	with one pinnule [vno pinn.]	*7° 57½′*
	with the other [altero]	*7° 58′*

980

On 16 January. *[DIE 16 JANUARIJ.]*

Time	Reading	Value
5h 2m [H. 5 M. 2]	*Declination of* ♄ [Declin. ♄]	*7° 59¼′ north* [7 59¼B.]

981

978 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type on one line. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

979 "Time", "Reading" and "Value" are this edition's heads. The three-figure times, printed without unit marks, are given as hours, minutes and seconds, the two-figure times as hours and minutes; the values as degrees and minutes. The first three labels each run over two lines with the value on the second, and are given whole on one row. The label *Inter* ♄ *et oculum* / ♉ *per Sextantem* runs over two lines beside the times *5 41½* and *5 44*, each line with its own value, and is given whole on the first row; *5 46* carries a value and no label.

980 "Time", "Reading" and "Value" are this edition's heads; neither line carries a time. *vno pinn. 7 57½* stands on the line of *maximas*. The values, printed without unit marks, are given as degrees and minutes.

981 "Time", "Reading" and "Value" are this edition's heads. The value, printed without unit marks, is given as degrees and minutes; *B.* after it is given as "north".

Afterwards the transits of the stars of ♈ *with* ♄ *through the meridian were observed in this way.* [Poſtea obſeruabantur tranſitus ſtellarum ♈ cum ♄ per Meridianum in hunc modum.]

Time	Reading	Value
$5^h\ 7^m\ 38^s$ [5 7 38″]	♄ *passed the meridian, having an altitude by the revolving [quadrant] of* [tranſiuit ♄ Merid. habens] [Alt. per volub.]	*42° 6⅔′*
	The eye of ♉ *was then from the meridian, east* [Fuit tunc Oculus ♉] [a Mer. or.]	*37° 35½′*
$5^h\ 10^m\ 36^s$	*The bright star of* ♈ *passed the meridian, having an altitude of* [tranſiuit Luc. ♈] [Merid. habens Alt.]	*55° 35½′*
	The eye of ♉ *was then east* [Fuit tunc Oculus] [♉ orient.]	*36° 45½′*
	It is therefore clear that the equatorial distance is [Patet itaque quod] [diſt. æquat. ſit]	*0° 50′*

982

[1] That is, after the end of the observations of the distance between Venus and Saturn, on which see below among the observations of Venus. [Scilicet poſt finem obſeruationum diſtantiæ inter Venerem et Saturnum, de quibus vide infra inter obſeruationes Veneris.]

On 20 January. *[DIE 20 JANUARIJ.]*

To verify the place of ♄*, its distance from the eye of* ♉ *was observed.* [Pro verificando loco ♄ obſeruabatur eius diſtantia ab oculo ♉.]

Distance of ♄ [Diſtantia ♄]	*Altitude of* ♄ [Altitudo ♄]	*Declination of* ♄ [Declinatio ♄]
37° 21′	*27° 10′*	*8° 6′*
37° 21′	*26° 40′*	*8° 6¼′*
37° 21⅙′	*26° 10′*	*8° 6½′*
37° 21⅙′	*25° 40′*	*8° 6½′*

983

From these the place of ♄ *can be gathered, and consequently the refraction of Venus in a lower position [can be] investigated and applied to* ☿*, especially if tomorrow it is observed in a higher position from* ♄ *or from some fixed [star].* [Ex his poteſt colligi ♄ locus & per conſequens Veneris refractio in decliuiore ſitu indagari, & ☿° applicari, præſertim ſi ea craſtina die in altiore ſitu fuerit a ♄ⁿᵒ vel aliqua fixa obſeruata.]

On 26 January, P. M. *[DIE 26 JANUARIJ P. M.]*

982 "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a double prime after the seconds; the second, printed without unit marks, is given as hours, minutes and seconds; the values as degrees and minutes. Each label runs over two lines with the value on the second, and is given whole on one row.

983 the heads are printed in smaller type; the table has no time column. The values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
$5^h\ 4^m$	*Declination of* ♄*, with one pinnule* [Declinatio ♄ vno pin.]	*8° 13½′ north* [8 13½B.]

984

On 30 January. *[DIE 30 JANUARIJ.]*

♀ *and* ♄ *were observed in this way.* [Obſeruabatur ♀ & ♄ hoc modo.]

Time	*Distance of* ♀ *from* ♄ *by the old sextant* [Diſt. ♀ a ♄] [per Sext. vet.]	*Declination of* ♄ [Decl.] [♄]	*Altitude of* ♀ [Altit.] [♀]
$5^h\ 29^m$	*35° 41′*	*8° 21½′ north* [8 21½ B.]	*21° 0′*
$5^h\ 31^m$	*35° 41⅙′*	*8° 21½′*	*20° 50′*
$5^h\ 33^m$	*35° 41′*	*8° 21¼′*	*20° 35′*

985

Afterwards ♄ *was observed from Aldebaran* [Poſtea obſeruabatur ♄ ab Aldeboram]

Time	*Distance by the sextant* [Diſt. per Sext.]		*Altitude of* ♄ [Altit. ♄]
$5^h\ 47^m$	*36° 42′*	*8° 21′*	*38° 55′*
$5^h\ 49^m$	*36° 42′*	*8° 21′*	*38° 40′*
$5^h\ 50½^m$	*36° 42′*	*8° 21⅓′*	*38° 30′*

986

three times, well [ter bene][987]

Examination of the observation of ♄ *on 9 January [EXAMINATIO OBSERUATIONIS* ♄*] [DIE 9 JANUARIJ]*

For the place of ♄*. [Pro loco* ♄*.]*

[984] "Time", "Reading" and "Value" are this edition's heads. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes; *B.* after it is given as "north".

[985] "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *B.* after the first declination is given as "north".

[986] "Time" is this edition's head; the time column carries no head on the page, and the second value column carries none either (its head cell is left empty here). The two printed heads are in smaller type. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[987] *ter bene* stands below the table, under the distance column.

Time	Reading	Value
9^h 45^m [9ʰ 45ᴹ]	Was distant from the bright foot of Erichthonius shared with the horn of ♉, by the sextant [diſtabat ♄ a lucido pede Erichtonij communi cum cornu ♉] [per Sext.]	51° 10½′
	Declination of the bright foot of Erichthonius [Declin. luc. ped. Erichtonij]	28° 10′ 30″
	Ascensional difference [Differentia aſcenſionalis]	49° 54′ 16″
	Right ascension of the bright foot [Aſc. R. lucidi pedis]	75° 4′ 0″
	Right ascension of ♄ [Aſcenſ. R. ♄]	25° 9′ 44″
	Set the ascension at [Pone Aſcenſionem]	25° 10′ 0″
	Declination, north [Declinatio B.]	7° 51′ 15″
	Corresponding longitude [Reſp. Longitudo]	26° 10′ 38″ ♈
	Latitude [Latitudo]	2° 27′ 2″ south [2 27 2м.]

988

On 14 January [DIE 14 JANUARIJ.]

Time	Reading	Value
5^h 47^m	Between ♄ and the eye of ♉ [Inter ♄ et oculum ♉]	37° 41¾′
	Declination of ♄, north [Declinatio ♄ Bor.]	7° 56⅔′
	Difference of ascension [Diff. aſcenſ.]	37° 45′ 49″
	Ascension of the eye of ♉ [Aſc. oculi ♉]	63° 4′ 40″
	Right ascension of ♄ [Aſc. R. ♄]	25° 18′ 51″
	Corresponding longitude [Reſp. Longitudo]	26° 20′ 49″ ♈
	Latitude [Latitudo]	2° 25′ 9″ south [2 25 9м.]

989

On 15 January [DIE 15 JANUARIJ.]

Time	Reading	Value
5^h 44^m	Between ♄ and the eye of ♉ [Inter ♄ et Oculum ♉]	37° 38′ 30″
	Declination of ♄, north [Declinatio ♄ Bor.]	7° 57′ 45″
	Difference of ascension [Diff. aſcenſ.]	37° 42′ 43″
	Right ascension of ♄ [Aſcenſ. R. ♄]	25° 21′ 57″

988 ”Time”, ”Reading” and ”Value” are this edition's heads. These lines are set in roman. The time is printed with raised H and M; the first value, printed without unit marks, is given as degrees and minutes, the others as degrees, minutes and seconds; м. after the latitude is given as ”south”. The first label runs over three lines, the value on the third, and is given whole on one row.

989 ”Time”, ”Reading” and ”Value” are this edition's heads. These lines are set in roman and stand at the head of the right column. The time, printed without unit marks, is given as hours and minutes; the two-figure values as degrees and minutes, the three-figure values as degrees, minutes and seconds; м. after the latitude is given as ”south”.

Time	Reading	Value
	Corresponding longitude [Reſp. Longitudo]	26° 24′ 7″ ♈
	Latitude [Latitudo]	2° 25′ 14″ south [2 25 14M.]

990

On 5 February, P. M. [DIE 5 FEBRUARIJ P. M.]

Time	Declination of ♄ [Declin.] [♄]	Distance from the eye of ☿ [Diſtantia] [ab oculo ☿]	Altitude of ♄ [Altit.] [♄]
$7^h\ 22^m$	8° 34¼′ north [8 34¼ B.]		33⅙°
$7^h\ 32^m$		36° 13½′	31° 5′
$7^h\ 35^m$		36° 13⅔′	30° 55′
$7^h\ 37^m$		36° 13½′	30° 45′
$7^h\ 40^m$	with one [vno] 8° 34½′ with the other [altero] 8° 34½′		

991

The clock, at the following noon, was moving faster than it should by nearly ¾ of one hour, which had not been corrected within eight days. [Horolog. in Merid. ſequente fere ¾ vnius horæ iuſto celerius mouebatur, quod intra octiduum non erat correctum.]

On 18 February. *[DIE 18 FEBRUARIJ.]*

♄ was observed so that its place might be established, and from this ♀, from the eye of ☿, in this way. [Obſeruabatur ♄ vt eius locus conſtaret & hinc ♀ ab oculo ☿ hoc modo.]

Time	Reading	Value	Remark
$6^h\ 11^m$	*Between ♄ and Aldebaran by the sextant* [Inter ♄ &] [Aldeb. per Sext.]	*35° 5′*	*Good (for both)* [Bonæ]
$6^h\ 13⅙^m$		*35° 5′*	
$6^h\ 19^m$	*the declination of ♄ was observed* [obſeruabatur declin. ♄]	*9° 4′ north* [9 4Bor.]	
	with the other pinnule [altero pinnac.]	*9° 4½*	

990 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The time, printed without unit marks, is given as hours and minutes, the values as degrees, minutes and seconds; M. after the latitude is given as "south".

991 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. These lines are set in roman. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes, the single figure with a fraction in the altitude column (*33⅙*) as degrees; *B.* after the first declination is given as "north". *vno* stands between the time *7 40* and the declination column, *altero* on the next line with no time; their values stand in the declination column.

Time	Reading	Value	Remark

992

On 21 February [DIE 21 FEBRUARIJ.]

Time	Declination of ♄ [Declin.] [♄]	Distance between ♄ and the eye of ☿ by the old sextant [Diſt. inter] [♄ et ocul. ☿] [per Sext. vet.]	Altitude of ♄ [Altit.] [♄]
$6^h\ 34^m$	9° 10¾′ with the other [altero] 9° 10¾′		27°
$6^h\ 43^m$		34° 46′	
$6^h\ 45^m$		34° 45⅚′	
$6^h\ 47^m$		34° 46′	25½°
$6^h\ 51^m$	9° 10¾′ north [9 10¾ B.]		

993

On 4 March, P. M. [DIE 4 MARTIJ P. M.]

Time	Reading	Distance [Diſtantia]	Altitude of ♄ [Altit. ♄]
$8^h\ 9\frac{1}{6}^m$	♄ and the eye of ☿ [♄ & ocul. ☿]	33° 34½′	10° 20′
$8^h\ 11^m$		33° 34¾′	9° 40′
$8^h\ 12^m$		33° 34½′	9° 30′
$8^h\ 15\frac{1}{6}^m$	Declination of ♄, north [Declin. ♄ B.]	9° 37½′	9° 0′
	with the other [altero]	9° 38′	

994

992 "Time", "Reading", "Value" and "Remark" are this edition's heads. The label *Inter ♄ & / Aldeb. per Sext.* runs over two lines beside the times *6 11* and *6 13⅙*, each line with its own value, and is given whole on the first row; a brace joins the two values, and *Bonæ* beside it is given once, for both. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *Bor.* after the declination is given as "north".

993 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, over two or three lines. These lines are set in roman. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes, the single figures in the altitude column (*27*, *25½*) as degrees; *B.* after the last declination is given as "north". *altero* stands to the left of the declination column, with no time.

994 "Time" and "Reading" are this edition's heads; the time column and the label column carry no head on the page. The two printed heads are in smaller type. These lines are set in roman. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *B.* after the declination label is given as "north". The declination values *9 37½* and *9 38* stand in the column headed *Diſtantia* and are given there as printed. *altero* stands to the left of that column, with no time.

On 10 March, P. M. *[DIE 10 MARTIJ P. M.]*

♄ *was observed in this way, already approaching the Sun.* [Obſeruabatur ♄ hoc modo iam appropinquans Soli.]

Time	Reading	Value	Second value
7h 51m [7H51′]	*Declination* [Decl.]	*9° 53′ north* [9 53 Bor.]	
7h 56m	*Between* ♄ *and Aldebaran* [Inter ♄] [& Aldeb.]	*32° 52¼′*	*Altitude of* ♄ [♄ Alt.] *8° 43′*
7h 59½m		*32° 52½′*	*8° 15′*

995

From this it will be possible to verify the place of ♄*, already approaching the Sun, but account [is] to be taken of the refraction; to explore its latitude thoroughly, however, you will take its distance from the bright [star] of* ♈ *in this way, because this [star] was at about the same longitude.* [Hinc poterit verificari locus ♄ iam Soli appropinquantis, ſed habenda ratio refractionis, pro latitudine vero eius penitus exploranda accipies eius diſtantiam a lucida ♈ in hunc modum, eo quod hæc in eadem circiter eßet longitudine.]

Time	Reading	Value	Remark
8h 5m	*Distance of* ♄ *and the bright [star] of* ♈ [Diſtantia ♄ &] [lucidæ ♈]	*12° 9¼′*	
		12° 11′	*doubtful* [dubiæ]
8h 7m		*12° 10′*	

996

The presence of the Moon produced this variation. [Lunæ præſentia peperit hanc varietatem.]

On 17 August, A. M. [DIE 17 AUGUSTI A. M.]

N.B. Observation of ♄ *at the first station.* [N.B. Obſeruatio ♄ in ſtatione prima.]

Time	Reading	Value
3h 1m 35s	Declination of ♄, north [Declinatio ♄ Bor.]	14° 26′

995 "Time", "Reading", "Value" and "Second value" are this edition's heads. The first time is printed with a raised H and a raised mark; the others, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *Bor.* after the declination is given as "north". The label *Inter* ♄ */ & Aldeb.* runs over two lines, each line with its own time and value, and is given whole on the first row. On the page a comma follows *32 52¼*, and ♄ *Alt. 8 43* stands on the same line; *8 15* stands under *8 43*.

996 "Time", "Reading", "Value" and "Remark" are this edition's heads. The label *Diſtantia* ♄ *& / lucidæ* ♈ runs over two lines and is given whole on the first row; the value *12 11* stands on its second line, with no time, and *dubiæ* follows it on that line only. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value
	with the other pinnule [altero pinnac.]	14° 26⅙′

997

Time	The head of ♈, east [Caput] [♈ or.]	♄, east [♄] [orient.]	Equatorial distance [Diſt.] [æquat.]	Remark
$3^h\ 8^m\ 10^s$	3° 19′	21° 46′	18° 27′	
$3^h\ 10^m\ 20^s$	2° 46¼′	21° 14½′	18° 28¼′	more certain [certior]
$3^h\ 12^m\ 20^s$	2° 15½′	20° 43½′	18° 28′	

998

Time	Reading	Value
$3^h\ 17^m$	*♄ and the bright [star] of ♈, distance by the sextant* [♄ & luc. ♈] [Diſtantia] [per Sext.]	*18° 58′*
$3^h\ 18^m$		*18° 58′*
$3^h\ 20^m$	*♄ and Aldebaran* [♄ et Aldeb.]	*17° 58½′*
$3^h\ 21^m$		*17° 58⅓′*
$3^h\ 24^m$	*Declination of ♄, north* [Declin. ♄] [Bor.], *with one* [vno]	*14° 26′*
	with the other pinnule [altero pinn.]	*14° 26⅓′*
$4^h\ 35½^m$	*When ♄ was passing through the meridian, [it] had the altitude* [Cum ♄ tranſiret] [per Merid.] [habuit Alt.]	*48° 31′*

999

Note. These observations of ♄ near the station are fairly good, [observations] on which you can safely rely; and [it] was fairly high, about one hour before the meridian. [Nota. Hæ obſeruationes ♄ iuxta ſtationem ſunt ſatis bonæ, quibus potes tuto fidere, eratque ſatis altus, quaſi vna hora ante Meridianum.][1000]

997 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The time, printed without unit marks, is given as hours, minutes and seconds, the values as degrees and minutes; *Bor.* is given as "north". A small grey mark after *Bor.*, lighter than the type, is taken as a blemish on the leaf and not transcribed.

998 "Time" and "Remark" are this edition's heads; the time column carries no head on the page, and *certior* stands close after *18 28¼*. The other heads are printed in smaller type, each over two lines. These lines are set in roman. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

999 "Time", "Reading" and "Value" are this edition's heads. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *Bor.* is given as "north". Several labels run over more than one line and are each given whole on one row: *♄ & luc. ♈ / Diſtantia / per Sext.* over three lines, the time *3 17* on the first line and the value *18 58* on the second, then *per Sext.* on the third line with the time *3 18* and the value *18 58*; *Declin. ♄ / Bor. vno*, the time *3 24* on the first line and the value *14 26* on the second; *Cum ♄ tranſiret / per Merid. / habuit Alt.*, the time *4 35½* on the first line and the value *48 31* on the third.

1000 this sentence begins at the foot of the left column and ends at the head of the right column.

On 18 August. *[DIE 18 AUGUSTI.]*

Time	Reading	Value
$3^h\ 5^m$ [$3^H5'$]	*The distance of* ♄ *from Aldebaran was observed three times by the sextant* [Ter obſeruabatur per Sext. diſtantia ♄ ab Aldebora]	*17° 57′*
		17° 57¼′
		17° 57¼′
$3^h\ 12^m$	*Between* ♄ *and the bright [star] of* ♈ [Inter ♄ & lucid. ♈] *I*	*18° 58′*
	II	*18° 58′*
	III	*18° 57¾′*
$3^h\ 16^m$	*Repeated,* ♄ *and Aldebaran* [Repetita ♄ & Aldeb.]	*17° 57½′*
$3^h\ 18^m$	*The same, repeated* [Repetita eadem]	*17° 57½′*

1001

And these two are better and surpass yesterday's observations, for [it] was stationary. [Atque hæ duæ ſunt meliores & præſtant heſternis obſeruationibus, erat enim ſtationarius.]

To examine the sextant in all these observations, the distance between Aldebaran and the bright [star] of ♈ *was taken in this way* [Pro examine Sextantis in omnibus his obſeruationibus accipiebatur diſtantia inter Aldeboram & lucidam ♈ hoc modo]

Reading	Value
I	*35° 31½′*
II	*35° 32′*
III	*35° 32′*

1002

It is therefore clear that the sextant is in fairly good order. [Patet itaque quod Sextans ſatis bene ſe habeat.]

Time	Reading	Value
$3^h\ 29^m$	*Declination of* ♄*, with one pinnule* [Declin. ♄ vno pinnac.]	*14° 25¼′*
	The same, repeated [Repetita eadem]	*14° 25¼′*

1003

1001 "Time", "Reading" and "Value" are this edition's heads. The first time is printed with a raised H and a raised mark; the others, printed without unit marks, are given as hours and minutes, the values as degrees and minutes. The sentence at $3^H5'$ runs over two lines; its three values are set below it, with no time. The numerals *I*, *II*, *III* stand before the values.

1002 "Reading" and "Value" are this edition's heads. *I 35 31½* stands at the right of the line *dam* ♈ *hoc modo*; *II* and *III* stand under it. The values, printed without unit marks, are given as degrees and minutes.

1003 "Time", "Reading" and "Value" are this edition's heads. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

On 3 October, P. M. [DIE 3 OCTOBRIS P. M.]

Time	Reading	Value
$9^h\ 25^m$	Between ♄ and the far end of the wing of Pegasus by the old sextant [Inter ♄ & extrem.] [alæ Pegaſi per] [Sext. vet.]	43° 34½′
$9^h\ 27^m$		43° 34⅓′
$9^h\ 29^m$		43° 34½′
$9^h\ 35^m$	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	19° 37′
$9^h\ 36^m$	The same [Eadem]	19° 37¼′
$9^h\ 38^m$	Repeated [Repetita]	19° 37′
$9^h\ 41^m$	Declination of ♄, north [Declin. ♄ Bor.]	13° 50′
$9^h\ 43^m$		13° 50′

1004

On 22 October [DIE 22 OCTOBRIS.]

By the new sextant. [Per Sextantem nouum.]

Time	Reading	Value
$10^h\ 46^m$	P. M. ♄ and the far end of the wing of Pegasus [P. M. ♄ &] [extr. alæ] [Pegaſi]	42° 14′
$10^h\ 48^m$		42° 14′
$10^h\ 50^m$		42° 13⅚′
$10^h\ 54^m$	♄ and the eye of ♉ [♄ &] [ocul. ♉]	21° 3⅓′
$10^h\ 56^m$		21° 3½′
$10^h\ 59^m$		21° 3½′
$11^h\ 10^m$	♄ and the bright [star] of ♈ by the new sextant [♄ et luc.] [♈ per] [Sext. nov.]	16° 47½′
$11^h\ 12^m$		16° 47¼′
$11^h\ 13^m$		16° 47½′

1005

Time	Reading	Value
$11^h\ 17^m$	Declination of ♄ by the southern armillae [♄ Decl. per Arm. Auſtr.]	13° 20½′
	The same, repeated [Repetita eadem]	13° 20½′
$12⅓^h$	Meridian altitude of ♄ by the Tychonic quadrant, with the new [Alt. ♄ Mer.] [per Q. Tych., nouo]	47° 26½′

1004 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The label *Inter ♄ & extrem. / alæ Pegaſi per / Sext. vet.* runs over three lines, each line with its own time and value, and is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *Bor.* is given as "north".

1005 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The labels *P. M. ♄ & / extr. alæ / Pegaſi*, *♄ & / ocul. ♉*, and *♄ et luc. / ♈ per / Sext. nov.* each run over two or three lines, each line with its own time and value, and each is given whole on its first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value
	with the old pinnule [vet. pinn.]	47° 26⅔′

1006

On 23 October [DIE 23 OCTOBRIS.]

♄ near ♂ ☉ [♄ iuxta ♂ ☉]

Time	Reading	Value
8^{h} 49^{m} [$8^{H}49^{M}$]	Distance between ♄ and the far end of the wing of Pegasus [Dist. inter ♄ et extr. alæ Peg.]	42° 9⅙′
51^{m}		42° 9½′
59^{m}	Between ♄ and the bright [star] of ♈ [Inter ♄ et lucid. ♈]	16° 43⅙′

1007

By the new sextant, among clouds. [Per Sext. nouum inter nubes.]

On 3 November [DIE 3 NOUEMBRIS.]

Time	Reading	Value
8^{h} 28^{m}	Between ♄ and the eye of ♉, among clouds [Inter ♄ et oculum ♉,] [inter nubes]	22° 1′

1008

On 11 November, in the evening [DIE 11 NOUEMBRIS, VESPERI.]

Time	Reading	Value
$9¼^{h}$ [H. 9¼]	Between ♄ and the eye of ♉ [Inter ♄ &] [oculum ♉]	22° 38¼′
		22° 37⅔′

1006 "Time", "Reading" and "Value" are this edition's heads; these lines stand at the head of the left column with no heading above them. They are set in roman. The first time, printed without unit marks, is given as hours and minutes; the single figure with a fraction (*12⅓*), set in the hours position, as hours; the values as degrees and minutes. The label *Alt. ♄ Mer. / per Q. Tych., nouo* runs over two lines, the time on the first and the value on the second, and is given whole on one row.

1007 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The first time is printed with a raised H and a raised M; *51* and *59* stand in the minutes position, with no hour figure, and are given as minutes. The values, printed without unit marks, are given as degrees and minutes. The label *Dist. inter ♄ et extr. / alæ Peg.* runs over two lines, each line with its own time and value, and is given whole on the first row.

1008 "Time", "Reading" and "Value" are this edition's heads. The label runs over two lines, the time on the first and the value on the second after *inter nubes*, and is given on one row. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes.

Time	Reading	Value
		22° 37½′ twice [bis]
9½^{h}	Between ♄ and the far end of the wing of Pegasus [Inter ♄ & extrem.] [alæ Pegaſi]	40° 45′ twice [bis]
		40° 45⅙′
9⅔^{h}	Declination of ♄, north [♄ Declin. Bor.]	12° 53′
	Repeated [Repetita]	12° 53¼′

1009

On 15 November, P. M. [DIE 15 NOUEMBRIS P. M.]

Time	Reading	Value
8^{h} 18^{m}	P. M. Between ♄ and the eye of ♉ by the old sextant [P. M. Inter ♄ &] [oculum ♉ per] [Sext. vet.]	22° 55¼′
8^{h} 20^{m}		22° 55⅙′
8^{h} 22^{m}		22° 55¼′
8^{h} 25^{m}	Between ♄ and the far end of the wing of Pegasus [Inter ♄ & extr.] [alæ Peg.]	40° 29′
		40° 28⅚′
8^{h} 32^{m}	Declination of ♄, north [♄ Decl. Bor.], with one [vno]	12° 48′
	with the other [altero]	12° 49′

1010

On 16 November [DIE 16 NOUEMBRIS.]

Time	Reading	Value
5^{h} 32^{m}	Between ♄ and the far end of the wing of Pegasus [Inter ♄ et] [extr. alæ Peg.]	40° 24′ twice [bis]
5^{h} 38^{m}	Between ♄ and the northern horn of ♉ [Inter ♄ et] [bor. cornu ♉]	32° 18½′
		32° 18¾′

1011

1009 "Time", "Reading" and "Value" are this edition's heads. The first time is printed *H. 9¼*; *9½* and *9⅔*, printed without unit marks, are given as hours. The values are given as degrees and minutes; *Bor.* is given as "north". The labels *Inter ♄ & / oculum ♉* and *Inter ♄ & extrem. / alæ Pegaſi* each run over two lines and are each given whole on their first row.

1010 "Time", "Reading" and "Value" are this edition's heads. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *Bor.* is given as "north". The labels *P. M. Inter ♄ & / oculum ♉ per / Sext. vet.* and *Inter ♄ & extr. / alæ Peg.* each run over more than one line and are each given whole on their first row. *vno* stands before the value column, *altero* on the next line with no time.

1011 "Time", "Reading" and "Value" are this edition's heads. Each label runs over two lines, the time on the first and the value on the second, and is given on one row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

On 24 November [DIE 24 NOUEMBRIS.]

Time	Reading	Value
$6\frac{1}{4}^{h}$ [H. 6¼]	Between ♄ and the far end of the wing of Pegasus by the old sextant [Inter ♄] [et extr. Alæ Peg.] [per Sext. vet.]	39° 55′
		39° 54⅚′ twice [bis]
$6\frac{1}{3}^{h}$	Between ♄ and the eye of ♉ [Inter ♄ et ocul. ♉]	23° 32′ twice [bis]
	Declination of ♄, north [Decl. ♄ Bor.]	12° 37′

1012

Places of Saturn[1] [LOCA SATURNI[1].]

Investigation of the place of ♄ from the observations made on 9 January, when [it] was around the contact of the epicycle of commutation, in ascending to the apogee of the same. [Inueſtigatio loci ♄ ex obſeruationibus die 9 Januarij habitis cum circa contactum Epicycli commutationis eßet aſcendendo ad apogæum eiuſdem.]

Time	Reading	Value
$9^{h}\ 42^{m}$ [H. 9 M. 42]	Distance of ♄ from the northern horn of ♉ [Diſt. ♄] [a boreali cornu ♉]	51° 10½′
	Declination of ♄ [Declin. ♄]	7° 51′ north [7 51 B.]
	Declination of the northern horn of ♉ [Declin. bor. corn. ♉]	28° 10′
	Right ascension of the same [Aſc. R. eiuſdem]	75° 4′
	From this, the right ascension of ♄ [Hinc Aſc. R. ♄]	25° 9′ 40″
$10^{h}\ 2^{m}$ [H. 10 M. 2]	Equatorial distance of ♄ from the heart of ♌ [Diſt. æquat. ♄] [a corde ♌]	121° 22′ 30″
	Right ascension of the heart of ♌ [Aſc. R. cord. ♌]	146° 33′ 40″
	From this, the right ascension of ♄ [Hinc Aſc. R. ♄]	25° 11′ 10″

1013

[1012] "Time", "Reading" and "Value" are this edition's heads. The first time is printed *H. 6¼*; *6⅓*, printed without unit marks, is given as hours. The values are given as degrees and minutes; *Bor.* is given as "north". The label *Inter* ♄ */ et extr. Alæ Peg. / per Sext. vet.* runs over three lines, the time on the first line and the values on the second and third, and is given whole on the first row.

[1013] "Time", "Reading" and "Value" are this edition's heads. The heading, the paragraph and all lines below it are set in roman. The first value is printed with a degree sign and a raised mark; *25 9 40″* with a raised mark after 40 only; the other values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures); *B.* is given as "north". The labels *Diſt.* ♄ */ a boreali cornu* ♉ and *Diſt. æquat.* ♄ */ a corde* ♌ each run over two lines, the time on the first and the value on the second, and are each given on one row.

Reading	Value
Therefore, at hour 10 according to equal time, set the right ascension of ♄ at [Pone igitur Hora 10 iuxta] [æquale tempus] [Aſcenſionem Rectam ♄]	25° 10′ 30″
Declination [Declin.]	7° 51′ north [7 51B.]

1014

Reading	Value
Corresponding longitude [Reſp. Longitudo]	26° 9⅓′ ♈
Latitude [Latitudo]	2° 27′ 45″ south [2 27 45M.]

1015

On 14 January [DIE 14 JANUARIJ.]

Reading	Value
Right ascension of ♄, $4\frac{5}{6}^{h}$ [Aſc. recta ♄ H. 4⅚]	25° 18′ 40″
Declination [Declinatio]	7° 56½′ north [7 56½ B.]
Corresponding longitude [Reſp. Longitudo]	26° 20⅚′ ♈
Latitude [Latitudo]	2° 25′ 35″

1016

Afterwards, with the calculation repeated and the fixed [stars] assumed from the true places, the place of ♄ comes out as follows. [Poſtea replicato calculo et ſuppoſitis Fixis ex veris locis prodit locus ♄ vt ſequitur.]

Time	Reading	Value
$5^{h}\ 50^{m}$ [H. 5 M. 50]	Distance of ♄ from Aldebaran [Diſt. ♄] [ab Aldebora]	37° 41¾′
	Declination of ♄ [Declin. ♄]	7° 56½′ north [7 56½ B.]
	Declination of Aldebaran [Declin. Aldeb.]	15° 36½′

1014 "Reading" and "Value" are this edition's heads. *Pone igitur Hora 10 iuxta / æquale tempus* is centred over two lines, and *Aſcenſionem Rectam* ♄ stands on the third line before the value. The values, printed without unit marks, are given as degrees, minutes and seconds (three figures) or degrees and minutes (two); *B.* is given as "north".

1015 "Reading" and "Value" are this edition's heads. These two lines stand at the head of the right column. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures); M. after the latitude is given as "south".

1016 "Reading" and "Value" are this edition's heads. The first value is printed with degree, minute and second marks; the others, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures); *B.* is given as "north". No direction is printed after the latitude.

1017

Reading	Value
BA	82° 3½′
CA	74° 23½′
BC	37° 41′ 45″
BAC	37° 45′ 20″

1018

[1] From codex V. [E codice V.]

Time	Reading	Value
	Right ascension of Aldebaran [Aſc. R. Aldeb.]	63° 4′ 40″
	Therefore the right ascension of ♄ [Ergo Aſc. R. ♄]	25° 19′ 20″
5^h 0^m [H. 5 M. 0]	Right ascension of ♀ from the bright [star] of ♈ [Aſc. R. ♀] [a lucida ♈]	346° 28¼′
4^h 50^m [H. 4 M. 50]	Angle of the difference of ascension between ♀ and ♄ [Angulus diff.] [aſcenſ. inter ♀ et ♄]	38° 52′
	Therefore, from this, the right ascension of ♄ [Ergo hinc Aſc. R. ♄]	25° 20′ 15″

1019

Thus the right ascension of ♄, limited at $5⅓^h$, is set at 25° 19′ 45″. Declination 7° 56½′ north. [Itaque H. 5⅓ limitata Aſc. R. ♄ ponitur 25° 19′ 45″. Declin. 7° 56½′ B.]

Reading	Value
Corresponding longitude [Reſp. Longitudo]	26° 21′ 20″ ♈

1020

Retain [the one] from Aldebaran. [Retine ab Aldebora.]

1017 "Time", "Reading" and "Value" are this edition's heads. The label *Diſt.* ♄ / *ab Aldebora* runs over two lines, the time on the first and the value on the second, and is given on one row. The first value is printed with a degree sign and a raised mark; the others, printed without unit marks, are given as degrees and minutes; *B.* is given as "north".

1018 "Reading" and "Value" are this edition's heads. These four lines are set in the middle of the column; the letters stand before the values, as printed. No figure carrying these letters stands on this page. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1019 "Time", "Reading" and "Value" are this edition's heads. These lines stand at the head of the left column with no heading or time above them; they are set in roman. The labels *Aſc. R.* ♀ / *a lucida* ♈ and *Angulus diff.* / *aſcenſ. inter* ♀ *et* ♄ each run over two lines, the time on the first and the value on the second, and are each given whole on one row. The first value is printed with a raised double mark after *40*; the others, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1020 "Reading" and "Value" are this edition's heads.

Investigation of the right ascension of ♄ from the observations of 5 February, for ☿ stationary. [Inquiſitio Aſcenſionis rectæ ♄ ex obſeruationibus diei 5 Februarij pro ☿ ſtationaria.]

Time	Reading	Value
7½ʰ [H. 7½]	Distance of ♄ from the bright [star] of the eye of ♉ [Diſt. ♄ a lucida oculi ♉]	36° 13½′
	Declination of ♄ [Declin. ♄]	8° 34½′
	Declination of Aldebaran [Declin. Aldeb.]	15° 36½′
	Angle of the difference of ascension [Angulus diff. aſcenſ.]	36° 23¾′
	Right ascension of Aldebaran [Aſc. R. Aldeb.]	63° 4′ 45″
	Therefore the right ascension of ♄ [Ergo Aſc. R. ♄]	26° 41′ 0″

1021

Computation of the place of ♄ for the day 18 August, when [it] was stationary. [Supputatio loci ♄ ad diem 18 Auguſti cum ſtationarius eßet.]

Time	Reading	Value
3$\frac{1}{12}$ʰ A. M. [H. 3$\frac{1}{12}$ A. M.]	Distance of ♄ from Aldebaran [Diſt. ♄] [ab Aldebora]	17° 57¼′
	Declination of ♄ [Declin. ♄]	14° 25½′
	Declination of Aldebaran [Declin. Aldeb.]	15° 37′
	Its right ascension [Aſc. R. eius]	63° 5′ 20″
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	18° 33′ 0″ at least [ad minimum]
	Therefore, from this, the right ascension of ♄ [Ergo hinc Aſc. R. ♄]	44° 32′ 20″
3⅙ʰ [H. 3⅙]	Distance of ♄ from the bright [star] of ♈ [Diſt. ♄ a luc. ♈]	18° 58¼′
	Right ascension of the bright [star] of ♈ [Aſc. R. luc. ♈]	26° 2′
	Declination of the bright [star] of ♈ [Declin. luc. ♈]	21° 29′
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	18° 32⅓′
	Therefore, from this, the right ascension of ♄ [Ergo hinc Aſc. R. ♄]	44° 34½′
	Right ascension of ♄, limited to 3ʰ [Aſc. R. ♄ limitata] [ad H. 3]	44° 33′
	Corresponding longitude [Reſp. Longitudo]	16° 18½′ ♉
	Latitude [Latitudo]	2° 26′
	Or set the distance of ♄ from Aldebaran and from the bright [star] of ♈ at [Vel pone diſtantiam ♄] [ab Ald. et a luc. ♈]	17° 57′
		18° 59′
	From these the longitude of ♄ comes out [Prodit ex his longitudo ♄]	16° 19⅓′ ♉

1021 "Time", "Reading" and "Value" are this edition's heads. The time is printed *H. 7½*. The first value is printed with a degree sign and a raised mark, *63 4 45″* with a raised double mark after 45 only; the others, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1022

If you have used the bright [star] of ♈ alone, as one which [was] less entangled in the rays of ☾ while observing, there comes out from the right ascension 44° 34½′ the longitude of ♄ 16° 19′ 50″ ♉. [Si ſola lucida ♈ uſus fueris vtpote quæ minus radijs ☾ inter obſeruandum implicata, prouenit ex Aſc. R. 44 34½ Longit. ♄ 16° 19′ 50″ ♉.]

Investigation of the apparent motions of ♄ from the observations of this year, when [it] was acronychal around the opposite [point] of the ☉. [Inquiſitio motuum apparentium ♄ ex obſeruationibus huius anni cum acronychius eßet circa ☉$^{\text{l}}_{\text{i}}{}^{\text{s}}$ oppoſitum.]

On 22 October [DIE 22 OCTOBRIS.]

Time	Reading	Value
10^{h} 48^{m} [H. 10 M. 48]	Distance of ♄ from [Diſt. ♄ ab] the far end of the wing of Pegasus [extr. alæ Peg.]	42° 14′
10^{h} 55^{m}	Aldebaran [Aldebora]	21° 3½′
11^{h} 12^{m}	the bright [star] of ♈ [Lucida ♈]	16° 47½′

1023

Declination of ♄, north, 13° 21′. [Declin. ♄ B. 13° 21′]

Reading	Value
Right ascension [Aſc. R.] of the far end of the wing [extr. alæ]	358° 1′ 40″
of Aldebaran [Aldeb.]	63° 5¼′
of the bright [star] of ♈ [Lucid. ♈]	26° 2′
Declination [Declin.] of the far end of the wing of Pegasus [extr. alæ Peg.]	12° 53½′ north [12 53½ B.]
of Aldebaran [Aldeb.]	15° 37′
of the bright [star] of ♈ [Lucid. ♈]	21° 29′

1022 "Time", "Reading" and "Value" are this edition's heads. The first time is printed *H. 3 1/12 A. M.*, the second *H. 3⅙*. The first value is printed with a degree sign and a raised mark, *63 5 20″* with a raised double mark after 20 only; the others, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). *ad minimum* stands on a line of its own under the value of the row above it. The labels *Diſt. ♄ / ab Aldebora* and *Aſc. R. ♄ limitata / ad H. 3* each run over two lines, the value on the second, and are each given on one row; *Vel pone diſtantiam ♄ / ab Ald. et a luc. ♈* runs over two lines, each with its own value, and is given whole on the first row. In the reckoning from the bright [star] of ♈ the right ascension 26 2 and the angle 18 32⅓ add to 44° 34⅓′, while the right ascension of ♄ is printed 44 34½ (here and in the sentence below); the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

1023 "Time", "Reading" and "Value" are this edition's heads. The label *Diſt. / ♄ / ab* is set once, over three lines, between the three times and the three star names, and is given on the first row; it applies to all three rows. The times, printed without unit marks after the first, are given as hours and minutes; the first value is printed with a degree sign and a raised mark, the others, printed without unit marks, are given as degrees and minutes.

1024

Diagram. A line figure in the right column. From the point A at the top, four arcs run down to a horizontal base line: the outer left arc to the left end of the base, the outer right arc to the right end, and two inner arcs, each bowing outward and returning toward the base, which they meet apart. A horizontal line runs from the outer left arc to the right inner arc; a straight line runs from the left inner arc down to the same point on the right inner arc; a straight line runs from that point up to the outer right arc.

- A (above the apex): A
- D (left of the left inner arc, at the start of the slanting line): D
- B (right of the outer right arc, at the end of the other slanting line): B
- E (left of the outer left arc, at the start of the horizontal line): E
- C (below the point where the horizontal line and the slanting lines meet the right inner arc): C

Reading	Value
EA	77° 6½′
CA	76° 39′
EC	42° 14′
EAC	43° 25′ 7″
	358° 1′ 40″
Right ascension [Afc. R.]	41° 26′ 47″

Reading	Value
DA	68° 32′
CA	76° 39′
DC	16° 47½′
DAC	15° 25′ 2″
	26° 2′
	41° 27′ 2″

1025

Reading	Value
BA	74° 23′

[1024] "Reading" and "Value" are this edition's heads. *Afc. R.* and *Declin.* are each set once, before three lines joined to them, and each is given on the first row of its group; it applies to all three rows of the group. The first value is printed with a raised double mark after *40*; the others, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures); *B.* is given as "north".

[1025] "Reading" and "Value" are this edition's heads. These two blocks stand side by side, the *EA* block on the left and the *DA* block on the right; the letters stand before the values, as printed. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

Reading	Value
CA	76° 39′
BC	21° 3½′

Reading	Value
BAC	21° 38′
	63° 5′ 15″
	41° 27′ 15″

1026

Time	Reading	Value
11^{h} 0^{m} [H. 11 M. 0]	Therefore the right ascension of ♄, limited [Ergo] [Aſc. R. ♄ limit.]	41° 27′ 0″
	Declination of ♄ [Declin. ♄]	13° 21′ north [13 21 B.]
	Longitude [Longitudo]	13° 7′ 4″ ♉
	Latitude [Latitudo]	2° 36′ 0″ south [2 36 0M.]

1027

Reading	Value
With respect to the following day, [it] can be [Reſpectu ſequentis diei] [poteſt eſſe]	*13° 6′ 30″*
From this subtract 12 for ☌ [Hinc auſer 12 pro ☌]	*12′*
	12° 54′ 30″

1028

On 23 October [DIE 23 OCTOBRIS.]

1026 "Reading" and "Value" are this edition's heads. These two blocks stand side by side, the *BA* block on the left and the *BAC* block on the right. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1027 "Time", "Reading" and "Value" are this edition's heads. *Ergo* stands before the time on its line. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures); *B.* is given as "north" and M. as "south".

1028 "Reading" and "Value" are this edition's heads. The three lines above the rule (*Reſpectu ſequentis diei / poteſt eſſe*, *Hinc auſer 12 pro ☌*) and their values are set in italic, the last value in roman. The lone figure *12*, printed without unit marks, is given as minutes; the other values are given as degrees, minutes and seconds.

Time	Reading	Value
8^{h} 50^{m} [H. 8 M. 50]	Distance of ♄ from the far end of the wing of Pegasus [Diſt. ♄ ab extr. alæ Peg.]	42° 9⅓′
	Declination of ♄ [Declin. ♄]	13° 19⅔′ north [13 19⅔ B.]
		by proportion from the preceding day [ex proportione a] [præcedente die]

1029

Reading	Value
EA	77° 6½′
CA	76° 40⅓′
EC	42° 9′ 20″
EAC	43° 20′ 15″
	358° 1′ 40″
	41° 21′ 55″

Reading	Value
Therefore the right ascension of ♄ [Ergo Aſc. R. ♄]	41° 21′ 55″
Corresponding longitude of ♄ [Reſp. ♄ Longitudo]	13° 1⅗′ ♉
Latitude [Latitudo]	2° 35¾′ south [2 35¾ M.]

1030

Therefore, with the place assumed which we found from the observations on 22 October, ♄ was found in ♌ with the simple [motion] of the ☉ in the month of October, on day 24, 20^{h} 30^{m} P. M., in 12° 54¾′ ♉. [Suppoſito itaque loco quem ex obſeruationibus die 22 Octob. adinuenimus, comperiebatur ♄ in ♌ cum ſimplici ☉$^{\text{li}^{\text{s}}}$ Menſis Octob. Die 24 H. 20 M. 30 P. M. in 12° 54¾′ ♉.]

For this time, however, the calculation has [Ad hoc autem tempus habet] [calculus]

Reading	Value
Copernican [Copernic.]	12° 50′ ♉
Alphonsine [Alphonſ.]	15° 36′ ♉

1029 "Time", "Reading" and "Value" are this edition's heads. The first value is printed with a degree sign and a raised mark; the declination, printed without unit marks, is given as degrees and minutes; *B.* is given as "north". *ex proportione a / præcedente die* stands over two lines under the declination value.

1030 "Reading" and "Value" are this edition's heads. The *EA* block stands at the left; the three lines *Ergo Aſc. R.* ♄, *Reſp.* ♄ *Longitudo* and *Latitudo* stand beside its third to fifth lines. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures); *M.* after the latitude is given as "south".

1031

The diurnal motion of ♄ was found in Tab.: 5′ 8″. [♄ motus diurnus inuentus eſt in Tab. 5′ 8″]

Reading	Value
If we take into consideration the immediately preceding day, namely 23 October, there come, for the time of ☌ on the following day, to be subtracted, exactly 7½′. The longitude of ♄ in ☌ ☉ would therefore be in [Si diem proxime antecedentem videlicet 23 Octobris in conſilium adhibemus, veniunt pro tempore ☌ ſequenti die ſubtrahenda exacte 7½ minuta. Foret itaque longitudo ♄ in ☌ ☉ in]	*12° 54′ 10″* ♉
Take the mean of both [Accipe medium vtriusque]	*12° 54′ 30″*

1032

On 3 November [DIE 3 NOUEMBRIS.]

Time	Reading	Value
8^{h} 28^{m} [H. 8 M. 28]	Distance of ♄ from Aldebaran [Diſt. ♄ ab Aldebora]	22° 1′
	Declination of ♄ [Declin. ♄]	13° 3′ north [13 3 B.]
		found by proportion [per proportionem] [inuenta]

1033

Reading	Value
BA	74° 23′
CA	76° 57′
BC	22° 1′
BAC	22° 27′ 40″
	63° 5′ 15″
	40° 37′ 42″

1031 "Reading" and "Value" are this edition's heads. *calculus* is set once before the two lines, joined to both. The values, printed without unit marks, are given as degrees and minutes.

1032 "Reading" and "Value" are this edition's heads. The paragraph and the line below it are set in italic, values included; the two values stand at the right of the last line of the paragraph and of the line below it. The values, printed without unit marks, are given as degrees, minutes and seconds. The page does not name the two quantities of which the mean is taken: the mean of 12 54 10 and 12° 54¾′ (above) is 12° 54′ 27½″, and of 12 54 10 and 12 54 30 (at the foot of the right column of the preceding page) 12° 54′ 20″, while the mean is printed 12 54 30; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

1033 "Time", "Reading" and "Value" are this edition's heads. The first value is printed with a degree sign and a raised mark; the declination, printed without unit marks, is given as degrees and minutes; *B.* is given as "north". *per proportionem* / *inuenta* stands over two lines under the declination value.

Reading	Value
Therefore the right ascension of ♄ [Ergo Aſc. R. ♄]	40° 37′ 40″
Corresponding longitude [Reſp. Longitudo]	12° 14¾′ ♉
Latitude [Latitudo]	2° 38′ 35″

1034

On 11 November [DIE 11 NOUEMBRIS.]

Time	Reading	Value
9^{h} 15^{m} [H. 9 M. 15]	Distance of ♄ from Aldebaran [Diſt. ♄ ab Aldebora]	22° 37′ 45″
	Distance of ♄ from the far end of the wing of Pegasus [Diſt. ♄ ab extr. alæ Peg.]	40° 45′
9^{h} 20^{m} [H. 9 M. 20]	Therefore the right ascension of ♄, limited [Ergo] [Aſc. R. ♄ limitata]	39° 53′ 30″
	Declination of ♄ [Declin. ♄]	12° 53½′
	Corresponding longitude [Reſp. Longitudo]	11° 31′ 40″ ♉
	Latitude [Latitudo]	2° 34′ 32″

1035

Reading	Value
BA	74° 23′
CA	77° 6½′
BC	22° 37′ 45″
BAC	23° 11′
	63° 5′ 15″
	39° 54′ 15″

Reading	Value
EA	77° 6½′
CA	77° 6½′

1034 "Reading" and "Value" are this edition's heads. The *BA* block stands at the left; the three lines *Ergo Aſc. R.* ♄, *Reſp. Longitudo* and *Latitudo* stand beside its third to fifth lines. *40 37 40″* is printed with a raised mark after 40 only; the other values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). No direction is printed after the latitude. In the block, 63 5 15 less BAC 22 27 40 gives 40° 37′ 35″, while the result under the rule is printed 40 37 42 and the right ascension of ♄ beside it 40 37 40″; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

1035 "Time", "Reading" and "Value" are this edition's heads. *Ergo* stands before the time on its line. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). No direction is printed after the declination or the latitude.

Reading	Value
EC	40° 45′
EAC	41° 51′ 5″
	358° 1′ 40″
	39° 52′ 45″

1036

Observations of Jupiter [OBSERUATIONES IOUIS.]

On 6 January [DIE 6 JANUARIJ.]

Time	Aldebaran, west [Aldeb.] [occid.]	♃, east [♃] [orient.]	Equatorial distance [Dift.] [æquat.]
$10^h\ 20½^m$	31° 53′	3° 57′	35° 50′
$10^h\ 22¾^m$	32° 30′	3° 21′	35° 51′
$10^h\ 23⅚^m$	32° 48′	3° 2½′	35° 50½′
$10^h\ 27½^m$	33° 41½′	2° 9½′	35° 51′

1037

Time	Reading	Value
$10^h\ 33½^m$	Declination of ♃, with one pinnule [Declin. ♃ vno pinn.]	23° 24′
	with the other pinnule [altero pinnac.]	23° 24¼′
$10^h\ 35^m\ 55^s$	♃ passed through the meridian at an altitude, by the revolving [quadrant], of [Tranſiuit ♃ per Mer.] [in Alt. per volub.]	57° 29¾′
	by the Tychonic quadrant, with the new [per Q. Tychonicum,] [nouo]	57° 30′
	with the old [vet.]	57° 30¼′

1038

Afterwards from the heart of ♌ by the greater armillae. [Poſtea a corde ♌ per Armillas maiores.]

1036 "Reading" and "Value" are this edition's heads. These two blocks stand side by side, the *BA* block on the left and the *EA* block on the right. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1037 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1038 "Time", "Reading" and "Value" are this edition's heads. *Tranſiuit* ♃ *per Mer.* stands on the line of the time and *in Alt. per volub.* on the next line, with the value; *per Q. Tychonicum,* stands on a line of its own and *nouo* on the next line, with the value; each pair is given on one row. The times, printed without unit marks, are given as hours and minutes, or hours, minutes and seconds (three figures); the values as degrees and minutes.

Time	The heart of ♌, east [Cor ♌ or.]	☿, east [☿ orient.]	Equatorial distance [Diſt. æquat.]
10^h $45^{2}/_{3}{}^m$	45° 5½′	2° 26½′	47° 32′
10^h $47^{2}/_{3}{}^m$	44° 37′	2° 55½′	47° 32½′
10^h $49^{2}/_{3}{}^m$	44° 7¼′	3° 25¾′	47° 33′
10^h $51½^m$	43° 36′	3° 56½′	47° 32½′

1039

Therefore set the equatorial distance of ☿ from the heart of ♌ at 47° 32½′ without perceptible error. [Pone itaque diſtantiam æquatoriam ☿ a corde ♌ P. 47 32½ ſine ſenſibili errore.][1040]

On 9 January, P. M. *[DIE 9 JANUARIJ P. M.]*

☿ *was observed when [it] was near the meridian.* [Obſeruabatur ☿ cum vicinus eßet meridiano.]

Time	Reading	Value
10^h 24^m	*Declination of* ☿ *by the greater armillae* [Declin. ☿] [per Armill. maior.]	*23° 26′*
	with the other pinnule [alt. pinnac.]	*23° 25½′*
10^h 27^m	*The star* ☿ *passed through the meridian, having an altitude by the revolving quadrant of* [Tranſiuit ☿ ſtella per Meridianum habens Alt.] [per Quad. Volubil.]	*57° 31′*

1041

On 10 January, A. M. [DIE 10 JANUARIJ A. M.]

Time	Reading	Value
2^h 59^m	Declination of ☿, north [Declin. ☿ Bor.]	23° 26′

1042

[1039] "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each on one line. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1040] *P.* before *47* is given as the degree sign; *32½*, printed without a unit mark, as minutes.

[1041] "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic, values included. *Declin.* ☿ stands on the line of the time and *per Armill. maior.* on the next line, with the value; *Tranſiuit* ☿ *ſtella per Me-/ridianum habens Alt.* runs over two lines, divided within *Meridianum*, and *per Quad. Volubil.* stands on a third line, with the value; each is given on one row. The times, printed without unit marks, are given as hours and minutes, or hours, minutes and seconds (three figures); the values as degrees and minutes.

[1042] "Time", "Reading" and "Value" are this edition's heads. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes; *Bor.* is given as "north".

Time	♃, west [♃] [occid.]	The heart of ♌, west [Cor ♌] [occid.]	Equatorial distance [Dift.] [æquat.]	Altitude of ♃ [Altit.] [♃]
$3^h\ 3½^m$	69° 5′	21° 5¼′	47° 59¾′	31½°
$3^h\ 5^m\ 9^s$	69° 29¼′	21° 29¾′	47° 59½′	
$3^h\ 7^m\ 40^s$	70° 6½′	22° 7½′	47° 59′	30¼°
$3^h\ 10^m\ 0^s$	70° 42¾′	22° 42½′	48° 0¼′	

1043

Set the equatorial distance of ♃ from the heart of ♌, about 3 P. M. N., at 47° 59½′. [Pone diſtantiam æquatoriam ♃ a corde ♌ circa 3 P. M. N. 47 59½]1044

On 14 January, P. M. *[DIE 14 JANUARIJ P. M.]*

After supper ♃ *was observed before the meridian, in this way.* [Poſt cœnam obſerua-batur ♃ antemeridianus in hunc modum.]

Time	Reading	Value
$7^h\ 54^m$	*Between* ♃ *and Aldebaran, by the old sextant* [Inter ♃ & Aldeb.] [per Sext. veter.]	*33° 42⅓′*
$8^h\ 0^m$		*33° 42½′*
$8^h\ 3½^m$		*33° 42½′*
$8^h\ 5⅓^m$		*33° 42⅓′*

1045

Afterwards the distance of ♃ *from the lower head of* ♊ *was taken in this manner, which follows.* [Poſtea accipiebatur ♃ diſtantia ab inferiori capite ♊ in hunc qui ſequitur modum.]

Time	Reading	Value
$8^h\ 9^m$	*Between* ♃ *and the lower head of* ♊ [Inter ♃ & infer. cap. ♊]	*12° 5′*
	Repeated [Repetita]	*12° 4½′*
	The same [Eadem]	*12° 4′*
	Declination of ♃*, north, by the armillae, with both pinnules* [Decl. ♃ Bor. per Arm.] [vtroque pinnac.]	*23° 27′*
$10^h\ 5^m\ 50^s$	♃ passed the meridian at an altitude of [tranſiuit ♃ Merid.] [in Alt.]	57° 33¾′

1043 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. The times, printed without unit marks, are given as hours and minutes (two figures) or hours, minutes and seconds (three figures); the values as degrees and minutes; the two altitudes, each a single figure with a fraction, as degrees.

1044 The value, printed without unit marks, is given as degrees and minutes. No point is printed after the value.

1045 "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic, values included. The label runs over two lines: *Inter* ♃ *& Aldeb.* on the line of *7 54*, *per Sext. veter.* on the line of *8 0*; it is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1046

On 15 January, A. M. [DIE 15 JANUARIJ, A. M.]

☌ was observed on account of refraction from the southern head of ♊. [☌ obſeruabatur ob Refractionem a Mer. cap. ♊.]

Time	Reading	Value	Altitude
6^h $16\frac{5}{6}^m$	☌ and the lower head of ♊, distance [☌ & inf.] [Cap. ♊ Diſt.]	11° 45½′	altitude of ☌ [☌ Altit.] 3° 0′
	Declination of ☌ [☌ Declin.]	23° 43½′	
6^h $20\frac{1}{6}^m$	☌ and the lower head of ♊ [☌ et inf.] [♊ cap.]	11° 44′	2° 40′
	Declination of ☌ [☌ Declin.]	23° 44′	

1047

[It] should then have been 12° 7′ and 23° 27′; therefore the refraction of the distance [was] 22½′ and of the declination 16½′. N. B. Around the solstice [there is] greater refraction than around the equinoxes. [Debuit tunc eße 12 7 & 23 27, ergo refractio diſtantiæ M. 22½ et declinationis M. 16½. N. B. Circa ſolſtitium maior refractio quam circa æquinoctia.][1048]

After noon *[Poſt Meridiem]*

Time	Reading	Value	Remark
4^h 2^m	*Declination* [Declin.]	*23° 29′*	*altitude about 20°* [Altitudo 20 quaſi]
4^h $27\frac{1}{2}^m$		*23° 29′*	
	with the other [alt.]	*23° 28½′*	

[1046] "Time", "Reading" and "Value" are this edition's heads. The rows to *vtroque pinnac.* are set in italic, values included; the last row is roman. *Decl.* ☌ *Bor. per Arm.* stands on a line of its own and *vtroque pinnac.* on the next line, with the value; *tranſiuit* ☌ *Merid.* stands on the line of the time and *in Alt.* on the next line, with the value; each pair is given on one row. The times, printed without unit marks, are given as hours and minutes, or hours, minutes and seconds (three figures); the values as degrees and minutes; *Bor.* is given as "north".

[1047] "Time", "Reading", "Value" and "Altitude" are this edition's heads. Each time's label runs over two lines — ☌ *&* *inf.* / *Cap.* ♊ *Diſt.* and ☌ *et inf.* / ♊ *cap.* — with the value on the second line; each is given whole on one row. A comma is printed after *11 45½*, and ☌ *Altit. 3 0* follows it on the same line; *2 40* stands under *3 0* and is given as an altitude by its position in that column. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1048] This paragraph is set in italic, figures included. *12 7* and *23 27*, printed without unit marks, are given as degrees and minutes; *M.* before *22½* and *16½* is given as the minute sign. The two distances observed above, 11 45½ and 11 44, fall short of 12 7 by 21½′ and 23′, while the refraction of the distance is printed 22½′ (the 22½ confirmed on a native-resolution crop); the figures are given as printed, and no correction is made.

1049

Time	Reading	Value	Remark
$6^h\ 1½^m$	Distance of ♃ and Aldebaran, by the sextant △ [Diſt. ♃ & Aldeb.] [per Sext. △]	33° 37½′	
$6^h\ 3^m$		33° 37¾′	
$6^h\ 4^m$		33° 37½′	
$6^h\ 7^m$	Declination [Decl.]	23° 27¼′	Altitude of ♃ [Alt. ♃] 37° 20′
	with the other [altero]	23° 27½′	
$6^h\ 12^m$	♃ and the lower head of ♊, by the sextant △ [♃ et infer. cap. ♊] [per Sext. △]	12° 7¼′	
$6^h\ 13^m$		12° 7¼′	

1050

The altitude of ♃ was then 37½°. [Tunc fuit Alt. ♃ 37½ grad.]

Time	♃, east [♃] [orient.]	The eye of ♉, east [Oculus ♉] [or.]	Equatorial distance [Diſt.] [æquat.]	Altitude of ♃ [Altit.] [♃]	Remark
$6^h\ 17^m$	18♑ 53½′	21° 10′	34° 43½′	38° 20′	this [one] less certain [hæc minus certa]
$6^h\ 19^m$	25♑ 23½′	20° 37′	34° 46½′	38° 30′	
$6^h\ 20^m$	5♒ 0′	20° 14′	34° 46′	38° 40′	
$6^h\ 21^m$	5♒ 46½′	20° 0¼′	34° 46¼′		
$6^h\ 22^m$	5♒ 30′	19° 43⅙′	34° 46⅚′	39° 0′	

1051

Time	Reading	Value	Remark
$10^h\ 0^m$	♃ passed through the meridian and had an altitude by the revolving [quadrant] of [Tranſiuit ♃ per Meridianum] [et habuit Alt. per volub.]	57° 35′	*less certain* [minus certa]
	by the mural [quadrant] [per Muralem]	57° 33½′	

1049 "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in italic, values included. *Altitudo 20 quaſi* stands at the right of the first line; *20*, printed without a unit mark, is given as degrees. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1050 "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in roman. Each two-line label — *Diſt. ♃ & Aldeb. / per Sext.* △ and ♃ *et infer. cap.* ♊ */ per Sext.* △ — stands on the lines of two times, each with its value, and is given whole on the first row. *Alt. ♃ 37 20* stands at the right of the line of *6 7*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1051 "Time" and "Remark" are this edition's heads; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. *hæc minus certa*, in smaller type, stands on a line of its own under the first row; a brace joins that line and *34 43½* to *38 20*, which stands between the two lines. The times, printed without unit marks, are given as hours, minutes and seconds, the values and altitudes as degrees and minutes. *grad.* in the line above the table is given as the degree sign.

Time	Reading	Value	Remark
$10^h\ 58^m$	Declination of ♃, north, with one pinnule [Declin. ♃ Bor.] [vno pinn.]	23° 27⅓′	
	with the other [altero]	23° 28′	
$11^h\ 5^m$	Distance between ♃ and the eye of ☿ [Diſt. inter ♃ et ocul. ☿]	33° 35⅔′	among clouds [inter nubes.]

1052

On 16 January, P. M. *[DIE 16 JANUARIJ, P. M.]*

Time	Reading	Value
$4^h\ 13^m$	*Declination of ♃, north, with one* [Declin. ♃ Bor.] [vno]	*23° 29′*
	with the other [altero]	*23° 29⅓′*

The altitude of ♃ was then 21° 30′ approximately. [Fuit tunc altitudo ♃ 21 30 circiter]

Time	Reading	Value
$4^h\ 39^m$	*Declination of ♃* [Decl. ♃]	*23° 28½′*
	with the other pinnule [altero pinnac.]	*23° 29′*

1053

Time	♃, east [♃] [orient.]	♄, west [♄] [occid.]	Equatorial distance [Diſt.] [æquat.]
$5^h\ 47^m$	*62° 18′*	*10° 0′*	*72° 18′*
$5^h\ 50¾^m$	*61° 25½′*	*10° 51¼′*	*72° 16¾′*
$5^h\ 54^m$	*60° 37¾′*	*11° 37½′*	*72° 15¼′*

1054

1052 "Time", "Reading", "Value" and "Remark" are this edition's heads. *Tranſiuit ♃ per Meridianum* stands on the line of the time and *et habuit Alt. per volub.* on the next line, with the value; they are given on one row. A brace joins *57 35* and the line below it, *minus certa* (italic). *per Muralem* is set in italic, its value in roman. *inter nubes.* stands on the line below the last value. The times, printed without unit marks, are given as hours and minutes, or hours, minutes and seconds (three figures); the values as degrees and minutes; *Bor.* is given as "north".

1053 "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic, values included. *Declin. ♃ Bor.* stands on the line of the time, with no value, and *vno* on the next line, with the value; they are given on one row. The times, printed without unit marks, are given as hours and minutes; the values, and the altitude in the line between the tables, as degrees and minutes; *Bor.* is given as "north".

1054 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. The table is set in italic, heads and values included. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[It] was not clear here, but set the equatorial distance at 72° 18′. [Non erat hic ſerenum, ſed pone diſt. æquat. 72 18.][1055]

On 17 January, in the evening [DIE 17 JANUARIJ, VESPERI.]

Time	Reading	Value	Remark
$4^h\ 58^m$	Declination of ☊, north [Decl. ☊ Bor.]	23° 29¾′	Altitude [Altit.] 28¼°
	with the other pinnule [Altero pinnac.]	23° 29′	
$5^h\ 30^m$	*The declination of ☊ was* [Fuit Decl. ☊]	*23° 29′*	
		23° 29½′	

1056

Altitude of ☊ 33° [Altit. ☊ 33 gradus]

Time	☊, east [☊] [orient.]	The eye of ♉, east [Oculus ♉] [or.]	Equatorial distance [Diſt.] [æquat.]
$5^h\ 43^m\ 57^s$	61° 44¼′	27° 10′	34° 34¼′
$5^h\ 55^m\ 10^s$	58° 59½′	24° 24′	34° 35½′

1057

[It] was not clear enough. [Non erat ſatis ſerenum.]

On 24 January, P. M *[DIE 24 JANUARIJ P. M]*

Time	Reading	Value
$4^h\ 33¼^m$	*Declination of ☊, north* [Declin. ☊ Bor.]	*23° 31½′*
	with the other pinnule [altero pinnac.]	*23° 31¼′*
	Altitude of ☊ [Altit. ☊]	*29¼°*
$4^h\ 58^m$	*Declination, with one pinnule* [Decl. vno] [pinnac.]	*23° 31½′*
	with the other [altero]	*23° 31¼′*
	Altitude of ☊ [Alt. ☊]	*32⅔°*

[1055] The value, printed without unit marks, is given as degrees and minutes.

[1056] "Time", "Reading", "Value" and "Remark" are this edition's heads. The first two rows are set in roman, the last two in italic, values included. *Altit. 28¼* stands at the right of the first value; *28¼*, a single figure with a fraction, is given as degrees. *Altero* is printed with a capital A. The second value at *5 30* stands on a line of its own, under the first, with no label. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *Bor.* is given as "north".

[1057] "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. *gradus* in the italic line above the table is given as the degree sign. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

1058

Time	Reading	Value	Remark
5h 21m	*Afterwards ♃ was observed from Aldebaran by the sextant* [Poſtea obſeruabatur ♃ ab Aldeboram per Sextantem]	*32° 46¼′*	*Fairly good observations; and set the distance about this time at 32° 46⅓′* [Satis bonæ obſeruationes et pone diſtant. circa hoc tempus 32 46⅓]
5h 27½m		*32° 46½′*	
5h 29m		*32° 46⅙′*	
5h 32m		*32° 46½′*	
5h 33½m		*32° 46¼′*	
5h 35m		*32° 46½′*	

1059

Afterwards the same ♃ was observed from the lower head of ♊ by the sextant [Poſtea obſeruabatur idem ♃ ab inferiori capite ♊ per Sextantem]

Time	Reading	Value	Altitude [Altit.]
5h 38m	*Between ♃ and the lower head of ♊* [Inter ♃] [et Infer.] [Cap. ♊]	*12° 51′*	*38½°*
5h 40m		*12° 51⅙′*	*39°*
5h 42m		*12° 51¼′*	
5h 48m	*Declination of ♃, north* [Declin. ♃ Bor.]	*23° 31′*	

1060

1058 "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic, values included. *Decl. vno* stands on the line of *4 58*, with no value, and *pinnac.* on the next line, with the value; they are given on one row. The two altitudes, each a single figure with a fraction, are given as degrees. No point is printed after the final *M* of the heading. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *Bor.* is given as "north".

1059 "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in italic, values included. The label runs over five lines — *Poſtea obſer-/uabatur ♃ ab/Aldebo-ram/per Sex-/tantem* — on the lines of the times *5 21* (first line), *5 27½* (fourth) and *5 29* (fifth); it is given whole on the first row. The first value stands on the third line of the label, which carries no time; it is given on the row of *5 21*, the only time above it. The remark is set in smaller type at the right of the values, its lines not level with the rows, and *32 46⅓* below it in the size of the values; it is given once, on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1060 "Time", "Reading" and "Value" are this edition's heads; *Altit.* is printed, in smaller type, over the fourth column on the line of *5 38*. These lines are set in italic, values included, except *Cap.*, which is roman. The label runs over three lines — *Inter ♃* on the line of *5 38*, *et Infer.* on the next line with the first value, *Cap. ♊* on the line of *5 40* — and is given whole on the first row; the first value, on a line with no time, is given on the row of *5 38*. The altitudes, a single figure with or without a fraction, are given as degrees; the times, printed without unit marks, as hours and minutes, the values as degrees and minutes; *Bor.* is given as "north". No point is printed after *Sextantem* in the line above the table.

**On 26 January, P. M.*[1] [DIE 26 JANUARIJ P. M.[1]]*

Time	Reading	Value	Remark
$4^h\ 32^m$	*Declination of* ☋ [Decl. ☋]	*23° 30′*	*altitude of* ☋ *30°* [Alt. ☋ 30]
$4^h\ 53½^m$	*Declination of* ☋ [Decl. ☋]	*23° 31⅔′*	*33½°*
	with the other [altero]	*23° 31⅓′*	*this [one] is better than the preceding [one]* [hæc eſt melior antecedenti.]

Set the true declination at 23° 31½′. [Pone veram decl. 23 31½][1061]

On 27 January[1] *[DIE 27 JANUARIJ[1].]*

Time	Reading	Value	Remark
$4^h\ 56½^m$	*Declination of* ☋, *with one* [Decl. ☋] [vno]	*23° 32′ north* [23 32 B.]	
	with the other [altero]	*23° 32½′*	*good; altitude 34°* [bona Alt. 34]

1062

Time	☋, east [☋ orient.]	The eye of ☿, east [Oculus ☿ or.]	Value
$6^h\ 33^m$	*38° 38½′*	*5° 4¾′*	*33° 33¾′*
$6^h\ 34¾^m$	*38° 14½′*	*4° 41¾′*	*33° 32′ 45″*

1063

Therefore set the equatorial distance at 33° 33′. [Pone itaque diſt. æquat. 33 33]

[1061] "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in italic, values included. *Alt.* ☋ *30* stands at the right of the first value, and *33½* under its *30*; *33½* is given as an altitude by that position. The altitudes, a single figure with or without a fraction, are given as degrees. *hæc eſt melior* stands at the right of the third value and *antecedenti.* at the right of the next line, which begins *Pone veram*; *decl. 23 31½* stands on the line below that. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1062] "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in italic, values included. *Decl.* ☋ stands on the line of the time, with no value, and *vno* on the next line, with the value and *B.*; they are given on one row. *B.* is given as "north"; *34*, a single figure, is given as degrees. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

[1063] "Time" and "Value" are this edition's heads; the page prints heads, in smaller type, over the second and third columns only. The table is set in italic, heads and values included. The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes, or degrees, minutes and seconds (three figures).

Time	Reading	Value
9^h 7½^m	♃ *passed the meridian, and then the bright [star] of* ♈ *was distant towards the west:* [Tranſiuit ♃ Meridianum & tunc diſtabat lucida ♈ verſus occaſum]	*70° 48¼′*
	Altitude of ♃ *in the meridian* [Alt. ♃ in Merid.]	*57° 38⅓′*

1064

[1] Cf. below, among the observations of Venus [Cf. infra inter obſervationes Veneris.]

On 30 January, P.M. *[DIE 30 JANUARIJ P.M.]*

♃ *was observed from Aldebaran* [Obſeruabatur ♃ ab Aldeboram]

Time	*Between* ♃ *and Aldebaran* [Inter ♃ & Aldeb.]	*Declination of* ♃ [Declin.] [♃]	*Altitude of* ♃ [Altit.] [♃]
5^h 14^m		*23° 31¾′*	*39⅙°*
		with the other [alt.] *23° 32½′*	
5^h 52½^m	*32° 22⅙′*	*23° 31 2/[?]′*	*44° 0′*
5^h 54½^m	*32° 22′*	*23° 32′*	*44° 10′*
5^h 56¼^m	*32° 22′*	*23° 31½′*	*44° 25′*

1065

Afterwards ♃ *was observed from the lower head of* ♊, *so that [it] could be had the other way round, by the sextant.* [Poſtea obſeruabatur ♃ ab inferiori capite ♊ vt viceverſa haberi poßet per Sextantem.]

Time	Column 2	Column 3	Column 4
5^h 59^m	*13° 15′*	*23° 31½′*	*44° 35′*
6^h 0^m	*13° 15¼′*	*23° 32′*	*44° 50′*
6^h 2^m	*13° 15¼′*	*23° 31¾′*	*45° 0′*
6^h 3½^m	*13° 15′*	*23° 31¾′*	*45° 10′*

1064 "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic, values included. The first label runs over three lines, divided within *occaſum*, with the time on the first line and the value on the third; it is given on one row. The sign after *lucida* is set in an italic *V*-like form and is given as ♈. The value after *Pone itaque diſt. æquat.*, the time and the values, printed without unit marks, are given as degrees and minutes and as hours and minutes.

1065 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type, each over two lines. These lines are set in italic, heads and values included. The bare lower-case *alt.* stands immediately before a value in the declination column, on a line with no time; it is given as *altero*, "with the other", as that position supports, not as *altitudo*. The denominator of the fraction in *23 31 2/…* at 5 52½ cannot be settled between 3 and 8 on the scan; the numerator is 2. The altitude *39⅙*, a single figure with a fraction, is given as degrees. The times, printed without unit marks, are given as hours and minutes, the other values as degrees and minutes.

1066

By the new sextant, the following. [At] 6^{h} 12^{m}, for the examination of the old sextant, by which all the preceding observations were being taken, the true distance of ☋ and *Aldebaran was observed: 32° 21′. Between* ♄ *and the eye of* ♉*:* [Per Sextantem nouum ſequentia. Hora 6 M. 12 pro examine ſextantis veteris per quem omnes antecedentes obſeruationes capiebantur, obſeruabatur vera diſtantia ☋ et Aldeboram 32 21. Inter ♄ & oculum ♉]

Reading	Value
by the new sextant [per Sext. nouum]	*36° 42′*
the same repeated [repetita eadem]	*36° 41⅚′*

1067

It is therefore clear that the observations by the sextants are correct, since both come almost into one; but you should rather trust the old sextant, since it had been well verified against the fixed [stars] previously. [Patet itaque obſeruationes per Sextantes recte ſe habere, ſiquidem ambo in vnum fere conueniunt, ſed fidas potius ſextanti veteri ſiquidem is fuit bene ad fixas prius verificatus.]

Between Aldebaran and the bright [star] of ♈*, by the new sextant, 35° 32′, which also agrees fairly well, for the sake of experimenting.* [Inter Aldeboram & lucidam ♈ per Sext. nou. 35 32, quod etiam ſatis bene conuenit experimentandi cauſa.][1068]

For the verification of the clock, if it should be needed (for it was running well by itself in these days), it was observed that Aldebaran passed the meridian [at] 6^{h} 39⅚^{m}, having an altitude [Pro verificatione horologij, ſi opus fuerit (nam per ſe bene mouebatur his diebus), obſeruabatur quod Aldeboram tranſiret Meridianum H. 6 M. 39⅚ habens alt.]

Reading	Value
by the revolving [quadrant] [per Volubilem]	*49° 42′*
Tychonic [quadrant] [Tychonicum]	*49° 41⅚′*

[1066]The page prints no heads over these rows; the column heads here are this edition's. The rows stand in the columns headed, above the line *Poſtea obſeruabatur …*, *Inter* ☋ *& Aldeb.*, *Declin.* ☋ and *Altit.* ☋. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1067]"Reading" and "Value" are this edition's heads. These lines are set in italic, except *et* (between ☋ and *Aldeboram*), which is roman. *Hora 6 M. 12* is given as 6^{h} 12^{m}; *32 21* and the two values, printed without unit marks, are given as degrees and minutes.

[1068]The sign after *lucidam* is set in an italic *V*-like form and is given as ♈. *35 32*, printed without unit marks, is given as degrees and minutes.

1069

On 17 February, P. M. [DIE 17 FEBRUARIJ P. M.]

Time	Reading	Value	Remark
5^{h} 58½^{m} [5^{H} 58½′]	Declination of ♃, north [Declin. ♃ B.]	23° 34¾′	altitude 52⅙° [Alt. 52⅙]

1070

Afterwards ♃ *was observed in this way* [Poſtea obſeruabatur ♃ hoc modo]

Time	*The bright [star] of* ♈, *west* [Luc. ♈ occid.]	♃, *east* [♃ orient.]	*Equatorial distance* [Diſt. æquat.]
6^{h} 31½^{m}	51° 59½′	17° 39¼′	69° 38¾′
6^{h} 34^{m}	52° 35′	17° 2½′	69° 37½′
6^{h} 37^{m}	53° 17⅔′	16° 23′	69° 40⅔′
6^{h} 40^{m}	53° 57½′	15° 40¼′	69° 37¾′

1071

Time	The heart of ♌, east [Cor ♌ or.]	♃, east [♃ orient.]	Equatorial distance [Diſt. æquat.]
9^{h} 17^{m} 25^{s}	26° 55½′	23° 47¼′	50° 42¾′
9^{h} 19^{m} 20^{s}	26° 28¾′	24° 15′	50° 43¾′
9^{h} 21^{m} 10^{s}	26° 1¾′	24° 41′	50° 42¾′
9^{h} 23^{m} 55^{s}	25° 22′	25° 21′	50° 43′

1072

1069 "Reading" and "Value" are this edition's heads. These lines are set in italic. The bare lower-case *alt.* at the end of the sentence, followed by the two instrument lines with their values, is given as *altitudo*, "altitude", as that position supports, not as *altero*. *per* is printed once, on the first line; *Tychonicum* stands under *Volubilem*. *H. 6 M. 39⅚* is given as 6^{h} $39⅚^{m}$; the two values, printed without unit marks, are given as degrees and minutes.

1070 "Time", "Reading", "Value" and "Remark" are this edition's heads. This line is set in roman. The time is printed with a raised *H* and a raised mark after *58½*; *B.* is given as "north"; the value, printed without unit marks, as degrees and minutes; the altitude *52⅙*, a single figure with a fraction, as degrees.

1071 "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type. The table is set in italic, heads and values included. The sign in the first head is set in the *V*-like form and is given as ♈. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1072 This table stands at the head of the right column, under no heading. "Time" is this edition's head; the time column carries no head on the page. The other heads are printed in smaller type. The table is set in roman. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

Time	Reading	Value
9h 6½m	*Declination of ♃, north* [Declinatio ♃ Bor.]	*23° 36′*

1073

The clock, at the following noon, from the preceding [one], was moving faster than it should by two minutes. [Horolog. in ſeq. Meridie a præcedente duobus min. celerius juſto mouebatur.]

On 18 February. *[DIE 18 FEBRUARIJ.]*

Time	Reading	Value
6h 25m	*♃ and Aldebaran by the sextant* [♃ & Aldeb. per Sext.]	*31° 44′*
6h 27m		*31° 43½′*
6h 29m		*31° 43¾′*
6h 32m	*Declination of ♃, with one* [Declinatio ♃] [vno]	*23° 35′*
	with the other pinnule [altero pinn.]	*23° 35½′ north* [23 35½B.]

1074

Examination of the observations of ♃ for the place of ♃. [Examinatio obſeruationum ♃] [pro loco ♃.]

On 9 January [DIE 9 JANUARIJ.]

Time	Reading	Value
10h 28m [10H28′]	♃ in the meridian had an altitude of [♃ in Merid. hab. Alt.]	57° 31′ 0″
		34° 5′ 20″
	Declination of ♃, north [Declinatio ♃ B.]	23° 25′ 40″
3h 0m P. M. N. [3 0 P.M.N.]	Difference from the heart of ♌ [diff. a corde ♌]	47° 59½′
	Right ascension of the heart of ♌ [Aſcenſ. R. Cordis ♌]	146° 33′ 45″
	Right ascension of ♃ [Aſcenſ. R. ♃]	98° 34′ 15″
	Declination of ♃, north [Declinatio ♃ Bor.]	23° 26′
	Corresponding longitude [Reſp. Longitudo]	7° 51′ 46″ ♋
	Latitude [Latitudo]	0° 9′ 0″ north [0 9 0B.]

1073 "Time", "Reading" and "Value" are this edition's heads. This line is set in italic (the face of the hour *9* was not separately judged). The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes; *Bor.* is given as "north".

1074 "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic. *vno* stands between *Declinatio* ♃ and the value, on the line of *6 32*; *altero pinn.* stands on the next line, with no time. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1075

On 14 January [DIE 14 JANUARIJ.]

Time	Reading	Value
8^{h} 5^{m} [8^{H} 5^{M}]	Between ☿ and the eye of ♉, by the sextant [Inter ☿ et ocul. ♉] [per Sext.]	33° 42⅓′
10^{h} [10]	in the meridian [in Merid.]	57° 33′ 45″
	Declination [Declinatio]	23° 28′ 25″
8^{h} [H. 8]	by the armillae [per Armillas]	23° 27′
		23° 27½′
	Difference of ascension [Diff. Aſcenſ.]	34° 52′ 54″
	Right ascension of ☿ [Aſc. R. ☿]	97° 57′ 34″

1076

On the same day [Die eodem]

Time	Reading	Value
8^{h} 9^{m}	Between ☿ and the lower head of ♊ [Inter ☿ et infer.] [caput ♊]	12° 4½′
	Declination of the lower head of ♊ [Declin. infer. cap. ♊]	28° 56′ 40″
	Declination of ☿, as before [Declin. ☿ vt prius]	23° 27′
	Difference of ascension [Diff. Aſcenſ.]	11° 59′ 55″
	Right ascension of the head of ♊ [Aſcenſ. R. Capitis ♊]	109° 58′ 45″
	Right ascension of ☿ [Aſcenſ. R. ☿]	97° 58′ 50″
	Let the ascension be set at [Ponatur Aſcenſ.]	97° 58′ 20″
	Declination, north [Declinatio B.]	23° 27′ 0″

1077

1075 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The first time is printed with a raised *H* and a raised mark after *28*; *3 0*, printed without unit marks, is given as hours and minutes. *34 5 20* stands alone under the first value, with no label. *B.* and *Bor.* are given as "north". The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1076 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The first time is printed with raised *H* and *M*; the label *Inter ☿ et ocul. ♉ / per Sext.* runs over two lines, the value on the second, and is given on one row. *10*, alone in the time column, is given as hours; *H. 8* is printed with *H. 23 27½* stands alone under the value of *per Armillas*, with no label. The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1077 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The label *Inter ☿ et infer. / caput ♊* runs over two lines, the time on the first and the value on the second, and is given on one row. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes; the values as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

Time	Reading	Value
	Set the declination at [Pone declin.]	*23° 28′*
	Corresponding longitude [Reſp. Longitudo]	7° 18′ 55″ ♋
	Latitude [Latitudo]	0° 8′ 3″ north [0 8 3B.]

1078

On 15 January [DIE 15 JANUARIJ.]

Time	Reading	Value
6^h 1^m	Between ☽ and the eye of ♉ [Inter ☽ et oculum ♉]	33° 37½′
	Declination by the armillae [Declin. per Armillas]	23° 27¼′
10^h [H. 10]	[it] was in the meridian [fuit in Merid.]	57° 33½′
		34° 5′ 20″
		23° 28′ 10″
	For 6^h set [Ad H. 6 pone]	23° 27½′
	Difference of ascension [Diff. aſcenſ.]	34° 47′ 36″
	Right ascension of ☽ [Aſcenſ. R. ☽]	97° 52′ 16″
6^h 23^m	Equatorial distance [Diſt. æquator.]	34° 46′ 50″
	Right ascension of the eye of ♉ [Aſcenſ. R. oculi ♉]	63° 4′ 40″
	Right ascension of ☽ [Aſcenſ. R. ☽]	97° 51′ 30″
	The daily [motion] of ☽, 4′ [Diurnus ☽ 4^m.]	
6^h 12^m	Between ☽ and the lower head of ♊ [Inter ☽ et] [infer. cap. ♊]	12° 7¼′
	Set, [at] 6^h 10^m: [Pone H. 6 M. 10]	
	Ascension of ☽ [Aſcenſ. ☽]	97° 53′
	Declination, north [Declin. B.]	23° 27½′
	Difference of ascension [Diff. aſcenſ.]	12° 3′ 30″
	Right ascension of ☽ (this [one] less good) [Aſc. R. ☽] [(hæc minus bona)]	97° 55′ 15″
	Corresponding longitude [Reſp. Longitudo]	7° 14′ 5″ ♋
	Latitude [Latitudo]	0° 8′ 6″ north [0 8 6B.]

1078 "Time", "Reading" and "Value" are this edition's heads. These lines stand at the head of the left column, under no heading, after the rows at the foot of the right column of the preceding page. The first line is set in italic, the other two in roman. *B.* is given as "north". The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1079

On 2 March, P. M. *[DIE 2 MARTIJ P. M.]*

Time	Reading	Value
7h 48m [7H48M]	*Between ☊ and Aldebaran* [Inter ☊] [et Aldeb.]	*31° 54¼′*
7h 50m		*31° 54⅓′*
7h 54m	*Declination of ☊* [Declin. ☊]	*23° 36¼′ north* [23 36¼ B.]
7h 59m	*Between ☊ and the lower head of ♊* [Inter ☊ et] [Infer. cap. ♊]	*13° 39′*
8h 0m		*13° 39′*
8h 2½m	*Declination* [Declin.]	*23° 36′,*
	with the other [altero]	*23° 35¾′*

1080

And from this the place of ☊ will be able to be verified exactly for its determination near the quadrature of the sun, and, the other way round, [be] confirmed; for the place of ☊ was between these two stars, Aldebaran and the lower head of ♊. [Atque hinc poterit exacte verificari locus ☊ pro ipſius conſtitutione iuxta quadraturam ſolis, et vice verſa comprobari, erat enim ☊ locus inter has binas ſtellas, Aldeboram et infer. cap. ♊.]

On 4 March, P. M. [DIE 4 MARTIJ P. M.]

Time	Reading	Value	Remark
8h 49m	Declination [Declin.]	23° 36½′ north [23 36½ B.]	altitude 50½° [Alt. 50½]
8h 55m	Between ☊ and the eye of ♉ [Inter ☊ et] [oculum ♉]	32° 4¾′	
8h 56½m		32° 4⅔′	
8h 57½m		32° 4¾′	

1079 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. *H. 10* and *Ad H. 6* are printed with *H.*; the other times, printed without unit marks, are given as hours and minutes. *fuit* has no subject printed; "[it]" is supplied in brackets. *34 5 20* and *23 28 10* stand alone under the value of *fuit in Merid.*, with no label. *Diurnus ☊ 4m.* is printed with a raised *m* and no value in the value column; the *4m* is given as 4′, minutes of arc. The label *Inter ☊ et / infer. cap. ♊* runs over two lines, the time on the first and the value on the second, and is given on one row. *Pone H. 6 M. 10* stands on its own line with no value; the lines below it are given as plain rows, as the page sets them. *Aſc. R. ☊* stands on its own line and *(hæc minus bona)* on the next, with the value; they are given on one row. *B.* is given as "north". The values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1080 "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic. Each two-line label (*Inter ☊ / et Aldeb.*; *Inter ☊ et / Infer. cap. ♊*) has a time and a value on each of its lines, and is given whole on the first row. A comma is printed after *23 36. B.* is given as "north". The first time is printed with raised *H* and *M*; the other times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Remark

1081

Time	Reading	Value	Remark
9^h $3\frac{1}{6}^m$	Between ♃ and the heart of ♌ [Inter ♃ et] [Cor ♌]	48° 33⅓′	
9^h 4^m		48° 33⅓′	
9^h 5^m		48° 33⅓′	
9^h 8^m	Declination of ♃ [Declinatio ♃]	23° 36½′	altitude 48° [Alt. 48]
	with the other pinnule [alt. pinn.]	23° 36¾′	

1082

On 5 March, P. M. *[DIE 5 MARTIJ P. M.]*

Note. ♃ *and Canis Major were passing through the meridian together this evening, and* ♃ *had a meridian altitude of 57° 11′.* [Nota. ♃ & canis major tranſibant Meridianum ſimul hoc veſperi, habuitque ♃ altitudinem meridianam 57 11.][1083]

On 10 March, P. M. *[DIE 10 MARTIJ P. M.]*

Time	Reading	Value
6^h $27\frac{1}{3}^m$	*♃ passed through the meridian, having a maximum altitude by the revolving [quadrant] of* [Tranſiuit ♃ per Meridianum habens Altit. Max. per Volub.]	*57° 43′*

1084

Afterwards[1] *the place of* ♃ *was restored in this way, so that the place of* ☾ *can be derived from this.* [Locus ♃ poſtea[1] reſtituebatur hoc modo, ut hinc locus ☾ deriuari poßit.]

[1081] "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in roman. The label *Inter* ♃ *et / oculum* ♉ runs over two lines, each with a time and a value, and is given whole on the first row. *B.* is given as "north"; the altitude *50½*, a single figure with a fraction, as degrees. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1082] This table stands at the head of the right column, under no heading. "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in roman. The label *Inter* ♃ *et / Cor* ♌ runs over two lines, each with a time and a value, and is given whole on the first row. *alt. pinn.* is given as "with the other pinnule". The altitude *48*, a single figure, is given as degrees. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1083] *57 11*, printed without unit marks, is given as degrees and minutes.

[1084] "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic. The label runs over two lines and the value stands alone on a third; they are given on one row. The time and the value, printed without unit marks, are given as hours and minutes and as degrees and minutes.

Time	Reading	Value	Remark
$8^h\ 12^m$	Declination of ☊ [Declin. ☊]	23° 37′ north [23 37 B.]	
$8^h\ 19^m$	Between ☊ and Aldebaran [Inter ☊] [& Aldeb.]	32° 17′	By the sextant △ (for all six) [Per Sext. △]
$8^h\ 21^m$		32° 16⅚′	
$8^h\ 22^m$		32° 17′	
$8^h\ 25^m$	Between ☊ and the heart of ☋ [Inter ☊] [& cor ☋]	48° 17½′	
$8^h\ 26^m$		48° 17′	
$8^h\ 27^m$		48° 17½′	

1085

On 27 March [DIE 27 MARTIJ.]

Time	Reading	Value
$9^h\ 47^m$	Declination of ☊, north [☊ Declinatio B.]	23° 34½′
$9^h\ 50^m$	☊ from the heart of ☋ [☊ a corde ☋]	46° 47′
$9^h\ 51^m$		46° 47¼′
$9^h\ 52^m$		46° 47′

1086

On 5 April, P. M. [DIE 5 APRILIS P. M.]

Time	Reading	Value	Remark
$8^h\ 13½^m$	Declination of ☊ [Declin. ☊]	23° 29⅚′ north [23 29⅚ Bor.]	
$8^h\ 17½^m$	Between ☊ and the heart of ☋ [Inter ☊] [& cor. ☋]	45° 45½′	By the old sextant (for all seven) [Per Sext. vet.]
$8^h\ 20^m$		45° 45⅔′	
$8^h\ 21^m$		45° 45⅔′	
$8^h\ 26^m$	Between ☊ and the bright [star] of the horn of ♉ [Inter ☊] [& lucid.] [cornu ♉]	22° 4½′	
$8^h\ 27^m$		22° 5′	
$8^h\ 28^m$		22° 4⅔′	
$8^h\ 29^m$		22° 5′	

1085 "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in roman. Each two-line label has the time on its first line and the value on its second, and is given on one row. One brace joins the three values from *8 19* to *8 22*, a second brace the three from *8 25* to *8 27*; *Per / Sext. / △*, over three lines at the right between the two braces, is given once, on the first row, for all six. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1086 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Remark
8^h 31^m	Declination of ♃ [Declin. ♃]	23° 29⅚′	

1087

[1] That is, after the measurements of the equatorial distance of ☾ and ♃, on which see above, among the observations of the Moon. [Id eſt, poſt menſuras diſtantiæ æquatoriæ ☾ et ♃, de quibus vide ſupra inter obſeruationes Lunæ.]

On 5 April[1] [DIE 5 APRILIS[1].]

Time	Reading	Value
8^h 22¾^m [H. 8 M. 22¾]	Distance between ♃ and the heart of ♌ [Diſt. inter ♃] [et cor ♌]	45° 45⅔′
	Declination of ♃ [Declin. ♃]	23° 30′ north [23 30 B.]
	Declination of the heart of ♌ [Declin. cordis ♌]	13° 58′
	Right ascension of the heart of ♌ [Aſc. R. cordis ♌]	146° 33⅙′
	The other way round [Viceverſa]	
8^h 27¾^m [H. 8 M. 27¾]	Distance of ♃ from the northern horn of ♉ [Diſt. ♃ a boreo] [cornu ♌] [recte: ♉]	22° 4⅔′; limited [limit.]
	Declination of the northern horn of ♉ [Decl. bor. cornu ♉]	28° 11′ north [28 11 B.]
	Right ascension of the same [Aſc. R. eiuſdem]	75° 11′

1088

1087"Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in roman. The label *Inter* ♃ / *& cor.* ♌ has a time and a value on each of its two lines; the label *Inter* ♃ / *& lucid.* / *cornu* ♉ runs over three lines, the time *8 26* on the first with no value, the value *22 4½* on the second with no time, and *8 27* with *22 5* on the third — the value on the second line is given on the row of *8 26*, the only time above it. Each label is given whole on its first row. The ending of *lucid.* is not printed; it is given as *lucida*, "the bright [star]", as *lucidam* ♈ and *Luc.* ♈ on the preceding page, with *cornu* ♉ depending on it. One brace joins the three values from *8 17½* to *8 21*, a second brace the four from *22 4½* to *22 5* (*8 29*); *Per* / *Sext.* / *vet.*, over three lines at the right between the two braces, is given once, on the first row, for all seven. The last declination stands below the lower brace. *Bor.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1088"Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The label *Diſt. inter* ♃ / *et cor* ♌ runs over two lines, the time on the first and the value on the second, and is given on one row; so is *Diſt.* ♃ *a boreo* / *cornu* ♌, whose value stands on the first line and *limit.* under it on the second. The sign printed after *cornu* on that line is ♌, the same sort as after *cor* above; the line below (*Decl. bor. cornu* ♉) and the *Ergo* line after the letters (*a boreo cornu* ♉) print *cornu* ♉ for the northern horn — hence *[recte: ♉]*. *Viceverſa* stands alone, with no value. *B.* is given as "north". The first value is printed with a degree mark; the other values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Reading	Value
BA	61° 49′	DA	76° 2′
CA	66° 30′	CA	66° 30′
BC	22° 4⅔′	DC	45° 45⅔′
BAC	24° 1⅙′	DAC	47° 27′

1089

Reading	Value
Therefore, 8^h $27¾^m$: right ascension of ♃ from the northern horn of ♉ [Ergo H. 8 M. 27¾ Aſc. R. ♃] [a boreo cornu ♉]	99° 8⅙′
Therefore, 8^h $22¾^m$: right ascension from the heart of ♌ [Ergo H. 8 M. 22¾ Aſc. R.] [a corde ♌]	99° 8⅙′

1090

Hence, 8^h 25^m, as at the intermediate time: 99° 8′ 10″. [Igitur H. 8 M. 25 tanquam ad tempus intermedium 99° 8′ 10″.]

Declination 23° 29⅚′ precisely. [Declinatio 23° 29⅚′ præciſe.]

On 7 April [DIE 7 APRILIS.]

Time	Reading	Value
8^h 7^m	Declination of ♃ [Declin. ♃]	23° 29½′
8^h 12^m	♃ and the heart of ♌ [♃ & Cor ♌]	45° 30½′
8^h 13^m		45° 30½′
8^h $14½^m$		45° 30½′

1091

**On 17 August, A. M.*[2] [DIE 17 AUGUSTI A. M.[2]]*

Afterwards ♃ *and* ♀, *which were very close, were observed in this manner, which follows.* [Poſtea obſerubantur ♃ & ♀ qui admodum erant propinqui, in hunc qui ſequitur modum.] [recte: obſeruabantur]

1089 "Reading" and "Value" are this edition's heads. These lines are set in roman, in two groups of four side by side, divided by a short vertical rule; the letters stand before the values, as printed. No figure carrying these letters stands on this page. The values, printed without unit marks, are given as degrees and minutes.

1090 "Reading" and "Value" are this edition's heads. These lines are set in roman. Each *Ergo* line runs over two lines, the value on the second, and is given on one row. No planet sign is printed after *Aſc. R.* on the second. The values, printed without unit marks, are given as degrees and minutes. The right ascension of the northern horn, 75 11, and BAC 24 1⅙ add to 99° 12⅙′, and the right ascension of the heart of ♌, 146 33⅙, less DAC 47 27 gives 99° 6⅙′, while both results are printed 99 8⅙; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

1091 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value
3h 30m [3H30]	*Declination of* ♃ [Declin. ♃]	*19° 36½′*
3h 32m		*19° 36½′*

☿ *was a little more westerly, the latitude almost the same.* [☿ erat paulo occidentalior, latitudo fere eadem.]

Time	Reading	Value
3h 44m	*Between* ♃ *and the northern head of* ♊ [Inter ♃ &] [Bor. Cap. ♊]	*22° 23½′*
3h 46m		*22° 23⅙′*
3h 48m		*22° 23⅙′*

Their altitude [was] then very nearly 15°. [Altitudo eorum tunc 15 G. proxime.]

Time	Reading	Value
3h 53m	*Declination of* ♃ [Declin. ♃]	*19° 36½′ north* [19 36½ B.]

1092

On 18 August, A. M. *[DIE 18 AUGUSTI A. M.]*

Time	Reading	Value	Remark
3h 33½m	*Declination of* ♃ [Declin. ♃]	*19° 34′*	*altitude 11° 26′* [Alt. 11 26]
3h 37m	*with the other pinnule* [alt. pinnacid.]	*19° 33′*	*11° 55′*
3h 43m	♃ *and the lower head of* ♊ [♃ & infer.] [Cap. ♊]	*18° 32½′*	
3h 45m		*18° 32½′*	
3h 49½m		*18° 32¾′*	
4h 12m	*Declination of* ♃ [Declin. ♃]	*19° 32′*	*17°*
4h 36m		*19° 32′*	

1093

1092 "Time", "Reading" and "Value" are this edition's heads, for the three tables above. These lines are set in italic. The first time is printed with a raised *H*; the other times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes. The label *Inter* ♃ *&* / *Bor. Cap.* ♊ runs over two lines, each with a time and a value, and is given whole on the first row. *B.* is given as "north". *obſerubantur* is printed without the *a* of *obſeruabantur*.

1093 "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in italic. The label ♃ *& infer.* / *Cap.* ♊ runs over two lines, each with a time and a value, and is given whole on the first row. *17* stands alone at the right on its line, under the *11* of the two altitudes above; it is given as degrees. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

On 30 November, A. M. [DIE 30 NOUEMBRIS A. M.]

Time	Reading	Value
$6^h\ 12^m$	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]	6° 50⅙′ three times [6 50⅙ ter]
$6^h\ 20^m$	Between ♃ and the lower head of ♊ [Inter ♃ & inf. cap. ♊]	30° 14¼′
$6^h\ 21^m$	Declination of ♃, north [Decl. ♃ Bor.]	16° 25′

1094

Among clouds. [Inter nubes.]

Observations of Mars [OBSERUATIONES MARTIS.]

On 1 January, A. M. [DIE 1 JANUARIJ A. M.]

Time	Reading	Value
$7^h\ 8^m$ [7^H 8′]	Declination of ♂ [Declin. ♂] by the subterranean armillae [per Armill. ſubt.]	2° 11½′ north [2 11½ Bor.]
	with the other pinnule [altero pinnacidio]	2° 12½′

1095

Time	♂ west [♂ occid.]	Arcturus west [Arcturus occ.]	Equatorial distance [Diſt. æquat.]
$7^h\ 20^m\ 17^s$	40° 2′	13° 3′	26° 59′

1096

Because of clouds rising from the west, it was not possible to make more observations at this morning time. [Plures obſeruationes propter nubes ab occaſu oriundas hoc tempore matutino facere non licuit.]

N. B. The clock was verified at about 7^h. [N. B. Horologium circa H. 7 verificatum eſt.]

1094 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1095 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The time is printed with a raised *H* and a prime after *8*; the prime is given as minutes of time. *Declin.* ♂ stands on the time line with no value; *per Armill. ſubt.* stands indented under it, with the value, and is given on the same row. *Bor.* is given as "north". The values, printed without unit marks, are given as degrees and minutes.

1096 "Time" is this edition's head; the three other heads are printed, in smaller type, on the time line, with the values on the line below. These lines are set in roman. The time, printed without unit marks, is given as hours, minutes and seconds, the values as degrees and minutes.

On 6 January [DIE 6 JANUARIJ.]

Note. At about 12^{h} of the night ♂ was distant from a little star of the third magnitude in the wing of ♍, to which [it] was applying very closely, of almost the same latitude (and this star is the brighter of those that are in the southern wing of ♍, opposite the girdle), and that with the Radius 1° 56′, this very star being more westerly and approaching it. Afterwards, with the observation repeated, 1° 52′, but less strictly, [Nota. ♂ circa H. 12 Noctis diſtabat a ſtellula tertiæ magnitudinis in ala ♍ cui proxime applicabat eiuſdem latitudinis fere (eſtque hæc ſtella lucidior earum quæ ſunt in Meridionali ala ♍ e regione cinguli) idque per Radium G. 1 M. 56, exiſtens hæc ipſa ſtella occidentalior et illi appropinquans. Poſtea reiterata obſeruatione 1.52 min. ſed minus ſtricte,][1097]

[1] From codex V. [E codice V.]

[2] Cf. the obs[ervation] of the conjunction of ♃ and ♀ below, among the observations of Venus. [Cfr. obſ. conjunctionis ♃ et ♀ infra inter obſervationes Veneris.]

so let the true distance with the Radius be 1° 54′. [ſit itaque vera per Radium diſtantia 1^{g} 54^{M}.][1098]

On 9 January, A. M. [DIE 9 JANUARIJ A. M.]

Time	♂ west [♂ occid.]	Spica ♍ west [Spica ♍ occ.]	Equatorial distance [Diſt. æquat.]
5^{h} 47^{m} 20^{s}	23° 49′	11° 51′	11° 58′
5^{h} 59⅔^{m}	25° 59½′	14° 1⅓′	11° 58⅙′
6^{h} 3½^{m}	27° 54½′	15° 57′	11° 57½′

[1099]

Therefore set the ascensional difference of the Spica of ♍ *and* ♂ *at 11° 58′.* [Pone itaque differentiam aſcenſionalem ♍ Spicæ & ♂ 11 58]

Time	Reading	Value
6^{h} 35^{m} 56^{s}	Declination of ♂ [Declin. ♂], with one [vno]	1° 39½′
	with the other pinnule [altero pinn.]	1° 39⅚′

[1097] *1.52 min.* is printed with a point between *1* and *52*; the *1* is given as degrees. The page ends at *ſtricte,*.

[1098] This line ends the sentence begun at the foot of the right column of the preceding page. *1^{g} 54^{M}* is printed with a raised *g* and a raised *M*; given as degrees and minutes.

[1099] "Time" is this edition's head; the three other heads are printed, in smaller type, above the value columns. These lines are set in roman. The times, printed without unit marks, are given as hours, minutes and seconds (three figures) or hours and minutes (two figures), the values as degrees and minutes.

1100

Time	♂ west [♂ occid.]	Arcturus west [Arcturus occ.]	Difference of ascension [Diff. Asc.]
$7^h\ 19^m\ 39^s$	46° 55½′	21° 37½′	25° 18′

1101

On 10 January, morning [DIE 10 JANUARIJ, MANE.]

Time	Reading	Value
$4^h\ 9^m\ 10^s$	♂ in the meridian had an altitude of [♂ in Merid. habuit] [Alt.]	35° 39½′

1102

By the old sextant △ [Per Sext. △ veterem]

Time	Reading	Value	Remark
$5^h\ 6^m$	Distance between ♂ and the heart of ☌ [Dist. inter ♂ &] [cor ☌]	39° 4′	
$5^h\ 9^m$		39° 5½′	
$5^h\ 11^m$		39° 5¾′	Good (for both) [Bonæ]
$5^h\ 13^m$		39° 5¾′	
$5^h\ 15^m$	Declination of ♂, north [♂ Decl. Bor.]	1° 35′	twice, good [bis, bona]
$5^h\ 17½^m$	Between ♂ and Spica ♍ by the sextant [Inter ♂ &] [Spicam ♍] [per Sext.]	15° 48½′	
$5^h\ 19^m$		15° 49′	
$5^h\ 22^m$		15° 48′	
$5^h\ 25^m$		15° 48′	
	Set the distance at [Pone distantiam]	*15° 48½′*	

1100 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. *vno* stands at the right of the first line, before its value. The time, printed without unit marks, is given as hours, minutes and seconds, the values as degrees and minutes; the value in the line above the table, likewise.

1101 "Time" is this edition's head; the three other heads are printed, in smaller type, above the value columns. These lines are set in roman. The time, printed without unit marks, is given as hours, minutes and seconds, the values as degrees and minutes.

1102 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. *Alt.* and the value stand on the line below the label, at the right; they are given on one row. The time, printed without unit marks, is given as hours, minutes and seconds, the value as degrees and minutes.

1103

At the following noon the clock behaved well enough; for although it was not clear at noon itself, yet a little after noon, when the middle of the Sun was seen through the pinnules of the quadrant in one azimuth toward the west, the clock showed 3½^m elapsed from noon, which almost agrees. But I allowed the clock its revolution, so that it can be examined from the following observations when the sky is clearer. [Horologium in meridie ſequente ſatis bene ſe habuit, nam licet non fuerit in ipſo meridie ſerenum, tamen paulo poſt Meridiem cum Solis medium per pinnacidia quadrantis videretur in Azimuto vno verſus occaſum, monſtrauit horologium minuta 3½ a meridie elapſa, quod fere conuenit. Permiſi autem horologio ſuam reuolutionem, vt ex ſequentibus obſeruationibus cum ſerenius cœlum fuerit examinari queat.]

On 11 January *[DIE 11 JANUARIJ.]*

In the morning I saw that Mars was applying quite partilely to the third star in the southern wing of ♍, *having almost the same latitude.* [Vidi mane quod Mars admodum partiliter applicaret ſtellæ tertiæ in ala meridionali ♍, habens eandem fere latitudinem.]

Time	Reading	Value	Remark
6^h 0^m [6ᴴ 0′]	*Between* ♂ *and the third [star] in the southern wing of* ♍*, which is near the girdle of Virgo, with the Radius* [Inter ♂ et tertiam in ala auſtr.] [♍ quæ eſt Virgini juxta cingulum per Radium]	*1° 2′*	
6^h 10^m	*The same repeated* [Eadem repetita]	*1° 2⅓′*	
6^h 14^m	*The same repeated with the Radius* [Ead. repet. per Radium]	*1° 2½′*	
6^h 29^m	*The same* [Eadem]	*1° 6¾′*	*By the sextant (for all three)* [Per Sextant.]
6^h 31^m	*Repeated* [Repetita]	*1° 6′*	
	The same [Eadem]	*1° 7′*	
	Set here the distance of ♂ *and the 3rd [star] of the wing at* [Pone hic diſt. ♂ & 3 alæ]	*1° 6¾′*	
6^h 39^m	*Between* ♂ *and Spica* ♍ *by the sextant* [Inter ♂ & Spicam] [♍ per Sextant.]	*15° 37⅙′*	
6^h 41^m		*15° 37¼′*	
6^h 45^m	*Repeated a third time* [Tertio repetita]	*15° 36⅚′*	
	Set the distance of ♂ *and Spica exactly at* [Pone diſt. ♂] [& Spicæ exacte]	*15° 37′*	
6^h 48^m	*Declination 1° 31′ north,* [Declin. 1 31 Bor.,]		

1103 "Time", "Reading", "Value" and "Remark" are this edition's heads. The line *Per Sext.* △ *veterem* stands centred above these rows. These lines are set in roman, except the last, which is italic. The label *Diſt. inter* ♂ *&* / *cor* ♌ runs over two lines, and *Inter* ♂ *&* / *Spicam* ♍ / *per Sext.* over three, each line with a time and a value; each label is given whole on its first row. A brace joins the values of *5 11* and *5 13*, with *Bonæ* at its point; it is given once, on the first row, for both. *bis, bona* is printed in smaller type after its value. *Bor.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Remark
	1° 31¼′ doubtful [1 31¼ dubia]		
	The altitude of ♂ *was then* [Fuit tunc altitudo ♂]	*26°*	
	The declination of that small [star] in ♍ *near Mars* [Declinatio eius paruæ] [in ♍ juxta Martem]	*0° 51′* *north* [0 51 B]	
	Declination of the same, which is the third in the wing of ♍*, with the other pinnule* [Decl. eiuſdem quæ eſt] [tertia in ala ♍ alt. pin.]	*0° 50′*	
	Set the declination of this [star] at [Pone declin. huius]	*0° 50½′*	

1104

Moreover, the meridian altitude of ♂ *by the Tychonic quadrant was 35° 40′ with one pinnule, 35° 40⅙′ with the other.* [Fuit autem alt. ♂ Merid. per Quadr. Tycho. 35 40 vno pinnac. 35 40⅙ altero]

From this comes the declination of ♂*, 1° 34½′, and this [is] rather to be relied on.* [Hinc prouenit declin. ♂ 1 34½ atque huic potius fidendum.]

Afterwards ♂ *and Arcturus were observed, not only on account of Mars but also on account of the time to be applied to the Sun at noon.* [Poſtea obſeruabatur ♂ et Arcturus non ſolum propter Martem ſed etiam propter tempus ad Solem in Meridie applicandum.]

Time	♂ *west* [♂] [occid.]	*Arcturus west* [Arctur.] [occ.]	*Equatorial distance* [Diſt.] [æquat.]	*Altitude of* ♂ [Alt.] [♂]
7h 22m 45s	*49° 2½′*	*24° 4¾′*	*24° 57¾′*	*23⅓°*
7h 24m 22s	*49° 27′*	*24° 30′*	*24° 57′*	*23°*
7h 28m 34s	*50° 29⅚′*	*25° 33½′*	*24° 56⅓′*	*22½°*
7h 30m 52s	*51° 3⅙′*	*26° 8′*	*24° 55⅙′*	*22°*
7h 32m 46s	*51° 30′*	*26° 34′*	*24° 56′*	*21⅔°*
7h 34m 10s	*51° 51′*	*26° 55½′*	*24° 55½′*	*21½°*

1105

1104 "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in italic. The first time is printed with a raised *H* and a prime after *0*; the prime is given as minutes of time; the other times, printed without unit marks, are given as hours and minutes. The first label runs over three lines, the value on the third; the label *Inter* ♂ *& Spicam* / ♍ *per Sextant.* runs over two lines, each with a time and a value, and is given whole on the first row. *Per* / *Sextant.* stands between the labels and a brace that joins the three values from *6 29* to the second *Eadem*; it is given once, on the first row, for all three. The two declinations at *6 48* are printed within the label, not in the value column, and are given there. *26*, a single figure, is given as degrees; *B* is given as "north". The other values, printed without unit marks, are given as degrees and minutes.

1105 "Time" is this edition's head; the four other heads are printed, each over two lines, above the value columns; the time column has no printed head. These lines are set in italic. The times, printed without unit marks, are given as hours, minutes and seconds; the values of the first three columns as degrees and minutes; the altitudes, single figures with or without a fraction, as degrees.

Set the equatorial distance at 24° 56′, and you will err imperceptibly. [Pone diſt. æquat. 24 56 & inſenſibiliter aberrabis.]

Time	Reading	Value
7^h 35^m 50^s	*Arcturus west* [Arcturus occ.]	*27° 19′*
7^h 36^m 50^s		*27° 34¼′*
7^h 37^m 42^s		*27° 46½′*
7^h 38^m 31^s		*27° 59′*

1106

Time	Value
7^h 39^m 55^s	28° 18¼′
7^h 40^m 58^s	28° 33⅙′
7^h 41^m 49^s	28° 45⅓′
7^h 42^m 41^s	28° 59′
7^h 43^m 45^s	29° 15′
7^h 45^m 3^s	29° 34½′
7^h 46^m 21^s	29° 54¾′

1107

At noon the clock was going 4^m 4^s faster than it should, and this error had befallen it in the space of two days from noon of day 9, but the Sun was seen through small chinks, for it could not shine out, but at the very moment the index was set at 12^h 0^m 0^s. [Horologium in meridie 4 M. 4 S. iuſto celerius ibat, isque error illi ſpatio duorum dierum contigit a Meridie diej 9, ſed Sol videbatur per rimulas, nam non poterat illuceſcere, ſed in ipſo momento index in 12ʰ 0′ 0″ collocabatur.][1108]

On 14 January *[DIE 14 JANUARIJ.]*

N.B. These times are to be corrected. [N.B. Hæc tempora ſunt corrigenda.]

Time	Reading	Value
7^h $44½^m$ [H. 7 44½]	*Declination of* ♂*, north* [Declin. ♂ B.]	

[1106] "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic. The four values stand at the right of the column, in line with the equatorial distances of the table above, not under the Arcturus column; the label *Arcturus occ.* is printed on the first line only. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

[1107] These seven rows, at the head of the left column, continue the timed values on the line *Arcturus occ.* at the foot of the right column of the preceding page; the page sets no label or head over them. "Time" and "Value" are this edition's heads. These lines are set in roman. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

[1108] The paragraph is set in italic as far as *illuceſcere,* and in roman from *ſed in ipſo momento* to the end.

Time	Reading	Value
	with one pinnule [vno pinn.]	*1° 26′*
	with the other pinnule [alt. pinn.]	*1° 25½′*

1109

Time	♂ *west* [♂ occid.]	*Arcturus west* [Arctur. occ.]	*Equatorial distance* [Dift. æquat.]
7h 50½m	*50° 39′*	*26° 12′*	*24° 27′*
7h 51m 54s	*50° 57½′*	*26° 29′*	*24° 28½′*
7h 53m 30s	*51° 21½′*	*26° 53½′*	*24° 28′*
7h 54m 52s	*51° 41¾′*	*27° 13′*	*24° 28¾′*
7h 56m 40s	*52° 7¾′*	*27° 40′*	*24° 27¾′*
7h 58m 24s	*52° 33½′*	*28° 5′*	*24° 28½′*

1110

Therefore set the difference of ascension of ♂ and Arcturus at 24° 28′. [Pone itaque diff. aſc. ♂ & Arcturi 24 28]

Time	Reading	Value
8h 0m	*Repeated declination of ♂, north* [Repetita Declin. ♂ Bor.]	
	with one [vno]	*1° 26′*
	with the other [altero]	*1° 25½′*

1111

Mars was quite near the third star in the southern wing of ♍, distant from it by barely the lunar diameter. [Mars admodum prope erat ſtellæ tertiæ in ala Merid. ♍ diſtans ab ea vix ad diametrum lunarem.]

Let the clock also be verified from the preceding [observations]. [Ex præcedentibus etiam verificetur horologium.]

On 15 January, morning [DIE 15 JANUARIJ, MANE.]

1109 "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic. The time is printed after *H.*; it is given as hours and minutes. *vno pinn.* and *alt. pinn.* are set to the right on the two lines below the label, each followed by its value. *B.* is given as "north". The values, printed without unit marks, are given as degrees and minutes.

1110 "Time" is this edition's head; the three other heads are printed, in smaller type, above the value columns; the time column has no printed head. These lines are set in italic. The first time, two figures with a fraction, is given as hours and minutes; the others, three figures, as hours, minutes and seconds. The values are given as degrees and minutes.

1111 "Time", "Reading" and "Value" are this edition's heads. These lines are set in italic. *vno* and *altero* are set to the right on the two lines below the label, each followed by its value. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes; the value in the line above the table, likewise.

Time	Reading	Value
$3^h\ 52^m\ 1^s$	♂ passed the meridian, in altitude by the revolving [quadrant] [Tranſiuit ♂ Merid.] [in Alt. per Volub.]	35° 28¾′
$4^h\ 0^m$	Between ♂ and the heart of ♌ by the sextant △ [Inter ♂ &] [cor ♌ per] [Sextantem △]	39° 52⅔′
$4^h\ 3^m$		39° 52½′
$4^h\ 6½^m$		39° 52½′
$4^h\ 8^m$		39° 52½′
$4^h\ 36^m\ 10^s$	Spica ♍ passed through the meridian; from this the clock can be verified. [Tranſiuit Spica ♍ per Merid., hinc poteſt Horologium verificari.]	

III2

Time	Reading	Value
$4^h\ 40^m$	Distance between ♂ and Spica ♍ [Diſt. inter] [♂ &] [Spicam ♍]	15° 4′
$4^h\ 41½^m$		15° 4⅙′
$4^h\ 42⅓^m$		15° 4⅙′
$4^h\ 45^m$	Declination of ♂, north [Declin. ♂ Bor.], with one [vno]	1° 23⅓′
	with the other [altero]	1° 23′

III3

Time	♂ west [♂ occid.]	Spica ♍ west [Spica ♍ occ.]	Equatorial distance [Diſt. æquat.]
$4^h\ 57^m\ 2^s$	16° 10′	5° 8′	11° 2′
$5^h\ 0^m\ 7^s$	16° 56½′	5° 54′	11° 2½′
$5^h\ 1^m\ 52^s$	17° 20¾′	6° 18′	11° 2¾′
$5^h\ 3^m\ 13^s$	17° 41′	6° 38½′	11° 2½′
$5^h\ 5^m\ 1^s$	18° 9½′	7° 6′	11° 3½′
$5^h\ 7^m\ 0^s$	18° 40½′	7° 38′	11° 2½′
$5^h\ 8^m\ 25^s$	19° 2¾′	7° 59¾′	11° 3′

III2 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The first value stands on the line below the time, after *per Volub.*; it is given on one row. The label *Inter ♂ & / cor ♌ per / Sextan- / tem △* runs over four lines, each with a time and a value, *Sextan-/tem* divided at the line end; it is given whole on the first row. The last entry is a time followed by three lines of text, with no value. The times, printed without unit marks, are given as hours, minutes and seconds (three figures) or hours and minutes (two figures), the values as degrees and minutes.

III3 "Time", "Reading" and "Value" are this edition's heads. These rows stand at the head of the right column, with no date line above them; they follow the rows of 15 January at the foot of the left column. These lines are set in roman. The label *Diſt. inter / ♂ & / Spicam ♍* runs over three lines, each with a time and a value; it is given whole on the first row. *vno* stands at the right of its line, before its value; *altero* is set to the right on the line below. The fraction after *1 23* has the numerator 1; its denominator is not settled. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1114

Set the equatorial distance of ♂ and Spica ♍, at about 5^h, at 11° 2⅔′. [Pone diſt. æquat. ♂ et Spicæ ♍ circa Hor. 5 11 2⅔][1115]

[At] 5^h 22^m the distance was observed between the third [star] in the southern wing of ♍, which is below the girdle, and ♂, by the trigonal sextant: 0° 30′. Only once, on account of clouds that had arisen. *Moreover, ♂ was almost in the same straight line with the star mentioned.* [5 22 Obſeruabatur diſtantia inter tertiam in Auſtr. ala ♍ quæ eſt ſub cingulo & ♂ per Sextant. Trigon. 0 grad. 30 min. Semel tantum propter nubes exortas. Fuit autem ♂ fere in eadem linea recta cum dicta ſtella.][1116]

On 16 January, A. M. [DIE 16 JANUARIJ, A. M.]

[At] $3\frac{5}{6}^h$ the meridian altitude of ♂ was 35° 26½′, but at that time [it] was not sufficiently clear. Set the altitude of ♂ at 35° 26′. [H. 3⅚ fuit Altitudo ♂ Merid. 35^g 26½′ ſed non tunc temporis erat ſatis ſerenum. Pone altit. ♂ 35 26]

[At] 3^h 57^m the distance between ♂ and the Spica of ♍ was 14° 59′, and this distance was observed among denser clouds. [3 57 fuit diſt. inter ♂ et ♍ Spicam 14 59 eſtque hæc diſtant. obſeruata inter denſiores nubes.]

[At] 4^h 51^m, declination of ♂ 1° 21′ north with a single pinnule, observed among clouds. [4 51 Declinatio ♂ 1^g 21′ B vnico pinnacidio, inter nubes obſeruata.][1117]

On 24 January *[DIE 24 JANUARIJ.]*

[At] 6^h 28^m in the morning Mars had passed that small star of ♍ which is the third of the more southern wing, and was distant from it, being somewhat more northerly, by the sextant 0° 38′; and that in the straight line which is drawn from that small [star] of ♍ to the calf of Boötes that precedes Arcturus. From this it will be possible to infer the place of ♂. [H. 6 28′ Mane Mars erat prætergreßus paruam illam ſtellam ♍ quæ eſt tertia alæ meridionalioris & diſtabat ab ea borealior aliquantulum

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[1114] "Time" is this edition's head; the three other heads are printed, in smaller type, above the value columns; the time column has no printed head. These lines are set in roman. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

[1115] The value stands at the right of the second line, after *circa Hor. 5*; it is given as degrees and minutes.

[1116] The paragraph is set in roman as far as *exortas.* and in italic from *Fuit autem* to the end. The time *5 22* stands at its head, printed without unit marks; it is given as hours and minutes.

[1117] These lines are set in roman. The first time is printed after *H.*, a figure with a fraction; it is given as hours. The other times, printed without unit marks, are given as hours and minutes. *35^g 26½′*, *1^g 21′* are printed with a raised *g* and a prime. The values *35 26* and *14 59* stand at the right of their lines, printed without unit marks; they are given as degrees and minutes. *B* is given as "north".

exiſtens per Sextantem 0ᵍ 38′, idque in ea linea recta quæ ducitur a parua illa ♍ in ſuram bootis antecedentem arcturum Hinc poterit colligi locus ♂.][1118]

On 26 January, morning [DIE 26 JANUARIJ, MANE.]

Time	Reading	Value
$4^h\ 28^m$	Declination of ♂, north [Declin. ♂ B.], with one pinnule [vno pinn.]	1° 16½′
	with the other [altero]	1° 16′

1119

Time	The heart of ♌ west [Cor ♌ occ.]	♂ west [♂ occid.]	Equatorial distance [Diſt. æquat.]
$4^h\ 40^m\ 7^s$	63° 55′	24° 48½′	39° 6½′
$4^h\ 42^m\ 37^s$	64° 33½′	25° 27½′	39° 6′
$4^h\ 44^m\ 31^s$	65° 8½′	26° 2′	39° 6½′
$4^h\ 47^m\ 19^s$	65° 46′	26° 38¾′	39° 7¼′
$4^h\ 49^m\ 5^s$	66° 12′	27° 4½′	39° 7½′
$4^h\ 53^m\ 38^s$	67° 21′	28° 14′	39° 7′
$4^h\ 55^m\ 5^s$	67° 44′	28° 36½′	39° 7½′
$4^h\ 57^m\ 35^s$	68° 22′	29° 15′	39° 7′

1120

Set the equatorial distance of ♂ from the heart of ♌, at about 5^h, at 39° 7′. [Pone circa horam 5 diſt. æquat. ♂ a corde ♌ 39· 7][1121]

Time	Reading	Value
$6^h\ 8^m$	Declination of ♂, north [Declin. ♂ B.], with one [vno]	1° 16½′
	with the other pinnule [altero pinn.]	1° 16′

[1118]The time is printed after *H.* with a prime after *28*; the prime is given as minutes of time. No point stands after *arcturum*; *bootis* and *arcturum* are printed in lower case.

[1119]"Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. *vno pinn.* stands on the line of the label, before its value; *altero* is set to the right on the line below. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

[1120]"Time" is this edition's head; the three other heads are printed, in smaller type, above the value columns; the time column has no printed head. These rows stand at the head of the left column, with no date line above them; they follow the rows of 26 January at the foot of the right column of the preceding page. These lines are set in roman. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

[1121]The value stands at the right of the second line; a small point stands after *39*, at mid-height. The value, printed without unit marks, is given as degrees and minutes.

1122

Time	♂ west [♂ occ.]	Spica ♍ west [Spica ♍ occ.]	Value
6^h 11^m 3^s	47° 44′	37° 31¼′	10° 12¾′
6^h 12^m 56^s	48° 13½′	38° 0½′	10° 13′
6^h 14^m 24^s	48° 36⅝′	38° 24′	10° 12⅝′
6^h 16^m 3^s	49° 0¾′	38° 48¾′	10° 12′

1123

At noon the clock was going 10^m 50^s slower than it should, which error had befallen it in the space of two days. [Horologium in Merid. 10 M. 50 S. iuſto tardius ibat, qui error illi duorum dierum ſpatio contigit.]

Note. On this day ♂ was near the first station, so that according to the calculation *of Alfonso X it did not move at all from day 23 up to 27; but exactly on this day, the 26th, the sign R. of the station was set, the retrogradation beginning, according to Cyprian's ephemerides. But according to the ephemerides both of Mästlin and of Magini, Mars first becomes stationary on day 28.* [Nota. ♂ hoc die erat iuxta ſtationem primam, ita vt nihil moueretur juxta calculum Alphonſi a die 23 vsque in 27, exacte vero hoc die 26 ponebatur ſignum R. ſtationis incipiente retrogradatione iuxta Ephemerides Cypriani. Iuxta Ephemerides vero tam Mæſtlini quam Magini, Mars primum fit ſtationarius die 28.][1124]

On 28 January, morning [DIE 28 JANUARIJ, MANE.]

Time	Reading	Value
4^h 25^m [4^H 25′]	Declination of ♂, north [Decl. ♂ Bor.], with one pinnule [vno pinn.]	1° 19′
	with the other pinnule [altero pinn.]	1° 18½′

1125

[1122] "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. *vno* stands on the line of the label, before its value; *altero pinn.* is set to the right on the line below. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

[1123] "Time" and "Value" are this edition's heads; the two other heads are printed, in smaller type, above the second and third columns; the time column and the fourth column have no printed head. These lines are set in roman. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

[1124] The paragraph is set in italic, except *calculum*, which is set in roman. *vs-/que* is divided at the line end, with a round *s* before the hyphen.

[1125] "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The time is printed with a raised *H* and a prime after *25*; the prime is given as minutes of time. *vno pinn.* stands on the line of the label, before its value; *altero pinn.* is set to the right on the line below. The values, printed without unit marks, are given as degrees and minutes.

Time	The heart of ♌ west [Cor ♌ occ.]	♂ west [♂ occ.]	Equatorial distance [Diſt. æquat.]
4^h 33^m	62° 1′	22° 55′	39° 6′
4^h $34\frac{5}{6}^m$	62° 32⅓′	23° 26′	39° 6⅓′
4^h $38\frac{1}{2}^m$	63° 20′	24° 13¼′	39° 6¾′
4^h $40\frac{2}{3}^m$	63° 56′	24° 49¼′	39° 6¾′
5^h $1\frac{1}{6}^m$	69° 9¼′	30° 2½′	39° 6¾′
5^h $3\frac{1}{3}^m$	69° 39′	30° 32′	39° 7′
5^h 5^m	70° 9½′	31° 3′	39° 6½′

1126

Time	Reading	Value
5^h 10^m	Repeated declination of ♂, north [Repetita declin. ♂ Bor.]	1° 19′

1127

It therefore appears that Mars is stationary at about precisely this time, since it kept the same equatorial distance from the heart of ♌ as above on day 26: 39° 6½′. [Apparet itaque Martem circa hoc præciſe tempus eße ſtationarium, ſiquidem eandem quam ſupra die 26 retinuit a corde ♌ diſt. æquatoriam 39 6½][1128]

At the following noon the clock was moving only 1^m and 5^s slower than it should. [Horolog. in Meridie ſequente ſaltem vno minuto & 5 ſecundis iuſto tardius mouebatur.][1129]

On 29 January, morning [DIE 29 JANUARIJ, MANE.]

Time	Reading	Value
5^h $12\frac{2}{3}^m$	Declination of ♂, north, by the armillae [Declinatio ♂ Bor.] [per Armillas]	1° 21½′. Altitude [Altit.] 25° 30′

1130

1126 "Time" is this edition's head; the three other heads are printed, in smaller type, above the value columns; the time column has no printed head. These lines are set in roman. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1127 "Time", "Reading" and "Value" are this edition's heads. This line is set in roman. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes.

1128 The figures *39 6½* stand on a line of their own at the right, in italic, printed without unit marks; they are given as degrees and minutes.

1129 This paragraph stands at the head of the right column, with no date line above it; it follows the entries of 28 January at the foot of the left column. *vno minuto* is printed in words, *5 ſecundis* with a figure.

1130 "Time", "Reading" and "Value" are this edition's heads. These lines are set in roman. The label runs over two lines; the value stands after *per Armillas*, followed on the same line by a point and *Altit. 25 30*; both are given in one cell. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

Time	♂ west [♂ occid.]	Spica ♍ west [Spica ♍ occ.]	Equatorial distance [Diſt. æquat.]
$5^h\ 46^m\ 10^s$	41° 37′	31° 24½′	10° 12½′
$5^h\ 49^m\ 47^s$	42° 32½′	32° 21′	10° 11½′
$5^h\ 51^m\ 33^s$	43° 2½′	32° 50′	10° 12½′
$6^h\ 8^m\ 22^s$	47° 15½′	37° 3⅓′	10° 12⅙′
$6^h\ 11^m\ 23^s$	47° 58¾′	37° 46½′	10° 12¼′

Altitude 23° 30′ [Altit. 23 30][1131]

Time	Reading	Value
$6^h\ 14^m$	.. Repeated declination of ♂, north [.. Repetita decl. ♂ Bor.]	1° 21½′

1132

Note.[1] Three days before, the distance of Mars from Spica was the same, except that it seemed almost ½′ greater; therefore Mars [was] stationary in these days. [Nota.[1] Ante triduum fuit eadem diſtantia Martis a Spica, niſi quod ½ ſcrupulo maior fere videbatur, quare Mars hiſce diebus ſtationarius.]

For the place of ♂. [Pro loco ♂.]

On 9 January [DIE 9 JANUARIJ.]

Time	Reading	Value	Remark
$6^h\ 0^m$	Equatorial distance of ♂ from Spica [Diſt. æquat. ♂ a Spica]	11° 58′ 0″	
	Right ascension of Spica [Aſcenſ. R. Spicæ]	195° 52′ 50″	
	Right ascension of ♂ [Aſcenſ. R. ♂]	183° 54′ 50″	
	Declination of ♂ [Declin. ♂]	1° 39¾′ north [1 39¾ B.]	
$7^h\ 20^m$	Equatorial distance of ♂ from Arcturus [Diſt. æquat. ♂] [ab Arcturo]	25° 18′	
			once only [ſemel tantum]
	Right ascension of Arcturus [Aſcenſ. R. Arcturi]	209° 13′	
	Right ascension of ♂ [Aſcenſ. R. ♂]	183° 55′	
	Declination, north [Declinatio B.]	1° 39¾′	

[1131] "Time" is this edition's head; the three other heads are printed, in smaller type, above the value columns; the time column has no printed head. These lines are set in roman. *Altit. 23 30* is set to the right on a line of its own below the last row, its figures under the equatorial-distance column; it is given below the table as printed. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

[1132] "Time", "Reading" and "Value" are this edition's heads. This line is set in roman; two spaced points stand between the time and *Repetita*. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes.

1133

On 10 January, morning [DIE 10 JANUARIJ, MANE.]

Time	Reading	Value	Second value
$4^h\ 9^m$	Meridian altitude of ♂ by the Tychonic [quadrant] [Altit. ♂ Merid.] [per Tychon.]	35° 40′ 0″	35° 39′ 30″
	Declination from the altitude [Decl. ex Alt.]	1° 34′ 40″	1° 34′ 10″
$5^h\ 15^m$	by the armillae [per Armillas]	1° 35′ north [1 35 B.]	
$5^h\ 6^m$	Distance between ♂ and the heart of ♌ [Diſt. inter ♂ et cor ♌]	39° 5¾′	
	Declination of ♂ [Declin. ♂]	north [B.] 1° 34½′	
	Declination of the heart of ♌ [Declin. cordis ♌]	north [B.] 13° 57⅔′	
	Difference of ascension [Diff. Aſcenſ.]	37° 31′ 4″	
	Right ascension of the heart of ♌ [Aſc. R. cordis ♌]	146° 33′ 45″	
	Right ascension of ♂ [Aſc. R. ♂]	184° 4′ 49″	
$5^h\ 17^m$	Between ♂ and Spica [Inter ♂ et Spicam]	15° 48⅓′	
	Difference of ascension [Diff. aſcenſ.]	11° 50′ 8″	
	Right ascension of ♂ [Aſc. R. ♂]	184° 2′ 42″	
	Declination, north [Declin. Bor.]	1° 34′ 30″	
	Right ascension of ♂, limited [Aſc. R. ♂ limit.]	184° 3′ 50″	

1134

[1] Added afterwards in the margin. [In margine poſtea adſcripta.]

Reading	Value
Corresponding longitude [Reſp. Longitudo]	3° 5′ 57″ ♎
Latitude [Latitudo]	3° 3′ 43″ north [3 3 43 B.]

1133 "Time", "Reading", "Value" and "Remark" are this edition's heads. These lines are set in roman. The line *Pro loco* ♂. stands centred above the date line. The label *Diſt. æquat.* ♂ */ ab Arcturo* runs over two lines, the value on the second; it is given whole on one row. *ſemel tantum* is set to the right on a line of its own, below the value *25 18*; it is given on its own row. *B.* after the first declination is given as "north". The times, printed without unit marks, are given as hours and minutes; values of three figures as degrees, minutes and seconds, values of two figures as degrees and minutes.

1134 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. The label *Altit.* ♂ *Merid. / per Tychon.* runs over two lines, the two values on the second; it is given whole on one row. The lines at *5 15* and *5 6* stand in that order, as printed. *B.* stands before the values of the two declinations after *5 6*, in a column of its own, and after the value at *5 15*; each is given as "north". The times, printed without unit marks, are given as hours and minutes; values of three figures as degrees, minutes and seconds, values of two figures as degrees and minutes.

1135

On 14 January, A. M. [DIE 14 JANUARIJ A. M.]

Time	Reading	Value
$7^h\ 4^m$	Equatorial distance of ♂ from Arcturus [Diſt. æquat. ♂] [ab Arcturo]	24° 28′
	Right ascension of Arcturus [Aſcenſ. R. Arcturi]	209° 13′
	Right ascension of ♂ [Aſcenſ. R. ♂]	184° 45′
	Declination, north [Declinatio Bor.]	1° 25¾′

1136

On the same day, P. M. [N.] [Die eodem, P. M. [N.]][1137]

Time	Reading	Value
$15^h\ 52^m$	Meridian altitude of ♂ [Altitudo ♂ Merid.]	35° 28′ 45″
		34° 5′ 20″
	Declination, north [Declinatio Bor.]	1° 23′ 25″
$16^h\ 45^m$	Declination by the armillae [Declin. per Armill.]	1° 23′ 10″
$16^h\ 0^m$	Distance of ♂ from the heart of ♌ [Diſtantia ♂] [a corde ♌]	39° 52½′
	Set the declination then [Pone tunc declinat.]	1° 23′ 20″
	Difference of ascension [Diff. Aſcenſ.]	38° 16′ 43″
	Right ascension of ♂ [Aſc. R. ♂]	184° 50′ 28″
$16^h\ 40^m$	Distance of ♂ from Spica ♍ [Diſtantia ♂ a Spica ♍]	15° 4⅙′
	The declination of ♂ was then [Fuit tunc Declin. ♂]	1° 23¼′
	Difference of ascension [Diff. aſcenſ.]	11° 0′ 5″
	Right ascension of ♂ [Aſc. R. ♂]	184° 52′ 45″
$16\frac{2}{3}^h$	Set the right ascension of ♂ [Pone Aſcenſ. R. ♂]	184° 51′ 30″
	Declination [Declin.]	north [B.] 1° 23′ 10″
	Corresponding longitude [Reſp. Longitudo]	3° 54′ 0″ ♎
	Latitude [Latitudo]	3° 12′ 28″ north [3 12 28 B.]

[1135] "Reading" and "Value" are this edition's heads; the page prints no heads here. These two lines stand at the head of the left column, with no date line above them; they follow the rows of 10 January at the foot of the right column of the preceding page, where the table breaks off. These lines are set in roman. *B.* is given as "north". The values, printed without unit marks, are given as degrees, minutes and seconds.

[1136] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The label *Diſt. æquat.* ♂ / *ab Arcturo* runs over two lines, the value on the second; it is given whole on one row. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

[1137] This line is set centred, in roman upper and lower case; *[N.]* is printed in square brackets.

1138

On 15 January [DIE 15 JANUARIJ.]

Time	Reading	Value
$15^h\ 50^m$	Meridian altitude of ♂ [Altitudo ♂ Merid.]	35° 26′ 30″
		34° 5′ 30″
$16^h\ 51^m$	By the armillae 1° 21′ [Per Armillas 1 21]	1° 21′ 0″
$15^h\ 57^m$	Distance between ♂ and Spica ♍ [Diſt. inter ♂] [et Spic. ♍]	14° 59′
	[It] was moderately good [erat mediocriter bona]	
	Declination, north [Declin. B.]	1° 21′
	Difference of ascension [Diff. aſcenſ.]	10° 55′ 5″
	Right ascension of ♂ [Aſcenſ. R. ♂]	184° 57′ 45″
	Corresponding longitude [Reſp. Longitudo]	4° 0′ 48″ ♎
	Latitude [Latitudo]	3° 12′ 57″ north [3 12 57 B.]

1139

On 21 February *[DIE 21 FEBRUARIJ.]*

Time	Reading	Value	Second value
$8^h\ 44^m$	*Between ♂ and the 3rd [star] of the wing of* ♍ [Inter ♂] [& 3^{am} alæ ♍]	*4° 4⅔′*	
	Altitude of ♂ almost 16° [Altit. ♂ fere 16 grad.]		
$8^h\ 55^m$	*Between ♂ and the same [star]* [Inter ♂] [& eandem]	*4° 4′*	
9^h [H.9]	*The declination of ♂ was* [Declin. ♂ fuit]	*3° 13′*	
$10^h\ 9^m$	*Between ♂ and the heart of* ♌ [Inter ♂] [& cor ♌]	*36° 27½′*	*Altitude* [Altit.] *24⅓°*

1138 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The second value, *34 5 20*, stands under the value of the line above, with no label of its own. The line at *16 45* stands above the line at *16 0*, as printed. The label *Diſtantia ♂ / a corde ♌* runs over two lines, the value on the second; it is given whole on one row. *B.* stands before the value of the declination after *Pone Aſcenſ. R. ♂*, in a column of its own, and after the value of the latitude; each is given as "north". The time *16⅔*, a single figure with a fraction, is given as hours; the other times, printed without unit marks, as hours and minutes. Values of three figures are given as degrees, minutes and seconds, values of two figures as degrees and minutes.

1139 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The second value, *34 5 30*, stands under the value of the line above, with no label of its own. At *16 51* the figures *1 21* stand in the label after *Per Armillas*, followed by the value *1 21 0*; the figures in the label are given as degrees and minutes. The label *Diſt. inter ♂ / et Spic. ♍* runs over two lines, the value on the second; it is given whole on one row. *erat mediocriter bona* stands on a line of its own in the label position. *B.* after the latitude is given as "north". The times, printed without unit marks, are given as hours and minutes; values of three figures as degrees, minutes and seconds, values of two figures as degrees and minutes.

1140

Time	Reading	Value	Second value
10h 11m	*The same repeated* [Eadem repet.]	*36° 28′*	
10h 12½m		*36° 27½′*	
10h 22m	Declination of ♂ [Declin. ♂]	3° 14′	26⅔°
		3° 14¼′	

1141

At the following noon the error of the clock was imperceptible, for it was going only 20s slower than it should. [Horologij error in Meridie ſequenti fuit inſenſibilis, nam 20″ ſcrupulis ſecundis ſaltem iuſto tardius ibat.][1142]

On 23 February *[DIE 23 FEBRUARIJ.]*

The following, on account of the motion and the parallax. [Sequentia propter motum et parallaxin.]

Time	Reading	Value	Second value
7h 46m	*Between ♂ and the third [star] of* ♍ [Inter ♂ &] [tertiam] [♍.]	*4°39⅙′*	*Altitude of ♂ 9°* [Altit. ♂ 9 gr.]
7h 53m		*4°39¼′*	*10½°*
7h 56m		*4°39½′*	*10° 50′*
8h 0m	*The same* [Eadem]	*4°39⅓′*	*11¼°*

1143

1140 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. Each *Inter* label runs over two lines, the value on the second; each is given whole on one row. *Altit. ♂ fere 16 grad.* stands on a line of its own. *Altit. 24⅓* is set to the right of the value at *10 9*. The time *H.9* is given as hours; the other times, printed without unit marks, as hours and minutes. The values are given as degrees and minutes; *24⅓*, a single figure with a fraction, as degrees.

1141 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines stand at the head of the right column, with no date line above them; they follow the rows of 21 February at the foot of the left column. The first two lines are set in italic, the last two in roman. *26⅔* stands to the right on the line of *10 22*, in the column of *Altit. 24⅓* at the foot of the left column, with no label of its own; it is given as degrees. The last value stands alone under the value of the line above. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1142 *20″* is printed with a double mark after the figure and is followed by the words *ſcrupulis ſecundis*; the figure and the words are given together as 20s.

1143 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Inter ♂ & / tertiam / ♍.* runs over three lines, with one value on each; it is given whole on the first row. *Altit. ♂ 9 gr.* is set to the right on the first line, and the further altitudes stand under it. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; the altitudes *10½* and *11¼*, a single figure with a fraction, as degrees, and *10 50* as degrees and minutes.

You can therefore use, imperceptibly, at about 7^h 45^m from noon, the distance of ♂ from the said star, 4° 39⅙′, and at 8^h, 4° 39⅓′; for in the meantime ♂ was moving away a little from the star against the order of the signs. [Potes itaque inſenſibiliter iuxta Horam a Meridie 7 Min. 45 vti diſtantia ♂ a dicta ſtella 4 g. 39⅙′ et Hora 8,4 g. 39⅓′ nam aliquantulum ♂ interea a ſtella in antecedentia dimouebatur.][1144]

Time	Reading	Value	Second value
8^h 5^m	*♂ was distant from the second [star] in the wing of ♍, the star nearest to it* [♂ a ſecunda in ala ♍] [ſibi proxima ſtella] [diſtabat]	*2° 29′*	*Altitude of ♂* [Alt. ♂] *12⅙°*
8^h 10^m	*The same repeated* [Eadem] [repet.]	*2° 29⅙′ 12½° or ¾*	[12½ vel ¾]

[1145]

From this the place of ♂ will be able to be examined and observed in the morning, when it is tending toward setting, at similar distances, for deriving its parallax. At 8¾^h the declination of ♂ [was] 3° 29⅔′, twice. [Hinc poterit locus ♂ ſcrutari & mane obſeruari, quando ad occaſum tendit in ſimilibus diſtantijs pro parallaxi eius eruenda H. 8¾ declinatio ♂ 3 grad. 29⅔ Min. bis.]

Note. At about 10^h, ♂ was seen to make a right angle with the two said stars of ♍, namely the second and the third of the southern wing. [Nota. ♂ circa horam 10 viſus eſt facere angulum rectum cum dictis duabus ſtellis ♍ vtpote ſecunda et tertia alæ auſtralis.]

P. M. N., when the heart of ♌ was distant from the meridian toward the west 34° 57′, [it] passed through the meridian and had the altitude of ♂: 37° 38½′. [P. M. N. quando cor ♌ diſtabat a Meridiano ad occaſum 34 57 tranſiuit per Merid. habuitque Altit. ♂ 37 38½][1146]

Time	Reading	Value
1^h 32^m	Between ♂ and the heart of ♌, by the sextant △ [Inter ♂ & cor] [♌ per Sext. △]	35° 46′
1^h 33^m		35° 45¾′
1^h $35½^m$		35° 46′
1^h 40^m	Between ♂ and Spica [Inter ♂] [et Spicam]	19° 13½′
1^h $41½^m$		19° 13½′
1^h 45^m		19° 13⅓′
1^h 50^m	Declination of ♂, north [Declin. ♂ B.]	3° 33⅓′

[1144] *8,4* is printed with a comma between the hour and the degrees.

[1145] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The first label runs over three lines, the value on the third; the second over two lines, the value on the second; each is given whole on one row. *Alt. ♂ 12⅙* and *12½ vel ¾* are set to the right of the values. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *12⅙* and *12½*, a single figure with a fraction, as degrees.

[1146] The figures in this paragraph, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
$5^h\ 7^m$	When the altitude of ♂ was 17¼°, [it] was distant from the third [star] in the southern wing of ♍ [Quando Alt. ♂ fuit 17¼ diſtabat] [a tertia in auſtr. ala ♍]	4° 45¾′

1147

[At] $5^h\ 11^m$ the distance was the same, 4° 45⅓′; its altitude was then 16½°. [5 11 Fuit diſt. eadem 4 45⅓, tunc fuit Altit. eius 16½.][1148]

It was not possible to observe ♂ any further, on account of the dawn. [Vlterius propter auroram ♂ obſeruare ♂ non licuit.][1149]

At the following noon the clock was going 9½^m slower than it should, which error crept up on it from two days [before], namely from the noon of day 22. [Horolog. in Mer. ſequenti tardius iuſto ibat 9½ M. qui error a duobus diebus vtpote a Meridie diej 22 illi obrepſit.]

On 26 February, morning *[DIE 26 FEBRUARIJ, MANE.]*

Time	Reading	Value	Second value
$7^h\ 41^m$	*Between ♂ and the third [star] in the wing of* ♍ [Inter ♂ et] [tertiam in] [ala ♍]	*5° 36′*	*Altitude of* ♂ [Alt. ♂] *10° 20′*
$7^h\ 44^m$		*5° 37′*	*10° 40′*
$7^h\ 46½^m$		*5° 35′*	

1150

The first is truer; but this variation occurred on account of intervening clouds. [Prior eſt verior, hæc autem varietas incidit propter interuenientes nubes.]

At noon the clock was going 15½^m faster than it should; this error applies to it from the nearest noon. [Horologium in meridie 15½ M. iuſto citius ibat, a meridie proximo iſte error ei competit.]

[1147] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The label *Inter ♂ & cor / ♌ per Sext.* △ runs over two lines, with one value on each; it is given whole on the first row. The label *Inter ♂ / et Spicam* runs over two lines, the value on the second. The label at *5 7* runs over two lines, the value on a third line at the right. Each is given whole on one row. *B.* is given as "north"; *17¼*, a single figure with a fraction, as degrees. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1148] This line stands at the head of the left column, with no date line above it; it follows the line at *5 7* at the foot of the right column of the preceding page. It is set in roman. The time, printed without unit marks, is given as hours and minutes; *4 45⅓* as degrees and minutes; *16½*, a single figure with a fraction, as degrees.

[1149] ♂ is printed twice, after *auroram* and after *obſeruare*; it is given once.

[1150] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Inter ♂ et / tertiam in / ala* ♍ runs over three lines, with one value on each; it is given whole on the first row. *Alt. ♂ 10 20* is set to the right on the first line, *10 40* under it. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

On 27 February, morning *[DIE 27 FEBRUARIJ, MANE.]*

Time	Reading	Value
$4^h\ 17^m$	*Between* ♂ *and Med. of the neck of* ☋ [Inter ♂ & Med.] [ceruicis ☋]	*35° 0′*
$4^h\ 19½^m$		*35° 0′*

1151

But we rather used the neck of ☋*, because the heart of* ☋ *was a little lower toward the horizon and was introducing refraction.* [Vſi autem ſumus potius ceruice ☋ eo quod cor ☋ eßet paulo decliuius verſus Horizontem & refractionem ingereret.]

Time	Reading	Value	Remark
$4^h\ 23^m$	*Declination of* ♂ [Declin. ♂]		
	north, with one pinnule [B. vno pinna.]	*4° 1′*	
	with the other [altero]	*4° 1′*	*doubtful* [dubiæ]

1152

About these times the altitude of ♂ *was very nearly 23°.* [Fuit circa hæc tempora alt. ♂ P. 23 proxime][1153]

To test the armillae, whether the axis corresponded correctly to the axis of the world, we observed that the more southern and lower of the preceding [stars] in the wheels had a declination [Pro experiundis Armillis an axis recte reſponderet axi mundi, obſeruauimus quod auſtralior & inferior præcedentium in rotis habuerit declinationem]

Reading	Value
with one pinnule [vno pinnacidio]	*58° 37½′*
with the other [altero]	*58° 37⅔′*

when that lower [star] in the Bear was in equilibrium from the pole toward the east. But it ought to have had the declination 58° 34′. Therefore the axis of the armillae was removed from its place, and so we restored it. [cum eßet inferior illa in vrſa

[1151] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Inter ♂ & Med. / ceruicis ☋* runs over two lines, with one value on each; it is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1152] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in italic. *B. vno pinna.* and *altero* are set to the right on the two lines below the label, each followed by its value; *dubiæ* stands after the second value. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

[1153] *alt. ♂ P. 23 proxime* is set to the right on the second line; *P.* before *23* is given by the degree sign.

a polo in æquilibrio verſus ortum. Debuit autem habere declinationem 58 34. Ergo armillarum axis erat ſuo loco remotus, quare eum reſtituimus.][1154]

Since, therefore, some fault underlies the declination taken, ♂ was accordingly taken afterwards from Arcturus for its latitude. 5^h 27^m A. M.: between ♂ and Arcturus, by the sextant, 33° 3′; but this distance was not very exact either, for it was taken among recurring clouds; it is, however, moderate, and one which you can use without perceptible error. [Quia itaque declinationi acceptæ ſubeſt vitium aliquod, igitur poſtea ♂ ab Arcturo acceptus eſt pro latitudine eius. 5 27 A. M. Inter ♂ et Arct. per Sext. 33 3 ſed neque hæc diſtantia erat admodum exacta, nam inter nubes recurrentes accipiebatur; eſt tamen mediocris, quaque ſine ſenſibili errore vti potes.][1155]

In the evening of the same day *[Veſperi eodem die.]*

Time	Reading	Value	Second value
7^h 48^m	*Between ♂ and the 3rd [star] of the wing of* ♍ [Inter ♂ &] [3 alæ ♍]	*6° 2′*	*Altitude of ♂* [Alt. ♂] *11° 40′*
7^h $50½^m$		*6° 1½′*	*12° 0′*
7^h 53^m		*6° 1½′*	*12° 30′*
7^h 55^m	*By the armillae, verific.* [Per Armill. verific.]		
	Declination [Decl.]	*4° 5¼′ north* [4 5¼ B.]	

[1156]

At the following noon the clock was going only 1^m 25^s faster than it should, which error crept up on it from two days ago. [In Meridie ſequente horologium ſaltem 1′ 25″ iuſto celerius ibat, qui error abhinc biduo illi obrepſit.][1157]

On 3 March [DIE 3 MARTIJ.]

N. B. ♂ about the opposition to the Sun. [N. B. ♂ circa ☍ Solis.]

[1154] "Reading" and "Value" are this edition's heads. The two lines *vno pinnacidio* and *altero*, each with its value, are set to the right inside the paragraph, in italic, after *declinationem*. The values, printed without unit marks, are given as degrees and minutes.

[1155] The paragraph runs from the foot of the left column to the head of the right column, divided at *diſtan- / tia*; it is given once, here. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes.

[1156] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Inter ♂ & / 3 alæ ♍* runs over two lines, with one value on each; it is given whole on the first row; *3* is printed without a raised ending. *Alt. ♂ 11 40* is set to the right on the first line, *12 0* and *12 30* under it. *Decl. 4 5¼ B.* is set to the right on a line of its own, below the line at *7 55*. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1157] *1′ 25″* is printed with a single and a double mark; it is given as 1^m 25^s.

Time	Reading	Value
$12^h\ 24\frac{1}{6}^m$ A. M.	♂ through the meridian, in altitude by the revolving [quadrant] [♂ per Merid.] [in Alt. per vol.]	38° 35½′
$12^h\ 40^m$	Between ♂ and the 2nd [star] of the wing of ♍ [Inter ♂ &] [2^{am} alæ ♍]	2° 57½′
$12^h\ 45^m$		2° 57⅔′
$12^h\ 53^m$	Between ♂ and the 3rd [star] in the wing of ♍ [Inter ♂ et] [3^{tiam} in] [ala ♍]	7° 14⅔′
$12^h\ 55^m$		7° 14⅔′
$12^h\ 57^m$		7° 15′
$1^h\ 9^m$	Between ♂ and the heart of ♌ [Inter ♂] [& cor ♌]	33° 15′
$1^h\ 11^m$		33° 15′
$1^h\ 12^m$		33° 15′
$1^h\ 15^m$	Between ♂ and Spica ♍ [Inter ♂ &] [Spicam ♍]	21° 33½′
$1^h\ 17^m$		21° 33½′
$1^h\ 30^m$	Declination of ♂ [Declin. ♂]	4° 29½′
	with the other pinnule [alt. pinn.]	4° 29¼′

Note. These observations on ♂ *are very good for obtaining its place near the opposition with the Sun.* [Nota. Hæ obſeruationes in ♂ ſunt admodum bonæ pro eius loco iuxta ☍ cum Sole habendo.][1158]

Time	Reading	Value	Second value
$5^h\ 6^m$	*In the morning. Between* ♂ *and the 3rd [star] of the wing of* ♍ [Mane. Inter ♂] [& 3 alæ ♍]	*7° 24′*	
	Declination [Declin.]	*4° 32¾′*	*Altitude* [Alt.] *14° 40′*
$5^h\ 11^m$		*4° 33′*	*14° 10′*

[1159]

Doubtful on account of the dawn. [Dubiæ propter Auroram.]

N.B. For the places of the fixed [stars] from which ♂ *was observed.* [N.B. Pro fixarum locis a quibus ♂ obſeruabatur.]

[1158] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. The rows are set in roman. The label ♂ *per Merid.* / *in Alt. per vol.* runs over two lines, the value on the second; *A. M.* follows the time. The labels at *12 40*, *12 53*, *1 9* and *1 15* run over two or three lines, with one value on each; each is given whole on the first row. *alt. pinn.* is set under *Declin.* ♂. The *Nota.* stands in italic in the right part of the column, over ten lines beside the rows from *12 24⅙* to *1 12*, with no brace; it is given after the table. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1159] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The first label runs over two lines, the value on the second; it is given whole on one row; *3* is printed without a raised ending. *Alt. 14 40* is set to the right of the declination, *14 10* under it. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Reading	*Meridian altitude* [Altitudo Merid.]	*Declination* [Declinatio]
The second [star] in the wing of ♍ [Secunda in ala ♍]	*35° 45′*	*1° 39′*
The third [star] in the wing of ♍ [Tertia in ala ♍]	*34° 56½′*	*0° 51′*
Between the second and the third in the southern wing of ♍ [Inter ſecund. & tertiam] [in Auſtr. ala ♍]		*5° 31½′*
Between the second and Spica ♍ [Inter ſecundam & Spicam ♍]		*14° 29⅙′*
Between the third and Spica ♍ [Inter tertiam & Spicam ♍]		*19° 15⅚′*
Between the second and the heart of ♌ [Inter ſecundam & cor ♌]		*34° 58 1/12′*
Between the third and the heart of ♌ [Inter tertiam & cor ♌]		*40° 22⅙′*

1160

From this the places of these stars will be able to be verified. You have more in the book on the fixed [stars]. [Hinc poterint verificari harum ſtellarum loca. Habes plura in libro de fixis.]

On the same day, 3 March, P. M. *[EODEM DIE 3 MARTIJ P. M.]*

Time	*Distance from the 3rd [star] of the wing* [Diſt. a 3ª alæ]	*Declination of* ♂ [Declin. ♂]	*Azimuth of* ♂ [Azim. ♂]	*Altitude of* ♂ [Alt. ♂]
7ʰ 33½ᵐ	*7° 26′*	*4° 38′ north* [4 38 B]	*77° 42′*	*13° 9′*
7ʰ 39ᵐ	*7° 26⅙′*	*4° 38′*	*76° 55′*	*14° 3′*
7ʰ 44ᵐ	*7° 26½′*			
7ʰ 45⅙ᵐ			*75° 58′*	*14° 45½′*
7ʰ 48½ᵐ	*7° 26′*	*4° 38′*		*14° 55′*
	from the 1st [star] of the wing [a 1 alæ]			
7ʰ 57½ᵐ	*6° 20′*			*16° 10′*
8ʰ 0ᵐ	*6° 20⅙′*			*16½°*
8ʰ 2ᵐ		*4° 37½′*		

1161

The azimuths are counted from the south toward the east. [Azimuta numerantur a meridie verſus ortum.]

1160 "Reading" is this edition's head; the two other heads are printed, in smaller italic, above the value columns. These lines are set in italic. The values in the five rows from *Inter ſecund. & tertiam* onward stand under the head *Declinatio*, as printed; the column under *Altitudo Merid.* is empty on those lines. The label *Inter ſecund. & tertiam / in Auſtr. ala* ♍ runs over two lines, the value on the second; it is given whole on one row. The values, printed without unit marks, are given as degrees and minutes; *58′/12* is printed with the fraction 1 over 12.

1161 "Time" is this edition's head; the four other heads are printed, in smaller italic, over the value columns. These lines are set in italic, except *a 1 alæ*, roman, which is set as a sub-head over the distance column; it is given as a row of its own, in that column. *B* after the first declination is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *16½*, a single figure with a fraction, as degrees.

Afterwards ♂ was observed from the tail of ♌ and Vindemiator. [Poſtea obſeruabatur ♂ a cauda ♌ & Vindemiatore.]

Time	Reading	Distance	Declination	Azimuth	Altitude
8h 6½m	Between ♂ and the tail of ♌, by the sextant [Inter ♂ &] [caudam ♌] [per Sext.]	*13° 54¼′* doubtful [dubia]		*71° 19′*	*17° 36⅓′*
8h 10m		*13° 52′*		*70° 42′*	*18° 5½′*
8h 12½m		*13° 52′*		*69° 58′*	*18° 26½′*
8h 16m		*13° 52⅙′*		*69° 11′*	*18° 48′*
8h 19½m	♂ from Vindemiator [♂ a Vindemiatore]	*14° 27′*		*68° 20′*	*19° 25′*
8h 21½m		*14° 26⅚′*		*68° 1′*	*19° 40′*
8h 23m	*The declination of ♂ was* [Fuit decl. ♂]		*4° 37′ north* [4 37 B]		
9h 23m	Between ♂ and the heart of ♌ [Inter ♂ & cor ♌]	32° 56⅔′		53° 30′	27° 8′
9h 27⅙m		32° 56¾′		52° 31′	27° 33′
9h 31¼m		32° 56⅔′		50° 0′	28° 11′
9h 35m	Declination of ♂, repeated [Decl. ♂] [repetita]		4° 37½′ north [4 37½ B.]		

1162

On 4 March *[DIE 4 MARTIJ.]*
The following morning *[Mane ſequente.]*

Time	Reading	*Distance* [Diſt.]	*Azimuth of ♂* [Azim. ♂]	*Altitude* [Alt.]
5h 2m	*Between ♂ and the 3rd [star] of the wing* [Inter ♂ &] [3 Alæ]	*7° 40′*	*75° 25′*	*15° 27′*
5h 4m 50s			*76° 56′*	*15° 20′*
5h 9m	♂ *from Vindemiator* [♂ a] [Vindem.]	*14° 24¼′*		
5h 10½m		*14° 25′*	*77° 52′*	*14° 57′*
	set [it] at [pone]	*14° 24½′*		
5h 14m 35s	♂ *from the tail of ♌* [♂ a] [cauda ♌]	*13° 48¼′*	*78° 40′*	*14° 11′*
5h 16m		*13° 48¼′*	*78° 20′*	*13° 52′*

1162 "Time", "Reading", "Distance", "Declination", "Azimuth" and "Altitude" are this edition's heads; the page prints no heads here. The values stand in the four columns headed *Diſt. a*, *Declin.*, *Azim.* and *Alt.* in the table above. The labels *Inter ♂ & / caudam ♌ / per Sext.*, *♂ a Vindemiatore* and *Inter ♂ & cor ♌* are set, in roman, over the distance column above the rows they head; each is given on the first of those rows. *dubia*, roman, stands after the distance at *8 6½*, in the space of the declination column. The rows from *8 6½* to *8 23* are set in italic; those from *9 23* to the end, in roman. *Decl. ♂* stands on the line of the time *9 35*, *repetita* on the line below with the value. *B* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1163

But note: there were rather sparse clouds, nor was ♂ very clear. [Sed Nota, erant rariuſculæ nubes, nec ♂ erat admodum ſerenus.]

Then, for correcting the clock, we took the star of the Vulture in distance from the meridian, and ♂ along with [it]. [Deinde pro corrigendo horologio accepimus Vulturis ſtellam in diſtantia a Meridiano & vna ♂.]

Time	*The Vulture*, east [Vultur or.]	♂, west [♂ occid.]	*Equatorial distance* [Diſt. æquat.]	*Altitude of* ♂ [Alt. ♂]
$5^h\ 20^m\ 42^s$	40° 42′	73° 21½′	114° 3½′	
$5^h\ 22^m\ 30^s$	40° 14¾′	73° 48¾′	114° 3½′	12° 45′
$5^h\ 24^m\ 25^s$	39° 46¼′	74° 16½′	114° 2¾′	

1164

Afterwards ♂ was observed in azimuth and altitude in this way. [Poſtea obſeruabatur ♂ in Azimuto et Altitudine hoc modo.]

Time	*Arcturus*, west [Arctur. occ.]	*Azimuth of* ♂ [Azim. ♂]	*Altitude of* ♂ [Altit. ♂]
$5^h\ 36^m\ 20^s$	46° 29′	82° 0′	11° 11¼′
$5^h\ 38^m\ 42^s$	47° 7′	82° 30′	10° 51¼′
$5^h\ 39^m\ 55^s$	*Declination of ♂, 4° 42′ north* [Decl. ♂ 4 42 B.]		10° 45′

1165

At the following noon the clock was moving 14½^m faster than it should, and that from the preceding noon, through I do not know what error. [Horolog. in Meridie ſequente 14½ Min. iuſto celerius mouebatur, idque a meridie præcedente neſcio quo errore.]

1163 "Time" and "Reading" are this edition's heads; the three other heads are printed, in smaller italic, over the value columns. These lines are set in italic, the labels ♂ *a* / *Vindem.* and ♂ *a* / *cauda* ♌ included. The label *Inter* ♂ *&* / *3 Alæ* runs over two lines, the time on the first and the values on the second; ♂ *a* / *Vindem.* runs over two lines, the time on the first and the distance on the second; ♂ *a* / *cauda* ♌ runs over two lines, with a set of values on each. Each label is given whole on one row. *3* is printed without a raised ending. The times *5 4 50* and *5 14 35*, printed without unit marks, are given as hours, minutes and seconds, the other times as hours and minutes; the values as degrees and minutes.

1164 "Time" is this edition's head; the four other heads are printed, in smaller italic (*or.* and *occid.* roman), over the value columns. These lines are set in italic. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

1165 "Time" is this edition's head; the three other heads are printed, in smaller italic (*occ.* roman), over the value columns. These lines are set in italic. At *5 39 55* the words and value *Decl.* ♂ *4 42 B.* run across the columns headed *Arctur.* and *Azim.*; they are given in the first. *B.* is given as "north". The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

After noon *[Poſt Meridiem]*

Time	Reading	*Distance* from the tail of ☋ [Diſt. a cauda ☋]	*Azimuth of* ♂ [Azim. ♂]	*Altitude of* ♂ [Alt. ♂]
6h 58m		*13° 35′*		*9° 13′*
7h 2m		*13° 34½′*	*83° 46′*	*9° 59′*
7h 4m		*13° 34½′*	*83° 15′*	*10° 17′*
7h 5m		*13° 34′*	*82° 59′*	*10° 24′*
7h 7⅓m		*13° 34′*	*82° 30′*	*10° 43½′*
7h 12½m	♂ from Vindemiator [♂ a Vindemiatore]	*14° 39′*	*81° 45′*	*11° 24½′*
7h 14⅓m		*14° 38′*	*81° 4′*	*11° 43¼′*
7h 16½m		*14° 38½′*	*80° 42′*	*12° 3½′*
7h 18½m		*14° 38⅔′*	*80° 6′*	*12° 18′*
	Set [it] in the first at [Pone in prima]	*13° 34½′*		
	in the second at [in ſecunda]	*14° 38½′*		
7h 22m	*Declination of* ♂ [Declin. ♂]		*4° 47¾′ north* [4 47¾ B]	*12° 49′*
7h 26m			*4° 48′ north* [4 48 B]	
7h 30m	*Between* ♂ *and the 1st [star] of the wing of* ♍ [Inter] [♂ &] [1am] [alæ] [♍]	*5° 59¾′*	*77° 49′*	*13° 50′*
7h 31⅓m		*5° 59¾′*	*77° 20′*	*14° 8′*
7h 34½m		*5° 59′*	*76° 34′*	*14° 35′*
7h 36⅙m		*5° 59′*	*76° 18′*	*14° 47′*
7h 39m		*5° 58⅚′*		*15° 10′*
7h 40m		*5° 59½′*		*15° 22′*
	Set the distance at [Pone diſt.]	*5° 59⅓′*		
7h 42½m	*Declination of* ♂ [Decl. ♂]		*4° 48′*	*15° 35′*
	with the other [altero]		*4° 47¾′*	

1166

Time	Reading	Value	Second value	Third value
7h 49m	♂ and the 3rd [star] of the wing of ♍ [♂ & 3] [alæ ♍]	7° 52½′	74° 15′	16° 36′
7h 52⅙m		7° 52½′		

1166 "Time" and "Reading" are this edition's heads; the three other heads are printed, in smaller italic (*a cauda* ☋ roman), over the value columns. These lines are set in italic, except ♂ *a Vindemiatore*, the ♍ of the label at *7 36⅙*, and *altero*, roman. ♂ *a Vindemiatore* is set over the distance column above the rows it heads; it is given on the first of them. *Pone in / prima* and *in ſe- / cunda* each run over two lines, with the value on the second, in the distance column. The declinations at *7 22*, *7 26* and *7 42½* and the value after *altero* stand in the column headed *Azim.*, as printed; they are given there. *B* is given as "north". The label *Inter / ♂ & / 1am / alæ / ♍* runs down five lines, the time *7 30* on the first and its values on the second; it is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Second value	Third value
7^h 58½^m		7° 52⅔′		
8^h 0½^m	Between ♂ and Arcturus [Inter] [♂ &] [Arctu-] [rum]	34° 17′	71° 10′	17° 58′
8^h 1⅓^m		34° 17′	70° 45′	18° 7′
8^h 2½^m		34° 17′	70° 30′	18° 17′
10^h 57½^m	Between ♂ and the heart of ♌ [Inter] [♂ &] [cor ♌]	32° 32′		36° 10′
11^h 1^m		32° 31½′		36° 45′
11^h 2½^m		32° 32′		36° 50′
11^h 3½^m		32° 31⅔′		37° 0′
11^h 9^m	Declination of ♂ [Decl. ♂]	4° 46¼′ north [4 46¼ B]		

1167

On 5 March, A. M. [DIE 5 MARTIJ A. M.]

Time	Reading	Value	Second value
0^h 15^m	Meridian altitude of ♂ [Alt. ♂ Merid.]		38° 52½′
0^h 34^m	Between ♂ and Spica ♍ [Inter] [♂ &] [Spicam] [♍]	22° 21′	
0^h 36^m		22° 21′	
0^h 37½^m		22° 20⅚′	
0^h 39^m		22° 21′	
0^h 53^m	from the heart of ♌ [a corde] [♌]	32° 30⅙′	
0^h 54½^m		32° 30′	
0^h 55^m		32° 30′	
0^h 58^m	Declination of ♂ [Decl. ♂]	4° 45½′	

1168

1167 "Time", "Reading", "Value", "Second value" and "Third value" are this edition's heads; no heading or heads stand above these rows, which open the left column; the preceding page ends with the rows under *Post Meridiem*. These lines are set in roman. The label ♂ *&* *3* / *alæ* ♍ runs over two lines, with one value on each; *Inter* / ♂ *&* / *Arctu-* / *rum* and *Inter* / ♂ *&* / *cor* ♌ run down four and three lines, the time on the first and its values on the second. Each label is given whole on the first row. *3* is printed without a raised ending. At *11 9* the words and value run as one line; *4 46¼ B* stands in the first value column; *B* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1168 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. *38 52½* stands further right than the other values, in the column where *74 15* stands in the first row of the column; it is given as the second value. The label *Inter* / ♂ *&* / *Spicam* / ♍ runs down four lines, the time *0 34* on the first and its value on the second; *a corde* / ♌ runs over two lines, with one value on each. Each label is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	The heart of ♌, west [Cor ♌ occ.]	♂, west [♂ occid.]	Equatorial distance [Diſt. æquat.]
$1^h\ 5^m\ 30^s$	44° 21½′	12° 44½′	31° 37′
$1^h\ 7^m\ 10^s$	44° 45½′	13° 8⅓′	31° 37⅙′
$1^h\ 9^m\ 0^s$	45° 14′	13° 36⅙′	31° 37⅝′
$1^h\ 10^m\ 50^s$	45° 40¼′	14° 3¾′	31° 36½′
$1^h\ 13^m\ 25^s$	46° 21′	14° 43½′	31° 37½′
$1^h\ 15^m\ 30^s$	46° 52¼′	15° 15′	31° 37¼′
Set, at $1⅙^h$, the equatorial distance at [Pone ad H. 1⅙ diſt. æquat.]			31° 37⅓′

1169

Time	♂, west [♂ occid.]	Spica ♍, west [Spica ♍ occid.]	Value
$1^h\ 35^m\ 30^s$	20° 21′	2° 37′	17° 44′
$1^h\ 37^m\ 25^s$	20° 49½′	3° 6½′	17° 43′
$1^h\ 38^m\ 50^s$	21° 9¼′	3° 26′	17° 43¼′
$1^h\ 40^m\ 20^s$	21° 32¾′	3° 50′	17° 42¾′
$1^h\ 42^m\ 5^s$	21° 58½′	4° 15½′	17° 43′
$1^h\ 44^m$	Declination of ♂, 4° 45½′ [Declin. ♂ 4 45½]	then the altitude was [tunc fuit Alt.]	35¾°

1170

On this day, the 4th, at $13½^h$ P. M. [Hoc die 4 Hor. 13½ P. M.]

Reading	Value
Mean place of ☉ [Medius locus ☉]	21° 59′ ♓
True place of ♂ [Verus locus ♂]	26° 28′ ♍
Mean diurnal motion of ☉ [Motus diurnus ☉ medius]	0° 59′ 8″
True diurnal motion of ♂ [Motus diurnus ♂ verus]	0° 24′

1171

1169 "Time" is this edition's head; the three other heads are printed, in smaller roman, over the value columns. These lines are set in roman. The words *Pone ad H. 1⅙ diſt. æquat.* run from the left edge of the column; the value stands in the *Diſt. æquat.* column. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

1170 "Time" and "Value" are this edition's heads; the two other heads are printed, in smaller roman, over the first two value columns; no head stands over the third. These lines are set in roman. At *1 44* the words and values run as one line: *4 45½* under the first value column, *35¾* at the end of the line under the third. The times, printed without unit marks, are given as hours, minutes and seconds (the last as hours and minutes), the values as degrees and minutes; *35¾*, a single figure with a fraction, as degrees.

1171 "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The values, printed without unit marks except the ″ after *8*, are given as degrees and minutes, and *0 59 8″* as degrees, minutes and seconds.

From this there results the interval of the time of their opposition from the time of this observation: 3^{d} $5\frac{2}{3}^{h}$. Therefore the time of the opposition: on day 7, 19^{h} 10^{m} P. M. And then the mean place of ☉: 25° 10′ 23″ ♓; the true place of ♂: 25° 10′ 20″ ♍. [Hinc prouenit interuallum temporis oppoſitionis eorum a tempore huius obſeruationis dierum 3 horarum $5\frac{2}{3}$. Ergo tempus ☍ die 7 H. 19 M. 10 P. M. Tuncque medius locus ☉ 25 10 23 ♓ verus locus ♂ 25 10 20 ♍][1172]

But these things are to be examined more exactly from the following. [Sed hæc e ſequentibus exactius ſunt exploranda.]

After noon *[Poſt meridiem]*

Time	*Between* ♂ *and the heart of* ♌ [Inter ♂ & cor ♌]	*Azimuth of* ♂ [Azim. ♂]	*Altitude of* ♂ [Alt. ♂]
7^{h} 1^{m}	32° 10′	82° 0′	11° 22′
7^{h} $2\frac{1}{2}^{m}$	32° $9\frac{5}{6}$′	81° 10′	11° 34′
7^{h} $3\frac{2}{3}^{m}$	32° $9\frac{5}{6}$′	80° 40′	11° 46′

1173

Note. In this observation of ♂ *account is to be taken of refraction, since [it] was low, namely at an altitude of 11½°.* [Nota. In hac obſeruatione ♂ eſt habenda ratio refractionis, erat ſiquidem decliuis vtpote in Alt. 11½ partium.]

Time	Reading	Value	*Azimuth of* ♂ [Azim. ♂]	*Altitude of* ♂ [Alt. ♂]
7^{h} 7^{m}	*Declination of* ♂ [Decl. ♂]	4° 56′ *north* [4 56 B]		12° 18′
7^{h} $8\frac{1}{4}^{m}$		4° 56′		
7^{h} $10\frac{1}{2}^{m}$	*with the other pinnule* [alt. pinn.]	4° $55\frac{3}{4}$′		13°
7^{h} $11\frac{1}{2}^{m}$	*with the same pinnule* [eodem] [pin.]	4° $55\frac{5}{6}$′		
7^{h} $19\frac{2}{3}^{m}$	*Between* ♂ *and Vindemiator* ♍ [Inter ♂ &] [Vinde-] [miato-] [rem ♍]	14° $50\frac{1}{2}$′	77° 50′	13° $55\frac{1}{2}$′
7^{h} $21\frac{2}{3}^{m}$		14° 50′	77° 23′	14° 15′
7^{h} $23\frac{3}{4}^{m}$		14° $50\frac{3}{4}$′	77° 0′	14° $32\frac{1}{2}$′

[1172] The paragraph runs from the foot of the left column to the head of the right column, divided at *hu- / ius*; it is given once, here. At the end of the line *Hinc prouenit interuallum tempo·* a raised point stands where a hyphen stands elsewhere; the word is given whole. *verus locus* ♂ *25 10 20* ♍ is set to the right on a line of its own, its value under that of the line above. *dierum 3 horarum* $5\frac{2}{3}$ is given as 3^{d} $5\frac{2}{3}^{h}$; the places, printed without unit marks, as degrees, minutes and seconds.

[1173] "Time" is this edition's head; the three other heads are printed, in smaller italic, over the value columns. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1174

Note. ♃ *and Canis Major were passing the meridian together this evening, and* ♃ *had a meridian altitude of 57° 11′.* [Nota. ♃ & Canis maior tranſibant Meridianum ſimul hoc veſperi, habuitque ♃ Alt. Mer. 57 11.][1175]

On 7 March [DIE 7 MARTIJ.]

In the evening [Veſperi]	♃, west [♃ occid.]	♂, east [♂ or.]	Equatorial distance [Diſt. æquat.]	Altitude of ♂ [Alt. ♂]
10^h $10½^m$	51° 51′	29° 0½′	80° 51½′	33° 58′

1176

[It] was not clear, but [it] was being taken among clouds, and it was not possible to obtain anything more then. [Non erat ſerenum ſed inter nubes accipiebatur, neque licuit quidpiam plus tunc habere.]

For[1] the latitude of ♂ for the day 7 March, at 17⅓^h, when [it] was opposed to the simple ☉ [Pro[1] latitudine ♂ ad diem 7 Martij H. 17⅓ quando opponebatur ſimplici ☉.]

Time	Reading	Value
5^d 0^h 15^m [5^D 0^H 15^M] P.M.N.	Right ascension of ♂ [Aſc.R. ♂]	178° 3′
	Declination from the altitude m. [Declin. ex alt. m.]	4° 47′ north [4 47 B.]
	Corresponding latitude [Reſp. Latitudo]	3° 36′ 30″ north [3 36 30″B.]
10 11⅔	Right ascension of ♂ [Aſc. R. ♂]	176° 1′
	Declination from the altitude m. [Declin. ex alt. m.]	5° 35′ 15″
	Corresponding latitude [Reſp. Latitudo]	3° 32′ 12″ north [3 32 12 B.]

[1174] "Time", "Reading" and "Value" are this edition's heads; the two other heads are printed, in smaller italic, over the Azim. and Alt. columns only. These lines are set in italic. *B* is given as "north". *eodem / pin.* runs over two lines, the time on the first and the value on the second. The label *Inter ♂ & / Vinde- / miato- / rem* ♍ runs down four lines; the line with the time *7 23¾* carries no value, and its values stand on the line below (*rem* ♍); they are given on the row of that time. The label is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *13*, a single figure, as degrees.

[1175] *57 11*, printed without unit marks, is given as degrees and minutes.

[1176] All five heads are printed, in smaller roman; *Veſperi* stands over the time column. The line is set in roman. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1177

[1] From codex V. [E codice V.]

Therefore the corresponding latitude observed, for the time of the opposition with the Sun assigned above: [Ergo reſp. latitudo obſeruata ad tempus oppoſitionis cum Sole ſuperius deputatum.]

Remark	Reading	Value
Altitude 39° [Altit. 39°]	Latitude [Lat.]	3° 34′ 36″
	Parallax of altitude of ♂ [Parall. alt. ♂]	3′ 55″
	Corresponding parallax of latitude [Reſp. Parall. latit.]	3′ 36″
	Therefore the true latitude of ♂ [Vera igitur latitudo ♂]	3° 38′ 12″

1178

On 9 March, P. M. *[DIE 9 MARTIJ P. M.]*

♂ *was observed, having now gone a very little past the opposite of the Sun, in this way.* [Obſeruabatur ♂ iam paululum prætergreßus Solis oppoſitum in hunc modum.]

Time	Reading	Value	*Altitude* [Alt.]
9ʰ 21ᵐ	*Declination of* ♂ [Declin. ♂]		
	with one pinnule [vno pinn.]	*5° 25¾′*	
	with the other [altero]	*5° 26′*	*31° 21′*

1179

Time	♂, *east* [♂ orient.]	*The heart of* ♌, *east* [Cor ♌ or.]	*Equatorial distance* [Diſt. æqu.]	*Altitude of* ♂ [Alt. ♂]
9ʰ 25ᵐ	*36° 0′*	*6° 10½′*	*29° 49½′*	*31° 49′*
9ʰ 26½ᵐ	*35° 37¼′*	*5° 48½′*	*29° 48¾′*	

[1177] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *5ᴰ 0ᴴ 15ᴹ* is printed with raised small capitals *D*, *H*, *M*, and *178° 3′* with a degree sign and a single mark. *10 11⅔* is printed without unit marks, at the left edge of the column in the position of *5ᴰ 0ᴴ 15ᴹ*; it is given as printed, with no units assigned. *B.* is given as "north". The other values, printed without unit marks (except *30″*), are given as degrees and minutes, or as degrees, minutes and seconds where three figures are printed.

[1178] "Remark", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *3°34′36″* and *39°* are printed with unit marks. *3 55* and *3 36* stand under the minutes and seconds of *3°34′36″*, and are read against that position as minutes and seconds; *3 38 12*, three figures standing under *3°34′36″*, is given as degrees, minutes and seconds.

[1179] "Time", "Reading" and "Value" are this edition's heads; the head *Alt.* is printed, in smaller italic, at the right of the line *vno pinn.*, over *31 21*. These lines are set in italic. *vno pinn.* and *altero* are set in under *Declin.* ♂. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

Time	♂, *east* [♂ orient.]	*The heart of* ☋, *east* [Cor ☋ or.]	*Equatorial distance* [Dist. æqu.]	*Altitude of* ♂ [Alt. ♂]
$9^h\ 30^m$	34° 45⅓′	4° 56¼′	29° 49′	
$9^h\ 31½^m$	34° 17¾′	4° 29½′	29° 48¼′	32° 30′
$9^h\ 33½^m$	33° 53′	4° 3′	29° 50′	
$9^h\ 35½^m$	33° 19⅚′	3° 30½′	29° 49⅓′	33° 0′
			good [bona]	
$9^h\ 37½^m$	32° 51½′	3° 2⅓′	29° 49⅙′	
$9^h\ 39⅓^m$	32° 24¼′	2° 35′	29° 49¼′	33¼°

1180

Set, at 9½^h, the equatorial distance of ♂ from the heart of ☋ at 29° 49′, infallibly. [Pone H. 9½ dist. æqu. ♂ a corde ☋ 29 49 infallibiliter]1181

Time	Reading	Value
$9^h\ 43^m$	*Declination of* ♂ [Declin. ♂]	
	with one pinnule [vno pinn.]	*5° 26′ north* [5 26 Bor.]
	with the other pinnule [altero pinnac.]	*5° 26′*

1182

From this there results the place[1] *of ♂ at 9½^h: 24° 32′ ♍. Pruten. gives 26° 38′ ♍, latitude 3° 33′ north. Difference: 2° 6′.* [Locus[1] ♂ hinc prouenit ad H. 9½ 24 32 ♍. Pruten. dat 26 38 ♍, Lat. 3 33 Bor. Differ. P. 2 M. 6′.]1183

Its equatorial distance from the heart of ☋ was repeated. [Repetebatur eius dist. æquat. a corde ☋.]

Time	♂, *east* [♂ orient.]	*The heart of* ☋, *west* [Cor ☋ occ.]	*Equatorial distance* [Dist. æqu.]	*Altitude of* ♂ [Alt. ♂]
$9^h\ 57^m$	27° 55′	1° 54⅓′	29° 49⅓′	34° 49′
$10^h\ 0^m$	27° 12⅓′	2° 37′	29° 49⅓′	35° 0′
$10^h\ 3¼^m$	26° 22¼′	3° 27′	29° 49¼′	

1180 "Time" is this edition's head; the four other heads are printed, in smaller italic, over the value columns. These lines are set in italic. A brace stands to the right of *29 49⅓* and of *bona*, the line below it, spanning both lines; *33 0* stands to the right of the brace, on the line of *29 49⅓*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *33¼*, a single figure with a fraction, as degrees.

1181 *29 49*, printed without unit marks, is given as degrees and minutes.

1182 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. *vno pinn.* and *altero pinnac.* are set in under *Declin.* ♂. *Bor.* is given as "north". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1183 The places and the latitude, printed without unit marks, are given as degrees and minutes; *Bor.* as "north"; *P. 2 M. 6′* as 2° 6′.

1184

Afterwards ♂ was observed from Arcturus, the other way round. [Poſtea obſerua-batur ♂ ab Arcturo vice verſa.]

Time	Value	Second value	Third value	Fourth value
10h 8m	*25° 11¼′*	*57° 56¾′*	*32° 45½′*	
10h 10m	*24° 45′*	*57° 32′*	*32° 47′*	*35° 45′*
10h 11⅓m	*24° 24′*	*57° 10′*	*32° 46′*	
10h 13m	*23° 57¼′*	*56° 44′*	*32° 46¾′*	*36° 0′*
10h 15m	*23° 26½′*	*56° 13½′*	*32° 47′*	

1185

Set the equatorial distance from Arcturus at 32° 46½′. [Pone diſt. æqu. ab Arct. 32 46½]1186

Time	♂, east [♂ or.]	Spica, east [Spica or.]	Value	Altitude of Spica [Alt. Spicæ]
10h 38m 45s	17° 27′	36° 56½′	19° 29½′	18⅙°
10h 41m 45s	16° 42⅙′	36° 12′	19° 29⅚′	18½°
10h 44m 5s	16° 8½′	35° 38½′	19° 30′	18¾°
				Altitude of ♂ [Alt. ♂]
10h 48m 15s	15° 7½′	34° 37′	19° 29½′	$38\frac{1}{12}$°
11h 20m	Declination 5° 26′ north [Decl. 5 26 B.]			39° 17′
11h 27m	5° 20′	24° 50′	19° 30′	39° 20′
11h 29m	4° 55′	24° 26½′	19° 31½′	

1187

[It] was not sufficiently clear. [Non fuit ſatis ſerenum.]

1184 "Time" is this edition's head; the four other heads are printed, in smaller italic, over the value columns. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1185 "Time", "Value", "Second value", "Third value" and "Fourth value" are this edition's heads; the page prints no heads here. These lines are set in italic. The fourth value column stands under the *Alt.* ♂ column of the table above. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1186 *32 46½*, printed without unit marks, is given as degrees and minutes.

1187 "Time" and "Value" are this edition's heads; the three other heads are printed, in smaller roman, over the first, second and fourth value columns; no head stands over the third, and no heading stands above these rows, which open the right column. These lines are set in roman. The head *Alt.* ♂ is printed over the last value column, between the rows at *10 44 5* and *10 48 15*. At *11 20* the words and value *Decl. 5 26 B.* run from the time into the first value column; *B.* is given as "north". *38 1/12* is printed with a fraction of numerator *1* and denominator *12*. The times, printed without unit marks, are given as hours, minutes and seconds where three figures are printed and as hours and minutes where two; the values as degrees and minutes; *18⅙*, *18½*, *18¾* and *38 1/12*, single figures with a fraction, as degrees.

Time	Reading	Value	Second value
$11^h\ 45^m\ 24^s$	♂ in azimuth from the meridian toward the east [♂ in Azim.] [a Mer. ad ort.]	1° 15′	39° 32′

1188

Further, because of the interposition of dense clouds, it was not possible to make more observations. [Vlterius propter interpoſitionem nubium denſarum plures obſeruationes facere non licuit.]

At the following noon the clock was going 4^m slower than it should, but that error is to be reckoned from $8½^h$ on the preceding evening. [Horologium in Meridie ſequente 4 ſcrupulis iuſto tardius ibat, ſed is error ab Hora 8½ Veſperi præcedente venit æſtimandus.]

On 10 March, P. M. *[DIE 10 MARTIJ, P. M.]*

Observation of ♂ *near the horizon, in order to investigate its parallax.* [Obſeruatio ♂ iuxta horizontem ob parallaxin eius indagandam.]

Time	Reading	Value	*Azimuth of* ♂ [Azim. ♂]	*Altitude of* ♂ [Alt. ♂]
$6^h\ 44^m$	*Declination of* ♂ [Decl. ♂]	*5° 36¼′ north* [5 36¼B]		*12½°*
$6^h\ 50½^m$	*Between* ♂ *and the heart of* ☌ [Inter ♂] [& cor ☌]	*30° 13½′*	*79° 45′*	*13° 43′*
$6^h\ 52^m$		*30° 13⅔′*		*14° 0′*
$6^h\ 54½^m$		*30° 13⅔′*	*78° 52′*	*14° 13½′*
$6^h\ 57⅓^m$		*30° 13⅔′*	*78° 9′*	*14° 38′*
$7^h\ 4^m\ 6^s$	♂ *from the tail of* ☌ [♂ a] [cauda] [☌]	*12° 0′*	*76° 48′*	*15° 33′*
$7^h\ 5^m$		*12° 0⅙′*	*76° 26′*	*15° 42′*
$7^h\ 6^m$		*12° 0¼′*		
$7^h\ 8^m\ 20^s$		*12° 0′*	*75° 59′*	*16° 9′*
$7^h\ 10^m$	*Declination of* ♂ [Decl. ♂]	*5° 35′*		*16° 26′*
$7^h\ 15^m$	*with the other* [alt.]	*5° 34¾′*		*17° 11′*
$7^h\ 22^m$	*Between* ♂ *and Arcturus* [Inter ♂] [& Arc-] [turum]	*35° 44½′*		*18° 3′*
$7^h\ 24½^m$		*35° 44⅚′*	*Altitude of Arcturus* [Alt. Arct.]	*13° 10½′*
$7^h\ 26½^m$		*35° 44½′*		*13° 24½′*

1188 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. *a Mer. ad ort.* is set in on the line below ♂ *in Azim.*, with the values; the label is given whole on the row. *1 15* stands under the third value column of the table above, *39 32* under its last. The time, printed without unit marks, is given as hours, minutes and seconds, the values as degrees and minutes.

1189

Afterwards, so that the refraction of ♂ might be established, Arcturus was observed from the tail of ♌, standing at an altitude closely similar to that at which ♂ was at the beginning. [Poſtea vt conſtaret refractio ♂ obſeruabatur Arcturus a cauda ♌ in conſimili exiſtens altitudine qua ♂ ab initio erat.]

Time	Reading	Value	*Altitude of Arcturus* [Alt. Arcturi]
7ʰ 29ᵐ	*Distance of the tail of ♌ and Arcturus* [Diſt. Caudæ ♌] [& Arct.]	*35° 22½′*	*13° 43′*
7ʰ 30⅙ᵐ		*35° 22¼′*	*13° 54′*
7ʰ 32½ᵐ		*35° 22′*	*14° 13′*

1190

[1] From codex V. [E codice V.]

Afterwards [it] was taken from the bright [star] of the neck of ♌ and Arcturus. [Poſtea accipiebatur a lucida ceruicis ♌ & arcturo.]

Time	Reading	Value	Second value
7ʰ 37ᵐ	*Arcturus and the bright [star] of the neck of ♌* [Arcturus] [& lucida] [ceruicis ♌]	*55° 18¼′*	*14° 53′*
7ʰ 39½ᵐ		*55° 18½′*	*15° 13′*
7ʰ 42ᵐ		*55° 18½′*	*15° 30′*
7ʰ 44½ᵐ	*Declination of Arcturus* [Decl. Arcturi]	*21° 24′*	*15° 54′*
	repeated [repetita]	*21° 24⅙′*	
	with the other pinnule [altero pinn.]	*21° 24⅓′*	

1189 "Time", "Reading" and "Value" are this edition's heads; the two other heads are printed, in smaller italic, over the Azim. and Alt. columns only. These lines are set in italic. *B* is given as "north". The labels *Inter ♂ / & cor ♌*, *♂ a / cauda / ♌* and *Inter ♂ / & Arc- / turum* run down two and three lines, each beside its own time; each is given whole on the first row. *Alt. Arct.* stands in the Azim. column on the line of *7 24½*, with *13 10½* in the Alt. column. The time *7 4 6″* is printed with three figures, the last with a double mark, and *7 8 20* with three figures: both are given as hours, minutes and seconds, the other times as hours and minutes. The values, printed without unit marks, are given as degrees and minutes; *12½*, a single figure with a fraction, as degrees.

1190 "Time", "Reading" and "Value" are this edition's heads; the head *Alt. / Arcturi* is printed, in smaller italic, over the last column, *Alt.* on the last line of the paragraph above. These lines are set in italic. The label *Diſt. Caudæ ♌ / & Arct.* runs over two lines and is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1191

N. B. The following observations on Spica and the heart of ♌ were taken in order to learn the refraction of ♂. [N. B. Sequentes obſeruationes in Spica & corde ♌ acceptæ ſunt propter refractionem ♂ cognoſcendam.]

Time	Reading	No.	Value	*Altitude of Spica* [Alt. Spicæ]
	Between the heart of ♌ and Spica ♍ [Inter cor ♌] [& Spicam ♍]	*I*	*54° 0½′*	*12° 45′*
		II	*54° 0¾′*	*13° 4′*
9ʰ 45ᵐ [H. 9 M. 45]		*III*	*54° 0⅓′*	*13° 20′*
9ʰ 48ᵐ		*IIII*	*54° 0⅓′*	*13° 39′*
	Declination of Spica [Decl. Spicæ]		*8° 55½′*	*13° 53′*
	repeated [repetita]		*8° 55½′*	

1192

Therefore [it] had a refraction in distance of 1½; in declination also nearly the same amount. [Habuit itaque refractionem in diſtantia 1½, in declinatione etiam tantundem fere.]

You can set the refraction [Potes ponere refractionem]

Reading	Value
in distance [in diſtantia]	*1 40*
in declination [in declinatione]	*1 30*

1193

♂ was observed around the meridian. [Obſeruabatur ♂ circa Meridianum]

1191 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here, and no heading stands above these lines, which open the left column. These lines are set in italic. The label *Arcturus / & lucida / ceruicis* ♌ runs down three lines, each beside its own time, and is given whole on the first row. *repetita* and *altero pinn.* are set in under *Decl.*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1192 "Time", "Reading", "No." and "Value" are this edition's heads; the head *Alt. Spicæ* is printed, in smaller italic, over the last column only. These lines are set in italic. The label *Inter cor* ♌ */ & Spicam* ♍ runs over two lines, with no time beside it, and is given whole on the first row; *H. 9 M. 45* and *9 48* stand in the label position on the two lines below it and are given in the time column. The roman numerals *I–IIII* stand before the first value on each line. *repetita* is set in under *Decl.*. *9 48*, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1193 "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. *in diſtantia* and *in declinatione* are set in under *Potes*. *1½*, *1 40* and *1 30* are printed without unit marks; they are given as printed, with no units assigned.

Time	Reading	Value
$11^h\ 25^m$	Declination of ♂, north [Decl. ♂ Bor.]	5° 35′

1194

Time	Spica, east [Spica or.]	♂, east [♂ orient.]	Equatorial distance [Diſt. æquat.]
$11^h\ 29^m\ 15^s$	23° 4½′	3° 11′	19° 53½′
$11^h\ 30^m\ 57^s$	22° 38′	2° 44½′	19° 53½′
$11^h\ 32^m\ 40^s$	22° 13′	2° 20′	19° 53′

1195

Time	Reading	Value	Second value	Remark
$11^h\ 36^m$	Between ♂ and Spica ♍, by the sextant △ [Inter ♂ &] [Spicam ♍] [per Sext. △]	24° 33½′		
$11^h\ 38^m$		24° 33⅔′		
$11^h\ 39^m$		24° 33½′		
$11^h\ 42^m\ 26^s$	☉ passed through the meridian at altitude [Tranſiuit ♂] [per Mer. in Alt.]		39° 40¾′	
	Spica was then from the meridian toward the east [Fuit tunc Spica] [a Mer. ad ort.]		19° 42′	
$11^h\ 53^m$	Between ♂ and the heart of ♌, by the sextant △ [Inter ♂ et cor] [♌ per Sex-] [tantem △]	30° 8′		[It] was moderately clear. [Erat mediocriter ſerenum.]
$11^h\ 55^m$		30° 7½′		
$12^h\ 2^m$		30° 7⅔′		

1196

1194 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. This line is set in roman. *Bor.* is given as "north". The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes.

1195 "Time" is this edition's head; the three other heads are printed, in smaller roman, over the value columns. These lines are set in roman. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

1196 "Time", "Reading", "Value", "Second value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in roman and follow the rows above in the same column. The first values (*24 33½* … and *30 8* …) stand in the ♂ *orient.* column of the rows above; *39 40¾* and *19 42* stand in the *Diſt. æquat.* column. The labels *Inter ♂ &* / *Spicam ♍* / *per Sext.* △ and *Inter ♂ et cor* / *♌ per Sex-* / *tantem* △ run down three lines, each beside its own time, and are given whole on the first row; *Tranſiuit ♂* / *per Mer. in Alt.* and *Fuit tunc Spica* / *a Mer. ad ort.* run over two lines, the value on the second. *Erat me-* / *diocriter* / *ſerenum.* stands at the right of the three lines from *11 53* to *12 2*, in the *Diſt. æquat.* column, with no brace; it is given whole on the first of them. The time *11 42 26″* is printed with three figures, the last with a double mark; it is given as hours, minutes and seconds, the other times as hours and minutes; the values, printed without unit marks, as degrees and minutes.

Note. The observations made this night, especially as ♂ was near the meridian, by distance from the heart of ♌ and Spica, are very good for investigating its place at the opposition of the mean Sun; for they were made carefully, and [it] was sufficiently clear and calm. However, you can compare them with the preceding [ones], which were made when Mars had not yet reached the opposition of the Sun. But when you wish to compare them, you will do so chiefly with the observations obtained on 4 March, also from the heart of ♌ and Spica, at about the next following midnight; for then Mars too was carefully observed in both ways, both by the sextant distance from Spica and the heart of ♌ and by the armillae in the equatorial distance of both, just as this night too [it] was carefully taken in both ways. Moreover, this contributes something toward a more convenient certainty of the matter: that ♂, both on day 4 and on this [day] 10, in both cases at about midnight, was as it were equally removed from the time of the true opposition with the mean Sun. For that [took place], as is noted above, P. M. N. of day 7 of this month, with very nearly five hours elapsed; its more exact certainty, however, especially as regards the hours and the place of the ecliptic in which the opposition occurred, is to be investigated from the preceding [ones], if they are carefully compared with the observations made this night. [Nota. Obſeruationes hac nocte factæ, præſertim cum ♂ eßet prope Meridianum per diſtantiam a corde ♌ et Spica ſunt admodum bonæ pro inquirendo loco eius in ☍ Medij Solis, nam ſunt diligenter factæ & erat ſatis ſerenum & tranquillum, potes autem conferre eas cum antecedentibus, quæ factæ ſunt Marte ad oppoſitionem Solis nondum pertingente, vbi autem conferre eas volueris, facies id potißimum ad obſeruationes die 4 Martij habitas, etiam a corde ♌ & Spica iuxta Med. Noct. ſequentem proxime, tunc enim Mars etiam diligenter obſeruabatur vtraque ratione, tam per diſtantiam Sext. a Spica & corde ♌ quam per Armillas in diſtantia æquatoria vtriusque quemadmodum etiam hac nocte vtroque modo diligenter acceptus eſt. Facit autem hoc aliquid ad rej commodiorem certitudinem quod ♂ tam die 4 quam hoc 10 vtrobique iuxta Med. Noct. quaſi æqualiter remotus fuerit a tempore veræ ☍ cum Medio Solis, ea enim facta vt ſuperius annotatur P. M. N. diej 7 huius menſis horis proxime elapſis quinis, cuius tamen exactior certitudo præſertim quoad horas & locum Eclipticæ in quo ☍ contingebat ex antecedentibus inquirenda venit, ſi cum obſeruationibus hac nocte factis diligenter conferantur.][1197]

There follows the observation of ♂ tending toward setting, P. M. N. *[Sequitur obſeruatio ♂ ad occaſum tendentis P. M. N.]*

Time	*Distance* [Diſtantia]	*Declination of* ♂ [Decl. ♂]	*Altitude of* ♂ [Alt. ♂]
4^h 14½^m		*5° 38′ twice* [5 38 bis]	*16° 42′*
	from the third [star] of the wing [a tertia alæ]		
4^h 16½^m	*10° 11′*		*16° 19′*

[1197]The paragraph runs from the foot of the left column, ending *cum antecedentibus,*, to the head of the right column, opening *quæ factæ ſunt*; it is given once, here.

Time	*Distance* [Diſtantia]	*Declination of* ♂ [Decl. ♂]	*Altitude of* ♂ [Alt. ♂]
	From Arcturus [Ab Arcturo]		
$4^h\ 20\frac{1}{2}^m$	35° 48½′		15° 45′
$4^h\ 25\frac{1}{2}^m$	35° 49′		15° 5′
$4^h\ 28^m$	35° 49⅙′		14° 45′
$4^h\ 29^m$	35° 49¼′	5° 38⅔′ *north* [5 38⅔ B.]	14° 30′
$4^h\ 35^m$	35° 49⅙′		13° 50′
$4^h\ 42\frac{1}{2}^m$	35° 49′		12° 40′
$4^h\ 44\frac{1}{2}^m$		5° 39½′	12° 25′
	from the tail of ♌ [a cauda ♌]		
$4^h\ 48\frac{1}{2}^m$	11° 52⅓′		11° 49½′
$4^h\ 50\frac{1}{2}^m$	11° 54′		11° 30′
	Between ♂ *and Spica* [Inter ♂ & Spicam]		
$4^h\ 53\frac{1}{2}^m$	24° 39⅔′		11° 7½′
$4^h\ 54^m$		5° 39½′	
$4^h\ 56\frac{1}{2}^m$	24° 39¼′		10° 41⅓′
$4^h\ 58\frac{1}{2}^m$	24° 39⅓′		10° 25′
$5^h\ 1^m$	24° 39⅓′		10° 10′
$5^h\ 1\frac{1}{2}^m$		5° 39⅚′	

1198

Note. The refraction could not introduce any perceptible difference in the distance between ♂ *and Spica, because both were nearly in balance with respect to the horizon, as it were at equal altitude; but* ♂ *[was] nevertheless a little higher than Spica itself.* [Nota. Non poterat refractio ſenſibilem aliquam ingerere differentiam in diſtantia inter ♂ & Spicam, eo quod ambo eßent in æquilibrio ferme horizontis quaſi in æquali altitudine, ſed ♂ tamen paulo altior quam ipſa Spica.]

Time	♂ *was repeated from Arcturus* [Repetebatur ♂ ab Arct.]	Value	*Altitude of* ♂ [Alt. ♂]
$5^h\ 5^m$	35° 48′		9° 30′
$5^h\ 7\frac{1}{2}^m$	35° 48′		9° 10′
$5^h\ 9\frac{3}{4}^m$	35° 48½′		8° 55′
$5^h\ 10^m$		5° 40′	8° 50′
$5^h\ 13^m$	35° 48′		8° 25′
$5^h\ 16^m$			7° 50′
… [...]		5° 40½′	7° 45′

1198 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the value columns. These lines are set in italic. *a tertia alæ*, *Ab Arcturo*, *a cauda* ♌ and *Inter* ♂ *& Spicam* are printed, in smaller italic, as sub-heads centred over the *Diſtantia* column, each on a line of its own. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1199

When these observations have been compared with those that were taken on the preceding evening, you can use [them] in investigating the parallax of ♂, applying the correct refraction in both cases, as is fitting, and [you can] make a test whether [it] is so near the earth as the Copernican hypothesis would have it in its motion. [His obſeruationibus collatis cum ijs quæ veſperi antecedente capiebantur, potes vti in parallaxi ♂ inquirenda, adhibita vtrobique iuſta refractione, vt decet, & facere periculum, an terris ita prope ſiet, vt vult Coperniana in ipſius motu hypotheſis.]

On 12 March, P. M. [DIE 12 MARTIJ, P. M.]

Time	Reading	Value	Second value
9^h 1^m [9^H 1′]	Declination of ♂ [Declin. ♂]	5° 50′ north [5 50 B.]	altitude [Altit.] 30° 46′
9^h 5^m	Between ♂ and the heart of ☌ [Inter ♂ &] [cor ☌]	29° 27½′	
9^h 7^m		29° 28′	31½°
9^h 8^m		29° 27¼′	
9^h 10^m		29° 27½′	
9^h 15^m	Between Arcturus and ♂ [Inter] [Arct.] [& ♂]	36° 17¼′	
9^h 17^m		36° 17¼′	32½°
9^h 20^m		36° 17¼′	
9^h 23^m	Declination of ♂ [Declin. ♂]	5° 51′ north [5 51 Bor.]	
	with the other [altero]	5° 51¼′	

1200

On 13 March, P. M. [DIE 13 MARTIJ, P. M.]

1199 "Time" and "Value" are this edition's heads. The head *Repetebatur ♂ ab Arct.* is printed, in smaller italic, over the second and third columns, and is given as the head of the second; *Alt. ♂* is printed over the fourth. These lines are set in italic. Three spaced points stand in the time column of the last line. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1200 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. The first time is printed *9ᴴ 1′*, with a superior *H* and a single prime; the other times, printed without unit marks, are given as hours and minutes. *Altit. 30 46* follows the first value on the first line; *30 46*, *31½* and *32½* stand in one column. The labels *Inter ♂ & / cor ☌* and *Inter / Arct. / & ♂* run over two and three lines, each beside its own time, and are given whole on the first row. *altero* is set in under *Declin.*. *B.* and *Bor.* are given as "north". The values are given as degrees and minutes; *31½* and *32½*, printed as a single figure with a fraction, are given as degrees.

Time	Reading	Value	Second value
$7^h\ 36^m$	Between ♂ and the heart of ☋ [Inter ♂ &] [cor ☋]	29° 4′	Altitude of ♂ [Alt. ♂] 21⅙°
$7^h\ 42^m$		29° 1′	21° 32′
$7^h\ 45^m$		29° 2′	22° 0′
$7^h\ 53^m$		29° 4½′	23° 12′

1201

These [were taken] by the new sextant, but the instrument was being shaken by a very strong wind, and therefore these observations are not to be relied on. [Hæ per Sext. nouum, ſed validißimo vento agitabatur inſtrumentum, ideoque his obſeruationibus non eſt fidendum.]

N. B. At about 11^h the clock was verified. [N. B. Circa H. 11 horologium verificatum eſt.]

Time	Reading	Value
$11^h\ 30^m\ 12^s$ [11 30 12″]	♂ passed through the meridian at altitude [Tranſiuit ♂ per Mer. in Alt.]	40° 4½′
	Spica was then distant from the meridian, east [Diſtabat tunc Spica a Mer. or.]	20° 49′

1202

And ♂ was then somewhat obscured by scattered clouds. [Eratque tunc ♂ raris nubibus nonnihil offuſcatus.]

Time	The heart of ☋, west [Cor ☋ occ.]	♂, west [♂ occ.]	Equatorial distance [Diſt. æquat.]	Altitude of ♂ [Altit. ♂]
$11^h\ 52^m\ 15^s$	34° 6′	5° 46′	28° 20′	
$11^h\ 54^m\ 0^s$	34° 33′	6° 12′	28° 21′	
$11^h\ 55^m\ 15^s$	34° 52½′	6° 32⅓′	28° 20⅙′	39° 52′
$11^h\ 57^m\ 8^s$	35° 21′	7° 0⅙′	28° 20⅚′	
$11^h\ 58^m\ 23^s$	35° 40′	7° 19½′	28° 20½′	39° 40′

1201 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. *Alt.* ♂ stands on the first line, before *21⅙*, in the fourth column. The label *Inter* ♂ *&* / *cor* ☋ runs over two lines, each beside its own time, and is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *21⅙*, printed as a single figure with a fraction, is given as degrees.

1202 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *40 4½* is set at the right on the line below *Tranſiuit* ♂ *per Mer. in Alt.*; *20 49* stands at the end of its own line. The time *11 30 12″* is printed with three figures, the last with a double mark; it is given as hours, minutes and seconds. The values, printed without unit marks, are given as degrees and minutes.

1203

On 14 March, A. M. [DIE 14 MARTIJ A. M.]

Time	Reading	Spica, east [Spica or.]	♂, west [♂ occ.]	Value	Second value
$0^h\ 1^m\ 34^s$		12° 54′	8° 6′	21° 0′	
$0^h\ 3^m\ 35^s$		12° 24½′	8° 35′	20° 59½′	
$0^h\ 5^m\ 12^s$		12° 0′	9° 0′	21° 0′	
$0^h\ 8^m\ 0^s$		11° 17′	9° 43′	21° 0′	
$0^h\ 9^m\ 20^s$		10° 55¾′	10° 4′	20° 59¾′	
$0^h\ 11^m\ 6^s$		10° 31¼′	10° 29′	21° 0¼′	39° 23′
$0^h\ 17^m$	Declination of ♂ [Declin. ♂] with the other [altero]			6° 0½′ north [6 0½ B.] 6° 0⅓′	

1204

On 17 March, P. M. [DIE 17 MARTIJ P. M.]

Time	Reading	Value	Altitude of ♂ [Alt. ♂]
$10^h\ 18^m$	Declination of ♂ [Declin. ♂]	6° 25′ north [6 25 B.]	38½°
$10^h\ 20^m$	Between the heart of ♌ and ♂ [Inter cor] [♌ & ♂]	27° 34⅚′	39°
$10^h\ 22^m$		27° 34⅚′	
$10^h\ 23^m$		27° 34⅚′	Altitude of Spica [Alt. Spicæ]
$10^h\ 28^m$	Between Spica ♍ and ♂ [Inter Spicam] [♍ & ♂]	27° 3¾′	18½°
$10^h\ 29^m$		27° 3¾′	
$10^h\ 30^m$		27° 3½′	

1203 "Time" is this edition's head; the four other heads are printed, in smaller roman, each over two lines, over the value columns. These lines stand in the right column below its opening sentence (*Eratque …*), which follows the left column's last line. They are set in roman. The times, printed without unit marks, are given as hours, minutes and seconds, the values as degrees and minutes.

1204 "Time", "Reading", "Value" and "Second value" are this edition's heads; *Spica or.* and ♂ *occ.* are printed, in smaller roman, over the first and second value columns. These lines are set in roman. *Declin.* ♂ stands over the columns of *Spica or.* and ♂ *occ.*; *altero* is set in under it; their values stand in the third value column, the column of *21 0*. *B.* is given as "north". The first six times, printed with three figures, are given as hours, minutes and seconds; *0 17*, printed with two, as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1205

Time	Reading	The heart of ♌, west [Cor ♌ occ.]	♂, east [♂ orient.]	Equatorial distance [Diſt. æquat.]
$10^h\ 35^m\ 58^s$ [10 35 58″]		15° 28¼′	11° 26½′	26° 54¾′
$10^h\ 38^m\ 26^s$		16° 6′	10° 48½′	26° 54½′
$10^h\ 39^m\ 50^s$		16° 28′	10° 26¾′	26° 54¾′
$10^h\ 41^m\ 20^s$		16° 50½′	10° 4¼′	26° 54¾′
$10^h\ 43^m$	Declination of ♂, north [Declinatio ♂] [Bor.]		6° 25′	
	Repeated [Repetita]		6° 25′	

1206

At the next following noon the clock was moving 16^m [16 Minutis] faster than it should, an error which arose from the preceding noon. [Horolog. in meridie proxime ſequenti 16 Minutis iuſto citius mouebatur, qui error a meridie antecedente euenit.]

On 27 March, in the evening [DIE 27 MARTIJ, VESPERI.]

N. B. The clock was verified at about $9\frac{1}{3}^h$. [N. B. Horologium circa H. 9⅓ verificatum eſt.]

Time	Reading	Value	Remark
$9^h\ 31^m$	Declination of ♂ [Declin. ♂]	7° 18½′ north [7 18½ Bor.]	
$9^h\ 35^m$	Between ♂ and the heart of ♌ [Inter ♂ &] [cor ♌]	24° 28′	By the new sextant (for all five) [Per Sext. nov.]
$9^h\ 37^m$		24° 28′	
$9^h\ 40^m$	Between ♂ and Arcturus [Inter ♂] [& Arctur.]	39° 53′	

1205 "Time", "Reading" and "Value" are this edition's heads. *Alt.* ♂ is printed, in smaller roman, on a line of its own over the last column; *Alt. Spicæ* is printed, in smaller roman, at the right on the line of *10 23*, over *18½*. These lines are set in roman. The labels *Inter cor* ♌ *&* ♂ and *Inter Spicam* ♍ *&* ♂ run over two lines, each beside its own time, and are given whole on the first row. On the line of *10 29* a small dot stands between *27* and *3¾*; it is not taken as part of the value. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *38½* and *18½*, printed as a single figure with a fraction, and *39*, printed as a single figure, are given as degrees.

1206 "Time" and "Reading" are this edition's heads; the three other heads are printed, in smaller roman, over the value columns. These lines are set in roman. The label *Declinatio* ♂ / *Bor.* runs over two lines, the value on the second; it is given whole, with its value, on one row. The two values *6 25* stand in the ♂ *orient.* column; they are given there, as read against that printed column position. *Repetita* is set in. *Bor.* is given as "north". The first time is printed *10 35 58″*, the last figure with a double mark; the first four times are given as hours, minutes and seconds, *10 43* as hours and minutes; the values, printed without unit marks, as degrees and minutes.

Time	Reading	Value	Remark
$9^h\ 41^m$		39° 53¼′	
$9^h\ 43^m$		39° 53′	
$9^h\ 44^m$	Repet declination of ♂ [Repet Declin. ♂]	7° 18⅔′	altitude [Alt.] 41½°

1207

On 1 April [DIE 1 APRILIS.]

Time	Reading	Value
$9^h\ 1^m$ [H. 9 M. 1]	*Declination of ♂ 7° 35′, altitude* [Declin. ♂ 7 35, Alt.]	*40° 25′*
	At the same instant, distance from Regulus [Eodem inſtanti diſt. a Regulo]	*23° 12′*
$9^h\ 3¾^m$	*Repeated distance of ♂ and Regulus* [Repet. diſt. ♂ & Reg.]	*23° 11¾′*

1208

[It was] clearer. Set the distance of ♂ and Regulus at 23° 12′, and [it] is better. [Melius ſerenum. Pone diſtantiam ♂ & Reg. 23 12, et eſt melius.]

Time	Reading	Value
$9^h\ 17^m$	*Repeated declination of ♂* [Repetita ♂ Decl.]	*7° 35′*

1209

Up to this point, when ♂ was being observed this evening, [it] was not sufficiently clear. [Hactenus quando ♂ obſeruabatur hoc veſperi non fuit ſatis ſerenum.]

1207 "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in roman. A single brace joins the five values from *9 35* to *9 43* to *Per / Sext. / nov.*, set over three lines at the right; the remark is given once, on the first of the five rows. The labels *Inter ♂ & / cor ♌* and *Inter ♂ / & Arctur.* run over two lines, each beside its own time, and are given whole on the first row. *Repet* is printed without a point. *Alt. 41½* follows the value on the last line. *Bor.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *41½*, printed as a single figure with a fraction, is given as degrees.

1208 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. On the first line *7 35,* follows *Declin. ♂* within the line, with a comma, and *Alt. 40 25* stands at the right; *40 25*, *23 12* and *23 11¾* stand in one column. *Repet.* is left abbreviated. The times are given as hours and minutes (the first printed *H. 9 M. 1*, the second without unit marks); the values, printed without unit marks, as degrees and minutes.

1209 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. This line is set in italic. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes.

Time	Reading	Value	Remark
$9^h\ 21^m$	Distance of ♂ from the heart of ♌, by the old sextant [Diſt. ♂ a corde ♌] [per Sext. vet.]	23° 14½′	
$9^h\ 24^m$		23° 14½′	
$9^h\ 26^m$		23° 14⅔′	
$9^h\ 33^m$	♂ from Spica ♍ [♂ a Spica ♍,]	31° 10′	[it] was very clear [erat bene] [ſerenum]
$9^h\ 35^m$		31° 10′	
$9^h\ 38^m$		31° 10′	
$9^h\ 42^m$	Repeated declination of ♂ [Repetita Declin. ♂]	7° 34¾′	
$9^h\ 55½^m$	Meridian altitude of ♂ [Altit. ♂ Meridiana]	41° 40⅙′	

1210

On 5 April, P. M. [DIE 5 APRILIS P. M.]

Time	Reading	Value	Second value
$8^h\ 36⅓^m$	Declination [Decl.]	7° 41′ north [7 41 B.]	
$8^h\ 38^m$	Between ♂ and the heart of ♌ [Inter ♂] [& cor] [♌]	22° 31⅚′	
$8^h\ 39½^m$		22° 31⅚′	Altitude of ♂ 40° [Alt. ♂ 40 G.]
$8^h\ 41^m$		22° 31⅚′	

1211

On 13 April, in the evening [DIE 13 APRILIS, VESPERI.]

Time	Reading	Value
$8^h\ 59^m$	Declination of ♂ [Decl. ♂]	7° 39½′ north [7 39½ B.]
$9^h\ 6^m$	Between ♂ and the heart of ♌ [Inter ♂] [& cor ♌]	21° 44½′
$9^h\ 7^m$		21° 44⅓′
$9^h\ 8½^m$		21° 44½′
$9^h\ 13^m$	Between ♂ and Spica [Inter ♂] [& Spicam]	32° 34′

1210 "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in roman. The label *Diſt. ♂ a corde ♌ / per Sext. vet.* runs over two lines, each beside its own time, and is given whole on the first row. *erat bene* stands after ♂ *a Spica ♍*, on the line of *9 33*, and *ſerenum* on the line of *9 35*; the remark is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1211 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. The label *Inter ♂ / & cor / ♌* runs over three lines, each beside its own time, and is given whole on the first row. *Alt. ♂ 40 G.* follows the value on the line of *8 39½*; *G.* is given as "°". *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value
$9^h\ 14^m$		32° 34′
$9^h\ 15^m$		32° 34′
	by the old sextant [per. Sext. vet.]	
$9^h\ 19^m\ 10^s$ [9 19 10″]	♂ passed the meridian and had an altitude by the revolving quadrant [Tranſiuit ♂ Meridianum &] [habuit Alt. per Q. volub.]	51° 43½′
	Spica was then from the meridian toward the east, by the armillae [tunc fuit Spica a Mer. ad Ort. per Arm.]	28° 17½′

1212

On 21 April [DIE 21 APRILIS.]

Time	Reading	Value
$9^h\ 26^m$	Declination of ♂ [Decl. ♂]	7° 17′ north [7 17 B]
$9^h\ 29^m$	Between ♂ and the heart of ♌, by the old sextant [Inter ♂ et] [Cor ♌ per] [Sext. vet.]	21° 45′
$9^h\ 31^m$		21° 45¼′
$9^h\ 32^m$		21° 45′
$9^h\ 37^m$	Between ♂ and Spica ♍ [Inter ♂ &] [Spicam ♍]	32° 28⅔′
$9^h\ 38^m$		32° 28½′
$9^h\ 41^m$		32° 28⅔′
$9^h\ 44^m$	Declination of ♂ [Declin. ♂]	7° 17′

1213

Observations of Venus [OBSERUATIONES VENERIS.]

On 6 January, P. M. [DIE 6 JANUARIJ P. M.]

1212 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman and head the right column. The labels *Inter* ♂ / *&* *cor* ♌ and *Inter* ♂ / *&* *Spicam* run over two lines, each beside its own time, and are given whole on the first row. *per. Sext. vet.* stands, with a point after *per*, on a line of its own after the line of *9 15*; it is given as a row of its own. *Tranſiuit* ♂ *Meridianum &* / *habuit Alt. per Q. volub.* runs over two lines and *51 43½* is set at the right on a third; *tunc fuit Spica …* runs the width of the column, *28 17½* at the right on the line below. *B.* is given as "north". The time *9 19 10″* is printed with three figures, the last with a double mark, and is given as hours, minutes and seconds; the other times, printed without unit marks, as hours and minutes; the values as degrees and minutes.

1213 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The label *Inter* ♂ *et* / *Cor* ♌ *per* / *Sext. vet.* runs over three lines and *Inter* ♂ *&* / *Spicam* ♍ over two, each beside its own time; each is given whole on the first row. *B* (printed without a point) is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value
$2^h\ 55^m$ [2^H 55′]	☿ passed through the meridian and had an altitude by the revolving quadrant [Tranſiuit ☿ per Merid. habuitque Altitudinem per Quad. Volubil.]	27° 35′ nearly [27 35 fere]
$2^h\ 58\frac{5}{6}^m$	Azimuth of ☿, west, 1° 37′ [Azimut ☿ occ. 1 37]	
	Altitude [Alt.]	27° 33′

1214

Time	Reading	☿ was observed from the centre of ☉ [Obſeruabatur ☿ a centro ☉]	Altitude of ☉ [Alt. ☉]
$3^h\ 2\frac{1}{2}^m$	Between ☉ and ☿, by the sextant [Inter ☉ et ☿] [per Sextant.]	44° 36⅓′	4° 0′
$3^h\ 5\frac{1}{2}^m$		44° 37′	3° 45′
$3^h\ 8^m$		44° 37¼′	3° 30′
$3^h\ 10^m$		44° 36′	3° 15′
$3^h\ 12^m$		44° 37′	3° 0′
$3^h\ 15^m$		44° 37½′	2° 50′

1215

In the last two observations the centre of ☉ was taken by estimation and sight, because ☉ by itself made too great an illumination. [In duabus vltimis obſeruationibus accipiebatur per æſtimationem & viſum centrum ☉, eo quod nimis magnam ☉ per ſe faceret illuminationem.]

Time	Reading	Value	Second value
$3^h\ 16\frac{1}{2}^m$	☿ from the western limb of ☉ [☿ ab occid.] [limbo ☉]	44° 51¼′	Altitude of ☉ [Alt. ☉] 2° 40′
$3^h\ 18^m$	☿ from the eastern limb of ☉ [☿ ab orient.] [limbo ☉]	44° 18¾′	2° 30′
$3^h\ 17^m$ [H. 3 M. 17]	Therefore ☿ from the centre of ☉ [Ergo] [☿] [a centro ☉]	44° 35′	
$3^h\ 20\frac{1}{2}^m$	☿ from the western limb of ☉ [☿ ab occ.] [limb. ☉]	44° 50′	2° 15′
$3^h\ 22\frac{1}{3}^m$	☿ from the eastern limb of ☉ [☿ ab orient.] [limb. ☉]	44° 17¼′	2° 5′

1214 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman; *fere* is in smaller type. The label *Tranſiuit* ☿ … *Volubil.* runs over three lines, the value on the third. *1 37* follows *occ.* within its line; *Alt. 27 33* stands at the right on the line below, *27 33* in the column of *27 35*. The first time is printed *2ᴴ 55′*, with a superior *H* and a single prime; *2 58⅚*, printed without unit marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1215 "Time" and "Reading" are this edition's heads. *Obſeruabatur* ☿ *a centro* ☉ is printed in the text size over the label and first value columns, and is given as the head of the value column; *Alt.* ☉ is printed over the last column. These lines are set in roman. The label *Inter* ☉ *et* ☿ / *per Sextant.* runs over two lines, each beside its own time, and is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Second value
	Therefore the distance [Ergo diſtantia]	44° 34′ nearly [44 34 fere]	

1216

Afterwards ☿ was taken in azimuths [Poſtea accipiebatur ☿ in Azimutis]

Time	Reading	Value	Second value
$3^h\ 41^m\ 24^s$ [3 41 24″]	Azimuth of ☿, west [☿ Azim.] [occ.]	13° 42′	Altitude of ☿ [Alt. ☿] 26° 49′
$4^h\ 34^m$	☿ from ♄, by the sextant [☿ a ♄] [per Sext.]	45° 22′	24° 10′
$4^h\ 37^m$		45° 21⅔′	24° 0′
$4^h\ 38½^m$		45° 21½′	23° 50′
$4^h\ 41^m$		45° 21¼′	23° 40′

1217

Therefore set the true distance by the sextant, at about $4^h\ 38^m$ [H. 4 38′], at 45° 21½′. [Pone itaque veram diſtantiam per Sextantem circa H. 4 38′ 45 21½]

Time	Reading	Value	Altitude of ☿ [Alt. ☿]
$5^h\ 28½^m$	Declination of ☿, south [Declin. ☿ M.], with one [vno]	6° 24′	
	with the other [altero]	6° 24½′	19° 45′

1218

1216 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. The first two rows stand at the foot of the left column; the rows from *Ergo H. 3 M. 17* stand at the head of the right column, where *Ergo* is printed before the time. Each label runs over two lines, the value on the second, and is given whole on one row. *Alt. ☉ 2 40* follows the value on the line of *3 16½*; the other second values stand in the same column. The times are given as hours and minutes (*H. 3 M. 17* as printed; the others printed without unit marks); the values, printed without unit marks, as degrees and minutes.

1217 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. ☿ *Azim. / occ.* runs over two lines, the value on the second, and is given on one row; *Alt. ☿ 26 49* follows that value, *26 49* standing in the column of *24 10 … 23 40*. The label ☿ *a ♄ / per Sext.* runs over two lines, each beside its own time, and is given whole on the first row. The time *3 41 24″* is printed with three figures, the last with a double mark, and is given as hours, minutes and seconds; the other times, printed without unit marks, as hours and minutes; the values as degrees and minutes.

1218 "Time", "Reading" and "Value" are this edition's heads; *Alt. ☿* is printed, in smaller type, raised at the right over *19 45*. These lines are set in roman. *altero* is set in. *M.* is given as "south". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

Afterwards ♀ again from ♈ by the greater armillae [Poſtea denuo ♀ ab ♈ per Arm. maiores]

Time	♀, west [♀ occid.]	The bright [star] of ♈, east [Luc. ♈ or.]	Difference of right ascension [Diff. Aſc. R.]
$5^h\ 33^m\ 20^s$ [5 33 20″]	40° 28½′	3° 41′	44° 9½′
$5^h\ 39^m\ 23^s$	42° 1¼′ [42, 1¼]	2° 9½′	44° 10¾′

1219

At noon the clock was corrected sufficiently exactly (add ½ for the correction æquat.). [Horolog. in Meridie erat correctum ſatis exacte (adde ½ pro correctione æquat.).]

Time	Reading
$5^h\ 47^m\ 55^s$ [5 47 55]	The bright [star] of ♈ passed the meridian and had an altitude of 55° 34¼′ by the revolving [quadrant]. [Tranſiuit Luc.♈ Meridianum & habuit Alt. 55 34¼ per volubilem.]

1220

And from this the time of the clock will be able to be verified again, so that the transits of ☾ and ♄ through the meridian may be established exactly. [Hincque poterit rurſus verificari tempus horologij, vt tranſitus ☾ et ♄ per Merid. exacte conſtent.]

Afterwards ♀ was observed again by the sextant from the bright [star] of ♈, and in declination. [Poſtea denuo obſeruabatur ♀ per Sext. a lucida ♈ & in declin.]

Time	Reading	Value	Second value	Altitude of ♀ [Altit. ♀]
$5^h\ 53½^m$	Declination of ♀ [Declin. ♀], with one [vno]		6° 25′ south [6 25 auſt.]	17° 0′
	with the other [altero]		6° 24⅚′	
$6^h\ 0^m$	♀ from the bright [star] of ♈, by the sextant [♀ a luc.♈] [per Sext.]	51° 29′	6° 25′ south [6 25 M.]	16° 30′
$6^h\ 4½^m$		51° 29¼′	6° 24⅚′	16°
	Repeated [Repet.]	51° 28⅚′		

1219 "Time" is this edition's head; the three other heads are printed, in smaller type, over the value columns. These lines are set in roman. In the second row a comma-shaped mark stands against the foot of the *2* of *42*; it is not taken as part of the value. The first time is printed *5 33 20″*, the last figure with a double mark; the times are given as hours, minutes and seconds, the values, printed without unit marks, as degrees and minutes.

1220 "Time" and "Reading" are this edition's heads; the page prints no heads here. The sentence runs over three lines beside the time. The time, printed without unit marks, is given as hours, minutes and seconds; the value, printed without unit marks, as degrees and minutes.

Time	Reading	Value	Second value	Altitude of ♀ [Altit. ♀]

1221

Set the distance of ♀ from the bright [star] of ♈ at about 6^h at 51° 29′, well, and the declination of ♀ at 6° 25′; but account [is] to be taken of the refraction. [Pone circa H. 6 diſt. ♀ a Luc.♈ 51 29 bene, & declinationem ♀ 6 25 ſed habenda ratio refractionis.]

Time	Value	Second value	Third value
6^h 10^m	51° 28¾′	6° 25′	15° 10′
6^h $12½^m$	51° 28¾′	6° 25′ south [6 25 M.]	15° 0′

1222

You can therefore, for verifying the place of ♀, infallibly set at 6^h compl. [ad H. 6 compl.] the distance between the bright [star] of ♈ and ♀ by the sextant at 51° 29′. For [the fact] that [it] afterwards appeared narrower by a quarter part of 1′ [quarta parte vnius ſcrupuli] was caused by the refraction of ♀, which had meanwhile increased a little more. [Potes itaque pro verificando loco ♀ infallibiliter ad H. 6 compl. ponere diſtantiam inter Lucid. ♈ et ♀ per Sextant. 51°29′. Nam quod poſtea quarta parte vnius ſcrupuli arctior videbatur, effecit ♀ Refractio interea paulo plus augmentata.]

From this, therefore, let the place of ♀ be verified exactly, and, account being taken of the refraction and parallax, let [it] be applied to the time at which ☾ was observed from ♀, so that the place of ☾ near the 90th degree may be established, when ☾ was near the apogee and in quadrature with ☉. [Hinc itaque verificetur locus ♀ exacte, & habita ratione refractionis ac parallaxeos, applicetur ad tempus quo ☾ a ♀ obſeruabatur, vt conſtet ☾ locus juxta 90 gradum, quando ☾ erat prope Apogæum et in quadratura cum ☉.]

This place of ♀ can also, the other way round, be applied to ☉, when its distance from the sun was being taken at that time, provided account is taken, both in ☉ and in ♀, of the parallax and refraction, which in ☉, because of [its]

1221 "Time", "Reading", "Value" and "Second value" are this edition's heads; *Altit.* ♀ is printed, in smaller type, over the last column. These lines are set in roman. On the first line *vno* stands at the right of the label and *6 25 auſt.* in the second value column; the first value column is empty in the first two rows. *altero* and *Repet.* are set in. The label ♀ *a luc.*♈ / *per Sext.* runs over two lines, each beside its own time, and is given whole on the first row. *auſt.* and *M.* are given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes; the lone *16* in the last column as degrees.

1222 "Time", "Value", "Second value" and "Third value" are this edition's heads; the page prints no heads here. These two lines carry no label; their figures stand in the three value columns of the table above, the third value in the column headed *Altit.* ♀. *M.* is given as "south". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

lowness, was very evident. And from this the places of the fixed [stars] [can] be examined relative to ☉ and ☾. [Poteſt etiam hic locus ♀ viceverſa applicari ad ☉ quando a ſole in eo tempore eius capiebatur diſtantia, modo habeatur tum in ☉ tum in ♀ ratio parallaxeos & refractionis, quæ in ☉ ob decliuitatem admodum erat euidens. Hincque loca fixarum ad ☉ et ☾ examinari.]

On 6 January [DIE 6 JANUARIJ.]

For the right ascension of ♀ [Pro Aſc. Recta ♀]

Time	Reading	Value
4^h 37^m [H. 4 37′]	Distance between ♀ and ♄ [Diſt. inter ♀^{em}] [& ♄^{um}]	45° 22′
	Declination of ♀, south [Decl. ♀ Auſt.]	6° 25′
	Declination of ♄, north [Decl. ♄ Bor.]	7° 47½′
	Difference of ascension [Diff. Aſcenſ.]	43° 11′ 59″
	Right ascension of ♄ [Aſc. R. ♄]	25° 0′ 30″
	Right ascension of ♀ [Aſc. R. ♀]	341° 48′ 30″
6^h 3^m [H. 6 3′]	Between ♀ and the bright [star] of ♈ [Inter ♀ & luc.♈]	51° 29′
	Declination of ♀, south [Decl. ♀ Auſt.]	6° 24½′
	Declination of the bright [star] of ♈, north [Decl. luc.♈ B.]	21° 28⅝′
	Difference of ascension [Diff. Aſcenſ.]	44° 8′ 48″
	Right ascension of the bright [star] of ♈ [Aſc. R. luc.♈]	26° 1′ 20″
6^h 3^m [H. 6 3′]	Right ascension of ♀ [Aſc. R. ♀]	341° 52′ 0″
	Let the right ascension at 6^h 3^m be set [Ponatur H. 6 M. 3 Aſc. R.]	341° 52′
	Declination, south [Decl. Auſt.]	6° 25′ 0″
	Corresponding longitude [Reſp. Longitudo]	10° 50′ 23″ ♓
	Latitude [Latitudo]	1° 11′ 46″ north [1 11 46 B.]

1223

For the right ascension of ♀ [Pro Aſcenſione Recta ♀]

On 6 January[1] [DIE 6 JANUARII[1].]

[1223] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The label *Diſt. inter* ♀^{em} / *&* ♄^{um} runs over two lines, the value on the second, and is given on one row; *em* and *um* are printed as superior letters. A horizontal rule stands above *341 48 30* and above *341 52 0*. *Ponatur* stands to the left of the other labels. *B.* is given as "north". The times are printed *H. 4 37′* and *H. 6 3′* and are given as hours and minutes; the values, printed without unit marks, as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). In the block of 4^h 37^m, 25 0 30 less 43 11 59 (with 360° added) gives 341° 48′ 31″, while the right ascension of ♀ is printed 341 48 30; in the block of 6^h 3^m, 26 1 20 less 44 8 48 gives 341° 52′ 32″, while it is printed 341 52 0. The figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

Time	Reading	Value
6^h 0^m [H. 6 M. 0]	Distance of ♀ from the bright [star] of ♈ [Diſt. ♀ a luc.♈]	51° 29′ [51°29′]
	Declination of ♀ [Declin. ♀]	6° 25′ south [6 25 M.]
	Declination of the bright [star] of ♈ [Declin. luc.♈]	21° 29′
	Right ascension of the bright [star] of ♈ [Aſc. R. luc.♈]	26° 1′ 20″ [26 1 20″]
	Therefore the right ascension of ♀ [Ergo Aſc.R. ♀]	341° 53′ 20″

Reading	Value
BA	68° 31′
CA	96° 25′
BC	51° 29′
BAC	44° 8′

1224

On 9 January, P. M. [DIE 9 JANUARIJ P. M.]

Time	Reading	Value	Second value
2^h 21^m	Between ♀ and ⊙, by the sextant [Inter ♀ & ⊙] [per Sext.]	43° 51½′	Altitude of ⊙ [Alt. ⊙] about 8° [8 quaſi]
2^h 24^m		43° 51′	7° 50′
2^h $26½^m$		43° 52′	7° 45′
2^h $29½^m$		43° 51⅓′	7° 30′
2^h 36^m		43° 51⅓′	7° 10′
2^h $42½^m$		43° 51⅓′	6° 30′
2^h 48^m		43° 50′	6° 0′

1225

1224 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The two blocks stand side by side: at the left *H. 6 M. 0* with the letter block *BA … BAC* below it, at the right *Diſt. ♀ a luc.♈ 51°29′* and the four lines below it; the letter block stands level with those four lines. The letters stand before the values, as printed. *M.* is given as "south". The values, printed without unit marks except *51°29′* and *20″*, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

1225 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. *Alt. ⊙* is printed within the first line, after *51½*, and *8 quaſi* in the last column; the other second values stand in the same column. The label *Inter ♀ & ⊙ / per Sext.* runs over two lines, each beside its own time, and is given whole on the first row. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes, the lone *8* as degrees.

Time	Reading	Value
$2^h\ 49^m\ 55^s$ [2 49 55″]	☿ passed the meridian [tranſiuit ☿ Merid.]	
	had an altitude [habuit Alt.]	28° 52′
	by the revolving [quadrant] [per volub.]	

1226

Time	Reading	Value
$2^h\ 53^m$	Declination of ☿ by the armillae [Decl. ☿ per Armillas]	
	with one [vno]	5° 12¾′
	with the other [alt.]	5° 12½′
	The true declination will therefore be [Erit itaque vera declin.]	5° 13′ south [5 13 M.]

1227

[1] From codex V [E codice V.].

Time	Reading	☿ from ☉ [☿ a ☉]	Declination of ☉ [Declin. ☉]	Altitude of ☉ [Altit. ☉]
$2^h\ 58^m$		*43*° 49½′	20° 15⅙′	5° 10′
$3^h\ 1½^m$		*43*° 49′	20° 14⅚′	5° 0′
$3^h\ 4½^m$		*43*° 48′	20° 14½′	4° 40′
$3^h\ 7½^m$		*43*° 47′	20° 14′	4° 10′
$3^h\ 11½^m$		*43*° 46⅓′	20° 13′	3° 50′
$3^h\ 14½^m$		43° 46′	20° 12½′	3° 30′
$3^h\ 19⅓^m$			20° 11⅙′	3° 10′
$3^h\ 22⅓^m$		43° 45′	20° 10′	3° 0′
$3^h\ 27½^m$		43° 44′	20° 7½′	2° 30′
$3^h\ 30^m$		43° 43½′		2° 20′
$3^h\ 33½^m$	Declination of ☿, south [Decl. ☿ Auſt.]		5° 11¾′	
	Altitude of ☿ [Alt. ☿]			28° 5′
	with the other [altero]		5° 11½′	

[1226] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *28 52* stands in the last column of the table above (the column of *7 50* …); *per volub.* stands at the right, on its own line below it. The time is printed *2 49 55″*, the last figure with a double mark, and is given as hours, minutes and seconds; the value, printed without unit marks, as degrees and minutes.

[1227] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *vno* and *alt.* are set in at the right, the values below one another; *5 13 M.* stands in the same column. *M.* is given as "south". The time, printed without unit marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1228

The following observations of the Sun are by seeing the middle of ☉. [Sequentes obſeruationes Solis ſunt videndo medium ☉.]

Time	Reading	♀ from ☉ [♀ a ☉]	Declination of ☉ [Decl. ☉]	Altitude of ☉ with the Radius [Alt. ☉] [per Radium]
3^h 41½^m		43° 36½′	20° 0′	1° 0′
3^h 45^m		43° 33½′	19° 58½′	0° 40′
3^h 48½^m		43° 32′	19° 56½′	0° 30′
3^h 51¼^m		43° 31′		
3^h 52^m 35^s [3 52 35″]	the middle of ☉ setting [☉ Med. occ.], distance from ♀ [diſt. a ♀] 43° 29′			

1229

Note. All this variation, both in the distance and in the declination of ☉, happened only by reason of the refraction of ☉, for which reason this [variation] is to be limited. [Nota. Omnis hæc varietas tam in diſtantia quam declin. ☉ accidit ſaltem ratione refractionis ☉, quare hæc venit limitanda.]

Time	Reading	Value	Second value
5^h 36^m	*Between ♀ and the bright [star] of* ♈ [Inter ♀ &luc.♈]	*49° 14′*	*Altitude of* ♀ [Alt. ♀] *20½°*
5^h 39^m 5^s [5 39 5]	*The bright [star] of* ♈ *passed through the meridian and had an altitude of 55° 34¼′ by the revolving [quadrant]. From this the time will be able to be verified.* [Tranſiuit Luc.♈ per Mer. & habuit alt. 55 34¼ per volub. Hinc poterit verificari tempus.]		
5^h 39½^m	*♀ from the bright [star] of* ♈ [♀ a luc.♈]	*49° 14⅙′*	*Altitude of* ♀ [Alt. ♀] *19⅔°*

1228 "Time" and "Reading" are this edition's heads; the three other heads are printed, in smaller type, over the value columns. No heading stands above these lines; they follow the entry for 9 January P. M. These lines are set in roman, except the figures *43* in the first five rows, which are italic. *5 11¾* and *5 11½* stand in the *Declin.* ☉ column and *28 5* in the *Altit.* ☉ column; they are given there, as the labels on their lines state a declination and an altitude of ♀. *Auſt.* is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1229 "Time" and "Reading" are this edition's heads; the three other heads are printed, in smaller type, over the value columns, *Alt.* ☉ / *per Radium* over two lines. These lines are set in roman. In the last row *43 29* follows the label within its line, standing at the right under the *Alt.* ☉ values; it is given with the label. *Med.* is left abbreviated. The last time is printed *3 52 35″*, the last figure with a double mark, and is given as hours, minutes and seconds; the other times, printed without unit marks, as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1230

Time	Reading	Value	Second value	Third value
5h 43m	*Declination of* ♀*, with one pinnule* [Decl. ♀ vno] [pinn.]		*5° 9½′ south* [5 9½ M.]	
	with the other [altero]		*5° 9′*	
5h 49m	♀ *from the bright [star] of* ♈ [♀ a] [luc.♈]	*49° 14′*	*5° 8′ south* [5 8 M.]	*18° 30′*
5h 55m		*49° 13½′*	*5° 8′*	*18° 0′*
	with the other pinnule [alt. pinn.]		*5° 8¼′*	

1231

From this let the place of ♀ *be verified for the observations of* ☿*, having regard on both sides to the refraction.* [Hinc verificetur locus ♀ pro ☿ obſeruationibus habendo vtrinque reſpectum refractionis.]

Time	♀, west [♀ occid.]	Aldebaran, east [Aldeb. or.]	Equatorial distance [Diſt. æquat.]	Altitude of ♀ [Alt. ♀]
6h 6½m	*49° 15′*	*30° 1′*	*79° 16′*	*16¾°*
6h 8⅓m	*49° 43½′*	*29° 34′*	*79° 17½′*	*16½°*
6h 10 1/12m	*50° 7′*	*29° 9′*	*79° 16′*	*16¼°*
6h 11⅓m	*50° 28′*	*28° 48½′*	*79° 16½′*	*16⅙°*

1232

Set here the equatorial distance of ♀ *and Aldebaran at 79° 16½′.* [Pone hic diſt. æquat. ♀ et Aldeb. 79 16½]

1230 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. On the first and third lines the values follow the labels within the line, *Alt.* ♀ *20½* and *Alt.* ♀ *19⅔* at the right; the sentence of the second row runs over three lines. The times are given as hours and minutes (the second, printed *5 39 5* without unit marks, as hours, minutes and seconds); the values, printed without unit marks, as degrees and minutes, and *20½* and *19⅔*, each a single figure with a fraction, as degrees.

1231 "Time", "Reading", "Value", "Second value" and "Third value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Decl.* ♀ *vno / pinn.* runs over two lines, the value on the second, and is given on one row; *pinn.*, *altero* and *alt. pinn.* are set in. The label ♀ *a / luc.*♈ runs over two lines, each beside its own time, and is given whole on the first row. *M.* is given as "south". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1232 "Time" is this edition's head; the four other heads are printed, in smaller italic, over the value columns. These lines are set in italic. The third time is printed *10 1/12*, a fraction of one twelfth. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes, and the altitudes of ♀, each a single figure with a fraction, as degrees.

Time	Reading	Value	Second value
6ʰ 13ᵐ	*Declination of* ☿*, with one pinnule* [Declin. ☿ vno pinn.]	*5° 8′*	*15⅝°*
	with the other [altero]	*5° 7¾′*	

1233

Afterwards ☿ *was observed [in] distance and declination, because the refraction of* ☿*, observed at a closely similar altitude, is to be sought.* [Poſtea obſeruabatur ☿ diſt. & decl. propter refractionem ☿ in conſimili altitudine obſeruati quærendam.]

Time	Reading	Value	Second value
7ʰ 39ᵐ	*Declination of* ☿*, south* [Declin. ☿ auſtr.]	*5° 1′*	*Altitude* [Altit.] *5° 29′*
7ʰ 41½ᵐ		*5° 1′*	*5° 12¼′*

1234

Afterwards the distance of ☿ *from the bright [star] of* ♈ *was taken in a nearly closely similar position to that in which* ☿ *was observed earlier, and at the same time its declination and altitude, so that, when these are compared with the preceding observations of* ☿*, the refraction of* ☿ *can be established, and consequently also [that] of* ☿ *at a similar altitude.* [Poſtea accipiebatur diſtantia ☿ a Lucida ♈ in conſimili fere ſitu quo ☿ prius obſeruabatur & vna ipſius declinatio & altitudo, vt collatis his cum antecedentibus ☿ obſeruationibus refractio ☿ conſtare poßit et per conſequens etiam ☿ in ſimili altitudine.]

Time	Distance of ☿ and the bright [star] of ♈ [Diſt. ☿ & luc.♈]	Declination of ☿ [Declin. ☿]	Altitude of ☿ [Altit. ☿]
7ʰ 45ᵐ	*49° 3¼′*		*4° 44′*
7ʰ 47½ᵐ	*49° 2⅓′*	*5° 0½′*	*4° 22′*
7ʰ 49ᵐ	*49° 1⅙′*	*5° 0½′*	*4° 0′*
7ʰ 56¾ᵐ	*48° 59½′*	*4° 57¾′*	*3° 0′*
7ʰ 58½ᵐ	*48° 59′*		*2° 55′*
8ʰ 0ᵐ	*48° 58′*		*2° 40′*
8ʰ 1¼ᵐ	*48° 56¾′*		*2° 30′*
8ʰ 4¾ᵐ	*48° 55½′*		*2° 20′*
8ʰ 6ᵐ		*4° 53½′*	*2° 0′*
8ʰ 9ᵐ	*48° 53¾′*		*1° 40′*
8ʰ 10¾ᵐ	*48° 52′*		*1° 30′*

1233 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *5 8* stands under the *Diſt. æquat.* column of the table above and *15⅝* in its *Alt.* ☿ column; *altero* is set in. The time, printed without unit marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes, and *15⅝*, a single figure with a fraction, as degrees.

1234 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. On the first line *5 1* follows *auſtr.* within the line and *Altit. 5 29* stands at the right. *auſtr.* is given as "south". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Distance of ♀ and the bright [star] of ♈ [Diſt. ♀ & luc.♈]	Declination of ♀ [Declin. ♀]	Altitude of ♀ [Altit. ♀]
8h 12½m		*4° 49½′*	*1¼°*

1235

On 14 January *[DIE 14 JANUARIJ.]*
We observed between ♀ *and* ⊙. [Obſeruauimus inter ♀ & ⊙.]

Time	Distance of ♀ and ⊙ [Diſt. ♀ & ⊙]	Altitude of ⊙ [Altit. ⊙]
12h 18m	*42° 11½′*	*14° 46′*
12h 20½m	*42° 11⅔′*	*14° 45′*
12h 22m	*42° 11¼′*	*14° 44′*
12h 23m	*42° 11½′*	*14° 43′*

1236

Therefore set [it] around this time at 42° 11½′, and you will work with sufficient certainty for ♀ *and the Sun.* [Pone itaque circa hoc tempus 42 11½ et ſatis certo operaberis pro ♀ et Sole.]

Time	Reading	Value
12h 34m	*Declination of* ♀*, with one* [Decl. ♀ vno]	*3° 12⅓′ south* [3 12⅓ M.]
	Repeated [Repetita]	*3° 11½′*
12h 40m	*Repeated with the other pinnule* [Repetita alt.] [pinn.]	*3° 12½′ south* [3 12½ M.]

1237

Therefore set the declination of ♀ *at 3° 12′, and the apparent declination of the Sun at 19° 15′, imperceptibly* [Pone itaque decl. ♀ 3 12 & Solis viſam decl. 19 15 inſenſibiliter]

Now around these times the altitude of ♀ *was 26½°.* [Fuit autem circa hæc tempora Alt. ♀ 26½]

1235 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the value columns. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes, and the last altitude, *1¼*, a single figure with a fraction standing in the degree position, as degrees.

1236 "Time" is this edition's head; the two other heads are printed, in smaller italic, over the value columns. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1237 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. *Repetita* (second row) and *pinn.* are set in; the label *Repetita alt. / pinn.* runs over two lines, the value on the second, and is given on one row. *M.* is given as "south". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Second value
12h 45m	*Altitude of* ♀ *before the meridian* [Altit. ♀ antemerid.]		*26° 20½′*
12h 46½m	*Azimuth of* ♀*, east* [Az. ♀ or.]	*31° 43′*	*26° 31½′*
	Declination of ♀ *then 3° 13′ by the armillae* [Declin. ♀ tunc 3 13 per Arm.]		
12h 48¾m	*Azimuth, east* [Az. or.]	*31° 20′*	*26° 38¾′*

1238

Afterwards the distance of the Sun and ♀ *was observed again by the sextant in this way.* [Poſtea denuo obſeruabatur diſtantia Solis & ♀ per Sextantem in hunc modum.]

Time	Distance of ♀ from ⊙ [Diſt. ♀ a ⊙]	Altitude of ⊙ [Altit. ⊙]	Altitude of ♀ [Alt. ♀]
12h 51m	*42° 11′*	*14° 5′*	*27° nearly* [27 fere]
12h 53½m	*42° 11′*	*14° 2′*	
12h 56m	*42° 10⅚′*	*13° 57′*	
12h 58½m	*42° 10¾′*	*13° 52′*	*27¼°*
1h 0½m	*42° 10½′*	*13° 48′*	
1h 3½m	*42° 10½′*		

1239

You can rely with sufficient safety on these observations of Venus to the Sun. But that the Sun had now become nearer to Venus than before did not happen by reason of [its] own motion, but because ⊙*, approaching [its] setting, increased the refraction more, and seemed nearer to Venus than it really was. You can, however, at noon itself set the distance of the Sun and* ♀ *at 42° 12′ exactly; and, with the declination of both applied and the place of Venus verified by the stars at night, the place of* ⊙ *[can] be investigated as soon as [it] can be had, or also, the other way round, from this setting the place of* ♀*, and from there the fixed stars, as you know.* [His obſeruationibus Veneris ad Solem potes ſatis tuto te fundare, quod autem nunc propior factus Sol Veneri quam antea non ratione motus proprij fiebat, ſed quia ⊙ accedens ad occaſum magis refractionem augebat, propiorque Veneri quam revera erat videbatur. Potes autem in ipſo Meridie conſtituere diſtantiam Solis & ♀ 42 gr. 12 M. exacte & adhibita vtriusque declinatione Venerisque loco per ſtellas

1238 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *26 20½* stands at the right of the first line, in the column of *26 31½* and *26 38¾*; *31 43* follows its label within the line, *31 20* under it. The third line is set in, *3 13* within it. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes; *26½* (the sentence above), a single figure with a fraction, as degrees.

1239 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the value columns. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes, and the altitudes of ♀, *27* and *27¼* (a single figure, and a single figure with a fraction), as degrees.

nocturno tempore verificato quam primum haberi poteſt locus ☉ indagari vel etiam viceverſa ex hac conſtitutione ♀ locus atque inde affixæ ſtellæ vt ſcis.]

Time	Reading	Value
$1^h\ 5^m$	*Declination of ♀, with one pinnule* [Declin. ♀ vno pinn.]	*3° 12½′*
	with the other [altero]	*3° 12¼′*

1240

Time	Reading	Value
$2^h\ 41\frac{1}{3}^m$	The star ♀ passed the meridian and had an altitude [Tranſiuit ♀ ſtella Merid. & habuit altitud.]	
	by the revolving [quadrant] [per Volub.]	30° 55¼′
	by the Tychonic [quadrant] [per Tychon.]	30° 54½′
	Set the maximum altitude at [Pone altitud. max.]	*30° 55′*
$2^h\ 50^m$	Declination of ♀ [Declin. ♀], with one [vno]	3° 10½′ south [3 10½ auſt.]
	with the other [altero]	*3° 10¼′*

1241

Then ♀ was observed again from the Sun in this way by the sextant. [Deinde ♀ a Sole rurſus obſeruabatur hoc modo per Sextantem.]

Time	Reading	Distance of ♀ from ☉ [Diſt. ♀ a ☉]	Altitude of ☉ [Altit. ☉]	Altitude of ♀ [Altit. ♀]
$3^h\ 2^m$		42° 4⅓′	6° 5′	
$3^h\ 8^m$		42° 4′	5½°	
$3^h\ 9^m$		42° 3⅔′	5° 25′	30° 42′
$3^h\ 13^m$		42° 3¼′	4° 50′	30° 33⅔′
$3^h\ 15\frac{1}{6}^m$		42° 3½′	4° 40′	30° 30′
$3^h\ 16\frac{1}{6}^m$	Declination of ♀ [Decl. ♀]	3° 10′		
	with the other [altero]	3° 10¼′		
$3^h\ 39^m\ 25^s$ [3 39 25″]	♀ from ☉ [♀ a] [☉]	41° 57′	2⅓°	29° 44½′

1240 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. The first value follows the label within the line; *altero* is set in, its value under the first. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1241 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman, except *Pone altitud. max. 30 55* and *altero 3 10¼*, which are italic. The sentence of the first row runs over two lines and carries no value; *per Volub.*, *per Tychon.* and *Pone altitud. max.* are set in below it, their values at the right. On the fifth row *vno* is set in to the right of *Declin. ♀*. *auſt.* is given as "south". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Distance of ♀ from ⊙ [Diſt. ♀ a ⊙]	Altitude of ⊙ [Altit. ⊙]	Altitude of ♀ [Altit. ♀]
$3^h\ 42^m\ 30^s$ [3 42 30]		41° 56′	2⅙°	29° 35½′

1242

Afterwards ♀ *was no longer observed from the Sun, because the Sun was obscured by small clouds very near the horizon. Now the difference that occurred in the distance of the Sun and Venus from the time before the meridian up to now occurred by reason of the solar refractions.* [Poſtea ♀ non amplius a Sole obſeruabatur eo quod Sol horizonti admodum vicinis nubeculis offuſcaretur. Diuerſitas autem quæ ab antemeridiano tempore hucusque contingebat in diſtantia Solis & Veneris ratione refractionum ſolarium contingebat.]

Time	Reading	Value
$4^h\ 1⅓^m$	Declination of ♀, repeated [Declinatio ♀ repetita]	3° 8½′
	With the other pinnule [Altero pinnacidio]	3° 8¾′

The altitude of ♀ *was then nearly 28°.* [Alt. ♀ fuit tunc fere 28 p.][1243]

Afterwards ♀ *was observed from* ♃*, which appeared first, in the following way.* [Poſtea obſeruabatur ♀ a ♃ qui primo apparuit in hunc qui ſequitur modum.]

Time	Reading	Value	Second value
4h 37m	*Declination of* ♃ [Declin. ♃]	*23° 27⅔′*	*Altitude of* ♃ [Alt. ♃]
	with the other [altero]	*23° 27½′*	*23° 43′*
4h 42m	*Declination of* ♀ [Declin. ♀]	*3° 7⅓′*	*Altitude of* ♀ [Alt. ♀]
	with the other [altero]	*3° 7⅓′*	*26° 0′*

[1242] "Time" and "Reading" are this edition's heads; the three other heads are printed, in smaller roman, over the value columns. These lines are set in roman. *3 10* and *3 10¼* stand in the *Diſt.* ♀ *a* ⊙ column; they are given there, as the label on their line states a declination of ♀; *altero* is set in. The label ♀ *a* / ⊙ runs over two lines, each beside its own time, and is given whole on the first row. The eighth time is printed *3 39 25″*, the last figure with a double mark, and the ninth *3 42 30* without marks; both are given as hours, minutes and seconds; the other times, printed without unit marks, as hours and minutes. The values, printed without unit marks, are given as degrees and minutes; *5½*, *2⅓* and *2⅙*, each a single figure with a fraction standing in the degree position of the *Altit.* ⊙ column, as degrees.

[1243] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. The table lines are set in roman; the labels *Declinatio* ♀ / *repetita* and *Altero pinna-* / *cidio* each run over two lines, the value on the second, and are given on one row each. The line *Alt.* ♀ *fuit tunc fere 28 p.*, in italic over three lines, stands at the right beside these lines, divided from them by a short vertical rule. *p.* is given as "°". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1244

But because ♄ was meanwhile appearing, we rather examined its distance from Venus in the following way by the sextant. [Sed quia ♄ interea apparebat eius potius a Venere diſtantiam ſcrutati ſumus in hunc qui ſequitur modum per Sextantem.]

Time	Distance between ♀ and ♄ [Diſt. inter ♀ & ♄]	Altitude of ♀ [Alt. ♀]	Altitude of ♄ [Alt. ♄]
$4^h\ 46½^m$	40° 19¼′	25° 30′	41° 36′
$4^h\ 48½^m$	40° 19′	25° 20′	41° 37′
$4^h\ 50^m$	40° 19′	25° 15′	41° 39′
$4^h\ 55^m$	40° 19′	24° 40′	41° 54′

1245

These observations are sufficiently exact for restoring and examining the place of ♀ from Saturn; therefore let the distance of both by the sextant be taken as 40° 19′, and [let] the declination [be taken] from the preceding [observations]. [Hæ obſeruationes ſunt ſatis exactæ pro loco ♀ a Saturno reſtituendo examinandoque, aßumatur itaque diſtantia vtriusque per Sextantem 40 gr. 19 M. et declinatio e præcedentibus.]

Time	Reading	Value	Altitude of ♀ [Altit. ♀]
$4^h\ 58^m$	*Between ♀ and the bright [star] of ♈* [Inter ♀ &] [luc.♈]	45° 51⅓′	24½°
$5^h\ 2^m$		45° 51′	24°
$5^h\ 4^m$		45° 51′	23¾°
$5^h\ 5½^m$		45° 51′	23½°
$5^h\ 9^m$	*Declination of ♀, with both* [Declin. ♀] [vtroque]	3° 6¾′ *south* [3 6¾ auſt.]	

1246

1244 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *Alt.* ♃ and *Alt.* ♀ stand at the right of the first and third lines, each over the value on the line below it; *altero* is set in. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1245 "Time" is this edition's head; the three other heads are printed, in smaller italic and each over two lines, over the value columns. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1246 "Time", "Reading" and "Value" are this edition's heads; the head *Altit.* ♀ is printed, in smaller italic, at the right of the last line of the sentence above, over the last column. These lines are set in italic. The label *Inter* ♀ *&* / *luc.*♈ runs over two lines, each beside its own time, and is given whole on the first row; the label *Declin.* ♀ / *vtroque* runs over two lines, the value on the second, and is given on one row. *auſt.* is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes, and the altitudes of ♀ (*24*, a single figure, and *24½*, *23¾*, *23½*, each a single figure with a fraction) as degrees.

On 15 January, P. M. *[DIE 15 JANUARIJ P. M.]*

We observed ♀ *from the Sun in the following way.* [Obſeruauimus ♀ a Sole in hunc qui ſequitur modum.]

Time	Reading	Value	Second reading	Second value
$1^h\ 30^m$	♀ *from* ⊙*, by the sextant* [♀ a ⊙] [per Sext.]	*41° 47¼*	*Altitude of* ⊙ *by the lesser quadrant* [Alt. ⊙] [per Q.] [min.]	*12° 40′*
$1^h\ 35^m$		*41° 46½′*		*12° 25′*
$1^h\ 38^m$		*41° 46′*		*12° 10′*
$1^h\ 41^m$		*41° 46′*		*12° 0′*
$1^h\ 50^m$		*41° 45′*		*11° 25′*
$1^h\ 54^m$		*41° 44¾′*		*11° 15′*

1247

Afterwards we took the declination of ♀ *by the armillae.* [Poſtea per Armillas accepimus declinationem ♀.]

Time	Reading	Value
$2^h\ 1^m$	*Declination of* ♀*, with one* [Decl. ♀] [vno]	*2° 48⅓′ south* [2 48⅓ M.]
$2^h\ 5^m$	*with the other pinnule* [alt. pin.]	*2° 48′*

1248

Afterwards ♀ *was taken again from the Sun by the sextant.* [Poſtea rurſus accipiebatur ♀ a Sole per Sext.]

Time	Reading	Value	Second value
$2^h\ 8^m$	♀ *from* ⊙ [♀ a ⊙]	*41° 44′*	*10° 23′*
$2^h\ 10^m$		*41° 44′*	*10° 15′*
$2^h\ 13^m$	*Apparent declination of* ⊙ [Decl. ⊙] [viſa]	*18° 58¼*	
	with the other pinnule [alt. pinn.]	*18° 57′*	

1249

[1247] "Time", "Reading", "Value", "Second reading" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label ♀ *a* ⊙ / *per Sext.* runs over two lines, and the label *Alt.* ⊙ / *per Q.* / *min.* over three, each line beside its own time; each is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1248] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Decl.* ♀ / *vno* runs over two lines, the value on the second, and is given on one row. *M.* is given as "south". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1249] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Decl.* ⊙ / *viſa* runs over two lines, the value on the second, and is given on one row; *viſa* and *alt. pinn.* are set in. *18 58¼* and *18 57* stand in the column of the *41 …* values. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Set [it] at 18° 58¾′ and compare it proportionally with the meridian [declination]. [Pone 18 58¾ et confer eam proportionaliter cum meridiana.]

Time	Reading	Value	Second value
2^h 20^m	♀ *from* ⊙ [♀ a ⊙]	*41° 43¾′*	*9° 40′*
2^h 22½^m		*41° 43¼′*	*9° 25′*
2^h 26^m		*41° 42½′*	*9° 0′*
2^h 29^m		*41° 42⅓′*	*8° 50′*
2^h 30½^m	*Declination of* ⊙ [Decl. ⊙]	*18° 56′*	
	with the other [altero]	*18° 56⅙′*	
2^h 35^m	*Declination of* ♀ [Decl. ♀]	*2° 48′, as before* [2 48 vt prius]	

1250

Time	Reading	Value	Remark
2^h 37^m 40^s [2 37 40″]	*The star of Venus passed through the meridian, and had an altitude* [Tranſiuit ſtella Veneris per Mer., & habuit Alt.]		
	by the revolving quadrant [per Q. Volub.]	*31° 18⅙′*	
	By the mural [quadrant] ſuper. [Per Mural. ſuper.]	*31° 18′*	
2^h 40½^m	*Declination of* ♀, *with one* [Decl. ♀] [vno]	*2° 48′*	
2^h 43½^m	*with the other* [altero]	*2° 48¼′*	*The altitude of* ⊙ *was then 7° 45′* [Fuit tunc] [Alt. ⊙ 7 45]
2^h 45^m	⊙	*18° 55¼′*	
2^h 49^m		*18° 55⅙′*	

1251

Afterwards the distance of the Sun and ♀ *was repeated by the ſextant.* [Poſtea repetebatur diſtantia Solis & ♀ per Sextantem.]

1250 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *18 56* and *18 56⅙* stand in the column of the *41 …* values; *altero* is set in; *2 48 vt prius* follows *Decl.* ♀ within the line. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1251 "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in italic. The first time is printed *2 37 40″*, the last figure with a double mark, and is given as hours, minutes and seconds; the other times, printed without unit marks, as hours and minutes. The sentence of the first row runs over two lines and carries no value; *per Q. Volub.* and *Per Mural. ſuper.* are set in below it, their values at the right; *ſuper.* is left abbreviated. The label *Decl.* ♀ / *vno* runs over two lines, the value on the second, and is given on one row. The remark *Fuit tunc* / *Alt.* ⊙ *7 45* stands at the right over two lines, beside the lines of 2^h 43½^m and 2^h 45^m, and is given whole on the first. ⊙ stands set in under *altero*; *18 55¼* stands in the column of the *41 …* values, *18 55⅙* under it. The values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value	Second value
2^h 51½^m	♀ *from* ⊙ [♀ a ⊙]	41° 41′	7° 10′
2^h 54½^m		41° 40½′	6° 40′
2^h 57^m		41° 40½′	6° 13′
3^h 3^m		41° 40′	5° 50′
3^h 5^m		41° 39½′	5° 40′

1252

It is clear from this that ♀ *has become nearer to* ⊙ *than yesterday, [by] 24′.* [Patet hinc quod ♀ propior ſit facta ⊙ quam heri 24 M.]

From these places of ♀ *and* ⊙ *will be able to be searched out, account being taken of the refractions of the altitude of* ♀ *on the preceding day.* [Ex his poterint ♀ & ⊙$^{i\text{s}}$ loca rimari, habita ratione refractionum Altit. ♀ die præcedente.]

The distance repeated [Repetita diſtantia]

Time	Reading	Value	Second reading	Second value
3^h 12^m	⊙ *and* ♀ [⊙ & ♀]	41° 38½′	*Altitude of* ⊙ [Alt. ⊙]	5° 0′
3^h 25^m		41° 36¾′		3° 30′
3^h 28^m	*Better* [Melior]	41° 36½′		3° 20′
3^h 30½^m		41° 36′		3° 15′
3^h 32^m		41° 35½′		3° 5′
3^h 34^m		41° 35′		2° 52′

1253

Afterwards the declination of the Sun was observed in this way, because its refraction is to be learned. [Poſtea obſeruabatur declinatio Solis ob refractionem eius addiſcendam hoc modo.]

Time	Value	Second value
3^h 35^m	18° 48¼′	2° 45′
3^h 38^m	18° 47½′	2° 30′

1254

1252 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1253 "Time", "Reading", "Value", "Second reading" and "Second value" are this edition's heads; the line *Repetita diſtantia* is printed, centred, above the table. These lines are set in italic. *Alt.* ⊙ stands within the first line, before *5 0*; the other second values stand under *5 0*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1254 "Time", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Afterwards, again, ♀ *from the Sun in distance by the sextant.* [Poſtea rurſus ♀ a Sole in diſt. per Sextantem.]

Time	Value	Second value
3^h $40\frac{1}{2}^m$	41° 33½′	2° 15′
3^h 43^m	41° 31¾′	2° 0′
3^h 45^m	41° 30½′	1° 45′
3^h $47\frac{1}{2}^m$	41° 29¼′	1° 30′

1255

Afterwards ⊙ *was no longer seen, hiding itself in clouds near the horizon.* [Poſtea non amplius videbatur ⊙ ſeſe in nubibus prope horizontem abſcondens.]

Time	Reading	Value	Second value
3^h 52^m	*Declination of* ♀ [Decl. ♀]	2° 45½′ *south* [2 45½ Mer.]	*Altitude of* ♀ [Alt. ♀] 29⅓°
	with the other [altero]	2° 45⅙′	

1256

Afterwards ♀ *and* ☿ *were observed in this way.* [Poſtea obſeruabatur ♀ & ☿ hoc modo.]

Time	Equatorial distance between ☿ and ♀ [Inter ☿ & ♀ diſt. æquat.]	Altitude of ♀ [Altit. ♀]	Altitude of ☿ [Altit. ☿]
4^h $6\frac{1}{2}^m$	110° 52¾′		
4^h 10^m	110° 53′		
4^h $11\frac{1}{2}^m$	110° 53⅙′	28° 18½′	20° 10′
4^h 13^m	110° 53⅙′	28° 12′	20° 20′
4^h $15\frac{1}{2}^m$	110° 53⅙′	28° 4′	20° 35′
4^h 17^m	110° 53⅙′	27° 57′	20° 50′
4^h 19^m	110° 53¼′	27° 50′	21° 15′
4^h $20\frac{1}{2}^m$	110° 53′ *twice* [110 53 bis]	27° 42′	21° 45′

1257

1255 "Time", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1256 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. On the first line *2 45½ Mer.* follows *Decl.* ♀, and *Alt.* ♀ *29⅓* stands at the right; *altero* is set in. *Mer.*, after the declination value, is given as "south". The time, printed without unit marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes, and *29⅓*, a single figure with a fraction, as degrees.

1257 "Time" is this edition's head; the three other heads are printed, in smaller italic: *Inter* ☿ *&* ♀ *diſt. æquat.* above the first line, over the time and distance columns, and *Altit.* ♀ and *Altit.* ☿ at the right of the line of 4^h 10^m, over the columns of the lines below. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Set [it] at 110° 53′ 5″. [Pone 110°53′5″]

Time	Reading	Value
4h 25m	*Declination of* ♀*, with one* [Decl. ♀ vno]	*2° 44⅓′*
	with the other [altero]	*2° 45′*

1258

Afterwards ♀ *was observed from* ♄ *by the sextant.* [Poſtea obſeruabatur ♀ a ♄no per Sextantem.]

Time	Reading	Value	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Altit. ♀]
4h 38½m	♀ *from* ♄ [♀ a ♄]	*39° 48′*	*2° 44½′*	*26° 25′*
	The altitude of ♄ *was above 41°.* [Altitudo ♄ erat vltra 41 grad.]			
4h 41m		*39° 48½*	*2° 44½′*	*26° 12½′*
4h 43m		*39° 47½*	*2° 44′*	*26° 4′*
4h 46m		*39° 47¼*	*2° 44′*	*25° 47′*
4h 48m		*39° 47½*	*2° 44′*	*25° 37′*
4h 50½m		*39° 47¼*	*2° 44′*	*25° 24′*

1259

Therefore set the true distance of ♀ *and* ♄*, taken by the sextant around this time, at 39° 47½′. For the later [observations] are truer than the earlier, both because the pinnules were then narrower, and also because* ♄ *was seen better than before.* [Pone itaque veram diſtantiam ♀ et ♄ circa hoc tempus per Sextant. acceptam 39 47½. Nam poſteriores ſunt veriores prioribus, tum quod pinnacidia tunc eßent arctiora, tum etiam, quia melius videbatur ♄ quam antea.]

Time	♀, west [♀ occid.]	♄, east [♄ orient.]	Equatorial distance [Diſt. æquat.]
4h 53m	*33° 55′*	*4° 29¾′*	*38° 24¾′*
4h 55m	*34° 24½′*	*4° 0′*	*38° 24½′*
4h 57m	*34° 53′*	*3° 30½′*	*38° 23½′*

1260

1258 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic; *altero* is set in. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1259 "Time", "Reading" and "Value" are this edition's heads; *Decl.* ♀ and *Altit.* ♀ are printed, in smaller italic, at the right of the line *Sextantem.*, over the two last columns. These lines are set in italic. The line *Altitudo* ♄ *erat vltra 41 grad.*, in smaller italic, stands centred between the first and second rows. *grad.* is given as "°". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1260 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the value columns. These lines are set in italic. *occid.* and *orient.*, after a planet in a column head, are given as "west" and "east". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Examination of these observations. [Examen harum obſeruationum.]

Reading	Value
♀ *and* ♄ [♀ & ♄]	*38° 24½′*
♄ *and* ♃ [♄ & ♃]	*72° 28′*
Sum [Summa]	*110° 52½′*

1261

But earlier the same instrument gave the equatorial distance of ♃ *and* ♀ *[as] 110° 53′, which agrees sufficiently. Altitude of* ♀ *around these observations: 24½°.* [At prius præbuit idem inſtrumentum diſtantiam æquatoriam ♃ & ♀ 110 53 quod ſatis conuenit. Altit. ♀ circa has obſeruationes 24½.][1262]

Afterwards ♀ *was observed from the bright [star] of* ♈ *by the sextant* [Poſtea obſeruabatur ♀ a Lucida ♈ per Sextantem]

Time	Between ♀ and the bright [star] of ♈ [Inter ♀ & luc. ♈]	Declination of ♀ [Declin. ♀]	Altitude of ♀ [Altit. ♀]
5^{h} 32½^{m}	*45° 12¾′*	*2° 45′ south* [2 45 M.]	*21° 20′*
5^{h} 35^{m}	*45° 12¾′*	*2° 44′*	*21° 0′*
5^{h} 38^{m}	*45° 12¾′*	*2° 44′*	*20° 40′*

1263

On 16 January, P. M. *[DIE 16 JANUARIJ P. M.]*

At about 2¾^{h} ♀ *was observed in azimuth, west, 3° 15′, altitude 31° 40′.* [Circa H. 2¾ obſeruabatur ♀ in Azim. occ. 3 15, Alt. 31 40]

Time	Reading	Value
2^{h} 51½^{m}	*Declination of* ♀*, with one* [Decl. ♀ vno]	*2° 24′ south* [2 24 Mer.]
	with the other [altero]	*2° 23′*

1264

[1261] "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. The values, printed without unit marks, are given as degrees and minutes.

[1262] *110 53*, printed without unit marks, is given as degrees and minutes; *24½*, a single figure with a fraction, as degrees.

[1263] "Time" is this edition's head; the three other heads are printed, in smaller italic, each over two lines, over the three value columns. These lines are set in italic. *M.* after the declination is given as "south". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1264] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic; *altero* is set in. *Mer.*, after the declination value, is given as "south". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

Therefore set the true declination at 2° 23½′. [Pone itaque veram declinat. 2 23½]

Time	Reading	Value	Second value
2^{h} 53^{m} 4^{s} [2 53 4″]	*Azimuth of* ♀, *west* [Azim. ♀ occ.]	*5° 18′*	*Altitude* [Alt.] *31° 35′*

1265

Afterwards ♀ *was observed from* ⊙. [Poſtea obſeruabatur ♀ a ⊙^{le}.] *true* [vera]
The following altitudes of ♀ *are limited* [Altitudines ſequentes ♀ ſunt limitatæ]

Time	Between ♀ and ⊙ [Inter ♀ & ⊙]	Altitude of ⊙ [Alt. ⊙]	Azimuth of ♀ [Azim. ♀]	Altitude of ♀ [Alt. ♀]
2^{h} 57^{m}	*41° 15¾′*	*6° 30′*	*6° 35′*	*31° 31′*
2^{h} 59¾^{m}	*41° 15′*	*6° 20′*		
3^{h} 2½^{m}	*41° 14′*	*6° 5′*	*7° 55′*	*31° 27′*
3^{h} 5¾^{m}	*41° 13¾′* [41 13[3/8]¼]	*5° 45′*	*8° 55′*	*31° 22′*
3^{h} 8½^{m}	*41° 13½′*	*5° 30′*	*9° 44′*	*31° 18′*
3^{h} 11^{m}	*41° 13′*	*5° 10′*		
3^{h} 14^{m}	*41° 12¾′*	*5° 0′*	*11° 17′*	*31° 12′*
3^{h} 18^{m}	*41° 12¼′*	*4° 35′*	*12° 40′*	*31° 2½′*
3^{h} 26^{m}	*41° 11¼′*	*3° 50′*		
Afterwards ♀ *from* ⊙ *in a slightly different way, as follows.* [Poſtea ♀ a ⊙ paulo alia ratione vt ſequitur.]				
3^{h} 29^{m}	*41° 11′*	*3° 30′*	*15° 45′*	*30° 42′*
3^{h} 32^{m}	*41° 10¾′*	*3° 10′*	*16° 30′*	*30° 35′*
3^{h} 35^{m}	*41° 10′*	*2° 50′*	*17° 17′*	*30° 28′*
3^{h} 39^{m}	*41° 9¼′*	*2° 40′*	*18° 30′*	*30° 16′*
3^{h} 45½^{m}	*41° 7′*	*2° 5′*	*20° 26′*	*30° 0′*
3^{h} 49^{m}	*41° 5′*	*1° 30′*	*21° 24′*	*29° 49′*
3^{h} 51¾^{m}	*41° 3½′*	*1° 15′*	*22° 7′*	*29° 41′*
3^{h} 54½^{m}	*41° 2⅓′*	*1° 0′*	*22° 53′*	*29° 32′*
3^{h} 57¾^{m}	*41° 0′*	*0° 35′*	*23° 45′*	*29° 23′*

1265 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. This line is set in italic. The time is printed *2 53 4″*, the last figure with a double mark, and is given as hours, minutes and seconds. The values, printed without unit marks, are given as degrees and minutes.

1266

Time	Declination of ☉ [Decl. ☉]	Time	Value
		$3^h\ 39^m$	18° 30½′
$3^h\ 26^m$	18° 35½′	$3^h\ 45½^m$	18° 29′
$3^h\ 29^m$	18° 34′	$3^h\ 51¾^m$	18° 23½′
$3^h\ 32^m$	18° 32½′	$3^h\ 54½^m$	18° 22½′
$3^h\ 35^m$	18° 31¾′	$3^h\ 57¾^m$	19° 20′

1267

Time	Reading	Value	Second value
$4^h\ 2^m$	Declination of ♀, south [Decl. ♀ auſtr.]	2° 22′	Altitude of ♀ [Altit. ♀] 29° 3′
	with the other [Altero]	2° 22⅙′	

1268

Afterwards the equatorial distance of ♃ and ♀ was observed by the armillae. [Poſtea obſeruabatur æquatoria diſtantia ♃ & ♀ per Armillas.]

1266 "Time" is this edition's head; the four other heads are printed, in smaller italic, each over two lines, at the right of the line *tatæ* (the end of the sentence *Altitudines … limitatæ*), over the four value columns. These lines are set in italic. The word *vera* stands at the right end of the line *Poſtea obſeruabatur ♀ a ☉/e.*, after a space, above the line *Altitudines ſequentes ♀ ſunt limi-*. ☉/e is printed with *le* as superior letters. At $3^h\ 5¾^m$ the numerator of the fraction after *13* does not settle between *3* and *8* on the scan; the denominator is *4*. The value is given as 41° 13¾′ either way: the numerator is uncertain on this copy (3 or 8); a 3 over 4 is ¾, and an 8 over 4, which is not a meaningful fraction, is taken for the fount's ¾ sort. At $2^h\ 59¾^m$, $3^h\ 11^m$ and $3^h\ 26^m$ only the first two value columns are printed. The sentence *Poſtea ♀ a ☉ … ſequitur.* stands over two lines between the rows of $3^h\ 26^m$ and $3^h\ 29^m$, and is given as a row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1267 "Time", "Time" and "Value" are this edition's heads; the head *Decl. ☉* is printed, in smaller italic, over the second column of the left pair. These rows open the right column, under no heading. They are set as two pairs of columns divided by a short vertical rule; the right pair carries no head, and its first row, *3 39 18 30½*, stands on the line of the head *Decl. ☉*. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes. At $3^h\ 57¾^m$ the declination of ☉ is printed 19 20 (the 9 confirmed on a native-resolution crop), while every other value in the two pairs runs from 18 35½ down to 18 22½; the figure is given as printed, and no correction is made.

1268 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. *Altero* is set in, its value under *2 22*. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

Time	Distance of ♀ and ☽ [Diſt. ♀ & ☽]	Altitude of ☽ [Altit. ☽]	Altitude of ♀ [Altit. ♀]
$4^h\ 23^m$	*110° 19′*	*22° 45′*	*27° 46′*
$4^h\ 25^m$	*110° 19′*	*23° 5′*	*27° 36′*
$4^h\ 27^m$	*110° 19⅙′*	*23° 15′*	*27° 28′*
$4^h\ 30^m$	*110° 19′*	*23° 40′*	*27° 15′*
$4^h\ 33½^m$	*110° 18¾′*	*24° 20′*	*26° 58′*
$4^h\ 35^m$	*110° 19′*	*25° 35′*	*26° 51½′*

1269

It is therefore clear that the equatorial distance of ☽ and ♀ is 110° 19′ exactly. [Patet itaque quod diſtantia æquatoria ☽ & ♀ ſit 110 19 exacte.]

Time	Reading	Value
$4^h\ 36^m$	*Declination of ♀, south* [Decl. ♀ merid.]	*2° 21¾′*
	with the other [altero]	*2° 21⅛′*
	therefore [ergo]	*2° 21½′*

1270

Afterwards the distance of ♀ and ♄ was taken by the sextant. [Poſtea accipiebatur diſt. ♀ & ♄ per Sextantem.]

Time	Distance of ♀ from ♄ [Diſt. ♀ a ♄]	♄ from the meridian, east [♄ a Mer. or.]	Altitude of ♀ [Altit. ♀]
$4^h\ 44½^m$	*39° 17½′*	*5° 30½′*	*26° 10′*
$4^h\ 46¾^m$	*39° 17⅓′*		
$4^h\ 49^m$	*39° 17⅓′*	*4° 33½′*	*25° 45′*
$4^h\ 52^m$	*39° 17′*	*3° 46′*	*25° 28′*
$4^h\ 57^m$	*39° 17′*	*2° 39½′*	*25° 4′*
$4^h\ 59^m$	*39° 16½′*	*2° 11′*	*24° 54′*
$5^h\ 2^m$	*Declination of ♀* [Decl. ♀]	*2° 21′ south* [2 21 M.]	

1271

1269 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the three value columns. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1270 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic; *altero* and *ergo* are set in, their values under *2 21¾. merid.* after *Decl. ♀* is given as "south". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1271 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the three value columns. These lines are set in italic. At $4^h\ 46¾^m$ only the first value column is printed. At $5^h\ 2^m$ the words *Decl. ♀* follow the time, and the value *2 21 M.* stands in the column of *♄ a Mer. or.*; it is given there. *M.* is given as "south". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	♀, west [♀ occid.]	♄, west [♄ occid.]	Equatorial distance [Diſt. æquat.]
5h 37m	*45° 27′*	*7° 28′*	*37° 59′*
5h 39m	*45° 57′*	*7° 56½′*	*38° 0½′*
5h 40¼m	*46° 16′*	*8° 16½′*	*37° 59½′*
5h 43m	*46° 56′*	*8° 56½′*	*37° 59½′*

1272

Reading	Value
Set the equatorial distance of ♀ *and* ♄ *at* [Pone diſt. æquat. ♀ et ♄]	*38° 0′*
Set ♄ *and* ♃ *at* [Pone ♄ et ♃]	*⋆72° 18′⋆1 [72 18[1]]*
Distance of ♀ *and* ♃ [Diſtantia ♀ et ♃]	*110° 18′*

1273

which agrees nearly with the foregoing [quod fere convenit cum ſuperioribus]

Altitude of ♀ *around these observations: 20°.* [Altitudo ♀ circa has obſeruationes 20 grad.]

At the following noon the clock was going 1m 30s faster than it should. [It] was corrected at the immediately preceding noon. [Horologium in mer. ſeq. celerius iuſto ibat 1 M. 30 S. Fuit in Meridie proxime antecedenti correctum.][1274]

1 See above, among the observations of Jupiter, p. 174. [Vide ſupra inter obſeruationes Iouis, p. 174.]

On 17 January [DIE 17 JANUARIJ.]

Time	Reading	Value	Second value
5h 6m	In the evening. Declination of ♀, south, with both pinnules [Veſperi. Declin. ♀ auſt.] [vtroque pinn.]	1° 57′	
			Altitude of ♀ [Altit. ♀] 24¼°

1272 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the three value columns. These lines are set in italic. *occid.*, after a planet in a column head, is given as "west". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1273 "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic; the labels are set in, stepped to the right, and the values stand in the column of *Diſt. æquat.* of the table above. The footnote cue *1* follows *72 18*. The values, printed without unit marks, are given as degrees and minutes.

1274 The last paragraph is set in roman. *grad.* is given as "°"; *1 M. 30 S.* as minutes and seconds of time.

1275

Time	Equatorial distance of ♀ and ♃ [Diſt. æquat. ♀ & ♃]	Altitude of ♃ [Altit. ♃]	Altitude of ♀ [Altit. ♀]
5^h 14^m	109° 45′		
5^h $16½^m$	109° 44¾′	31° 15′	23° 9′
5^h 20^m	109° 45′	31° 55′	22° 55′
5^h 22^m	109° 45′	32° 5′	22° 40′
5^h $24½^m$	109° 44¾′	32° 20′	22° 15′
5^h 32^m	*Declination of* ♀ [Decl. ♀]	*1° 56′*	*21½°*
	with the other pinnule [alt. pin.]	*1° 56′*	

1276

On 20 January *[DIE 20 JANUARIJ.]*

Because the refraction of ♀ *in a low position is to be learned, its distance from* ♄ *was observed. From the place of* ♀ *and* ♄ *on the next day, when [they] were higher, the refraction of* ♀ *can be investigated.* [Propter refractionem ♀ in decliui ſitu cognoſcendam obſeruabatur eius diſtantia a ♄. Ex craſtino loco ♀ & ♄ cum ſublimiores fuerunt, refractio ♀ indagari poteſt.]

Distance from ♄ [Diſt. a ♄no]	Altitude of ♀ [Altit. ♀]	Declination of ♀ [Declin. ♀]	Remark
37° 26′	*4° 50′*	*0° 40′*	
37° 23¼′	*3° 20′*	*0° 37′*	
37° 22¼′	*2° 50′*	*0° 35½′*	*more exact than the previous [one]* [exactior] [priore]
37° 20½′	*2° 40′*	*0° 34¾′*	*These are good (for both)* [Hæ ſunt] [bonæ]
37° 20′	*2° 25′*	*0° 34½′*	
37° 18¾′	*2° 0′*	*0° 34¼′*	
37° 18′	*1° 45′*	*0° 32′*	

1275 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. The label *Veſperi. Declin.* ♀ *auſt. / vtroque pinn.* runs over two lines, the value *1 57* on the first, and is given whole on the first row; *Altit.* ♀ *24¼* stands on the second line. *auſt.* is given as "south". The time, printed without unit marks, is given as hours and minutes; *1 57*, printed without unit marks, as degrees and minutes; *24¼*, a single figure with a fraction, as degrees.

1276 "Time" is this edition's head; the three other heads are printed, in smaller roman, over the three value columns, the first over two lines. The rows from 5^h 14^m to 5^h $24½^m$ are set in roman; the two last lines are set in italic. At 5^h 14^m only the first value column is printed. At 5^h 32^m the words *Decl.* ♀ follow the time, *1 56* stands in the column of *Altit.* ♃ and *21½* in the column of *Altit.* ♀; they are given there, and no label is printed for *21½*. *alt. pin.* is set in, its value under *1 56*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *21½*, a single figure with a fraction, as degrees.

1277

On 24 January *[DIE 24 JANUARIJ.]*

Good observations of ☿ *follow.* [Sequuntur bonæ obſeruationes ☿$^{ri^s}$.]

N. B. We saw ☿ *well before noon itself, so much so that [it] could be observed from the Sun by the armillae in the following way.* [N. B. ☿ bene ante ipſam Meridiem vidimus adeo vt per Armillas a Sole obſeruari potuerit in hunc qui ſequitur modum.]

Time	☿, east [☿ orient.]	☉, east [☉ orient.]	Equatorial distance [Diſt. æquat.]
$11^h\ 45^m$	37° 11½′	3° 44¾′	33° 26¾′
$11^h\ 47^m$	36° 39′	3° 12¼′	33° 26¾′
$11^h\ 49^m$	36° 10½′	2° 46′	33° 24½′
$11^h\ 50^m$	35° 50¾′	2° 26½′	33° 24¼′
$11^h\ 53^m$	35° 30′	2° 5′	33° 25′
$11^h\ 55^m$	35° 9¾′	1° 44¾′	33° 25′

1278

Therefore, without the loss of one minute, set the difference of right ascension of the Sun and ☿ *at 33° 26′; for the later observations were more exact.* [Pone itaqua absque vnius Minuti diſpendio diff. Aſc. R. Solis & ☿ 33 26 erant enim poſteriores obſeruationes exactiores.] [recte: itaque][1279]

Afterwards the declination of ☿ *was taken in this way.* [Poſtea capiebatur declinatio ☿$^{ri^s}$ hoc modo.]

Time	Reading	Value
$11^h\ 57^m$	*Declination of* ☿*, with one pinnule* [Declinatio ☿ vno pinn.]	*0° 24¼′ north* [0 24¼B.]
	with the other [altero]	*0° 24¾′*
	Therefore set the true declination at [Pone itaque veram declinat.]	*0° 24½′*
	The declination of ☉ *at noon was* [Declinatio ☉ in Merid. erat]	*16° 35′ south* [16 35 Mer.]

[1277] "Remark" is this edition's head; the three other heads are printed, in smaller italic, over the three columns; no time is printed with these rows. These lines are set in italic. ħ^{no} is printed with *no* as superior letters. The remark *exactior* / *priore* stands at the right, in smaller italic, over two lines centred on the row of 0° 35½′. A brace joins the declinations 0° 34¾′ and 0° 34½′, and the remark *Hæ ſunt* / *bonæ* stands at its right over two lines; it is given once, on the first of the two rows. The values, printed without unit marks, are given as degrees and minutes.

[1278] "Time" is this edition's head; the three other heads are printed, in smaller italic, over the three value columns. These lines are set in italic. *orient.*, after a planet or ☉ in a column head, is given as "east". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1279] *itaqua* is printed for *itaque*. *33 26* stands at the right on a line of its own; printed without unit marks, it is given as degrees and minutes.

1280

Time	Reading	Value	Remark
12h 6m	*Between ☿ and ☉ by the sextant* [Inter ☿ et ☉ per Sext.]	*37° 7⅓′*	doubtful [dubia]
12h 8¼m	*II*	*37° 6⅚′*	
12h 11m	*III*	*37° 6′*	
12h 12½m	*IV*	*37° 6′*	
12h 14m	*V*	*37° 5′*	
12h 16m	*VI*	*37° 6′*	
12h 17m	*VII*	*37° 6⅙′*	
12h 19½m	*VIII*	*37° 5¾′*	
12h 21m	*IX*	*37° 5′*	
12h 22½m	*X*	*37° 5½′*	

1281

You can therefore, without any perceptible error, use at about 12¼h the distance of ☿ and the Sun, 37° 6′ exactly, and compare the difference of right ascension resulting from this with the preceding [one], obtained by the armillae. [Potes itaque absque omni ſenſibili errore circa horam 12¼ uti diſtantia ☿ & Solis 37 6 exacte, et diff. Aſc. R. hinc prouenientem conferre cum antecedenti per Armillas habitam.][1282]

([It] agrees better if you set 37° 5½′)[1] [(Concordat melius ſi ponas 37 5½)[1]][1283]

Time	Reading	Value	Second value
12h 26¼m	*The declination of ☉ was repeated, with one* [Repetebatur decl. ☉] [vno]	*16° 34⅚′*	
12h 27½m	*with the other pinnule* [altero pinn.]	*16° 34⅚′*	
1h 31m	*Declination of ☿* [Declin. ☿]	*0° 26′ north* [0 26 Bor.]	
1h 33m	*with the other pinnule* [altero pinn.]	*0° 25½′*	
	Therefore set the declination of ☿ at [Pone itaque declin. ☿]	*0° 25¾′ north* [0 25¾ Bor.]	

[1280] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic; *Mer.* in smaller type. *altero* is set to the right; *Pone itaque / veram declinat.* and *Declinatio ☉ / in Merid. erat* each run over two lines, set in, with the value on the second line, and are each given on one row. *B.* is given as "north", *Mer.*, after the declination value, as "south". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

[1281] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in italic, except *dubia*, which stands upright, on a line of its own under *37 7⅓*. The Roman numerals *II* to *X* are printed before the values, set to the right. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1282] *habitam* agrees in the Latin with *diff.* (the difference), not with *antecedenti*; the English follows the sense, the preceding determination having been made by the armillae.

[1283] *37 6* stands at the right on the line *& Solis*. *horam 12¼* is given as 12¼h; *37 6* and *37 5½*, printed without unit marks, as degrees and minutes.

Time	Reading	Value	Second value
1h 34m	*Declination of* ⊙ [Declinat. ⊙]	*16° 33′*	*Altitude of* ⊙ [Altit. ⊙] *14° 50′*
	with the other pinnule [altero pinn.]	*16° 32¾′*	

1284

Time	♀, east [♀ or.]	⊙, west [⊙ occ.]	Equatorial distance [Dift. æquat.]	Altitude [Altit.]
1h 37½m	*9° 4½′*	*24° 18′*	*33° 22½′*	
1h 39m	*8° 49½′*	*24° 33′*	*33° 22½′*	*♀ 34° 2½′*
	8° 11½′	*25° 10′*	*33° 21½′*	*⊙ 14½°*
1h 42m	*7° 55⅓′*	*25° 26′*	*33° 21⅓′*	*14⅓°*
	7° 33½′	*25° 47⅓′*	*33° 21′*	
1h 45m	*7° 10′*	*26° 11½′*	*33° 21½′*	*14°*
1h 47½m	*6° 31¾′*	*26° 50⅙′*	*33° 22′*	

1285

Set the equatorial distance of the Sun and ♀, at 1⅔h, at 33° 22′, with certainty. [Pone dift. æquat. Solis & ♀ H. 1⅔ 33 22 certo][1286]

[1] Added afterwards. [Poftea adfcriptum.]

Afterwards Venus was observed from the Sun by the sextant. [Poftea per Sext. obferuabatur Venus a Sole.]

Time	Between ⊙ and ♀ [Inter ⊙ & ♀]	Declination of ⊙ [Declin. ⊙]	Altitude of ⊙ [Altit. ⊙]
1h 51m	*37° 2¼′*	*16° 32⅔′*	*13° 50′*
1h 53m	*37° 2⅙′*	*16° 32½′*	*13° 40′*

[1284] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *Repetebatur / decl.* ⊙ runs over two lines, *vno 16 34⅚* at the right of the second, and is given on one row. *Pone itaque / declin.* ♀ runs over two lines, the value on the second, and is given on one row. *Altit.* ⊙, in smaller type, stands above *14 50*, which follows *16 33* on the line of 1h 34m. *Bor.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1285] "Time" is this edition's head; the four other heads are printed, in smaller type, over the four value columns. These lines are set in italic. *or.* and *occ.*, after a planet or ⊙ in a column head, are given as "east" and "west". Two rows carry no time. In the *Altit.* column ♀ *34 2½* and ⊙ *14½* stand on the rows of 1h 39m and the row below it; *14⅓* and *14* stand under *14½*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; *14½*, *14⅓* and *14*, single figures (with or without a fraction), as degrees. In the untimed row after 1h 42m the printed values 7 33½ and 25 47⅓ add to 33° 20⅚′, while the equatorial distance is printed 33 21; at 1h 47½m, 6 31¾ and 26 50⅙ add to 33° 21′ 55″, while it is printed 33 22; the other five rows add exactly. The figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

[1286] The sentence runs over two lines, the second set in; *33 22* stands in the column of *Dift. æquat.* of the table above, followed by *certo*. *H. 1⅔* is given as 1⅔h; *33 22*, printed without unit marks, as degrees and minutes.

Time	Between ☉ and ☿ [Inter ☉ & ☿]	Declination of ☉ [Declin. ☉]	Altitude of ☉ [Altit. ☉]
1h 57m	*37° 2′*	*16° 32½′*	*13° 30′*
2h 1m	*37° 1¾′*	*16° 31¾′*	*13° 15′*
2h 4m	*37° 1½′*	*16° 31⅔′*	*13° 5′*
2h 8m	*37° 1′*	*16° 31⅔′*	*12° 50′*

1287

Set the distance of ☿ and ☉, at about 2h, at 37° 2′. [Pone diſt. ☿ & ☉ circa H. 2 37 2][1288]

Time	Reading	Value
2h 15¼m	☿ *passed through the meridian, having* [Tranſiuit ☿ per Merid. habens]	
	altitude by the revolving [quadrant] [Altit. per Volub.]	*34° 31¾′*
	by the Tychonic [quadrant] [per Tychonicum]	*34° 30′ 40″* [34 30 40″]
	by the sextant [per Sextantem]	*34° 31¼′*
	Declination of ☿ when [it] was near the meridian [Declinatio ☿ cum eßet iuxta Merid.]	*0° 26′ north* [0 26 B.]
	with the other pinnule [altero pinnacidio]	*0° 26½′*

1289

Time	Distance of ☉ and ☿ [Diſt. ☉ & ☿]	Declination of ☉ [Decl. ☉]	Altitude of ☉ [Altit. ☉]	Altitude of ☿ [Altit. ☿]
2h 27½m	*36° 59⅚′*	*16° 30⅔′*	*11° 15′*	*34° 27⅔′*
2h 33m	*36° 59⅔′*	*16° 30½′*	*10° 50′*	*34° 23½′*
2h 37m	*36° 59′*	*16° 30⅓′*	*10° 30′*	*34° 19′*
2h 41m	*36° 58½′*	*16° 30′*	*10° 15′*	*34° 16½′*
2h 45m	*36° 58′* [36.58]	*16° 29¾′*	*9° 45′*	*34° 11⅓′*
2h 49m	*36° 57⅓′*	*16° 29⅙′*	*9° 30′*	*34° 5′*
2h 52m	*36° 57′*	*16° 28⅔′*	*9° 20′*	*34° 2½′*

1290

[1287] "Time" is this edition's head; the three other heads are printed, in smaller italic, over the three value columns. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1288] *37 2* stands after *H. 2*, set in the columns of the table above. *H. 2* is given as 2^h; *37 2*, printed without unit marks, as degrees and minutes.

[1289] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. The lines after *Tranſiuit ☿ per Merid. habens* are set in under it, the values at the right. *Declinatio ☿ cum / eßet iuxta Merid.* runs over two lines, the value on the second, and is given whole on one row. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes, and *40″* is printed with its mark.

[1290] "Time" is this edition's head; the four other heads are printed, in smaller italic, each over two lines, over the four value columns. These lines are set in italic. At 2^h 45^m a point stands at the foot, to the left, of the *5* of *58*; it is kept in the bracket. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Note. *These distances of Venus from the Sun by the sextant were not so varied in reality, but only refraction produced this [variation], because of the Sun approaching the horizon more and more. You can therefore compare these with the others, taking account of the refraction of ☉ and of the parallax both of ☉ and of ♀, in so far as this changes in the meantime.* [Nota. Hæ diſtantiæ per Sextantem Veneris a Sole non fuerunt ita rej veritate variatæ, ſed refractio ſaltem hanc peperit ob Solem horizonti magis magisque appropinquantem. Potes itaque has conferre cum ceteris, habita ratione refractionis ☉ & parallaxeos tum ☉ tum ♀, quatenus hæc interea mutatur.][1291]

Time	Reading	Value	Second value
2h 56m	*Declination of ♀, with one* [Decl. ♀ vno]	*0° 26¼′ north* [0 26¼ Bor.]	
	with the other pinnule [alt. pinn.]	*0° 26⅙′*	
4h 27m	Declination of ♀, north [Decl. ♀ B.]	0° 28′	Altitude of ♀ [Altit. ♀]
	with the other pinnule [alt. pinna.]	0° 28¼′	28° 29′

1292

Afterwards the equatorial distance of ♃ and ♀ was observed in the following way by the greater subterranean armillae. [Poſtea obſeruabatur diſt. æquat. ♃ & ♀ in hunc qui ſequitur modum per armillas maiores ſubterraneas.]

Time	♃, east [♃ orient.]	♀, west [♀ occid.]	Equatorial distance [Diſt. æquat.]	Altitude of ♃ [Altit. ♃]	Altitude of ♀ [Altit. ♀]	Remark
4h 36½m	*71° 2′*	*35° 43¼′*	*106° 45¼′*	*29° 40′*	*27° 33′*	
4h 39m	*70° 24¾′*	*36° 20⅓′*	*106° 45′*	*30° 5′*	*27° 19′*	
4h 41m	*69° 54′*	*36° 51⅚′*	*106° 45⅚′*	*30° 20′*	*27° 7′*	*Afterwards, with the slits of the pinnules narrowed more* [Poſtea magis coarctatis rimulis pinnacidiorum]
4h 43½m	*69° 16¾′*	*37° 27′*	*106° 43¾′*	*30° 40′*	*26° 53′*	
4h 46½m	*68° 31¾′*	*38° 13½′*	*106° 45¼′*	*31° 0′*	*26° 35′*	
4h 49m	*67° 53⅔′*	*38° 52⅓′*	*106° 46′*	*31° 30′*	*26° 20′*	
4h 51m	*67° 22¾′*	*39° 22½′*	*106° 45¼′*	*31° 45′*	*26° 7′*	
4h 53½m	*66° 43½′*	*40° 2½′*	*106° 46′*	*32° 10′*	*25° 53′*	

[1291] *Nota.* is set upright, the rest in italic. *rej* is printed with *j* (*rei*).

[1292] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. The lines of 2h 56m are set in italic, those of 4h 27m in roman. *Altit.* ♀ stands at the right on the line of 4h 27m, with *28 29* under it on the next line. *alt. pinna.* is printed so. *Bor.* and *B.* are given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1293

Therefore set the distance of ☋ and ♀, at about 4¾ʰ, at 106° 45½′, or, on account of refraction, 106° 46′. [Pone itaque circa horam 4¾ diſt. ☋ & ♀ 106 45½ vel ob refractionem 106 46]1294

Time	Reading	Value	Second value
4ʰ 55ᵐ	*Declination of* ♀*, north* [Decl. ♀ B.]	*0° 29′*	*Altitude of* ♀ [Alt. ♀]
	with the other [altero]	*0° 29′*	*25½°*

1295

Afterwards ♀ *was observed from* ♄ *in the following way.* [Poſtea obſeruabatur ♀ a ♄ in hunc qui ſequitur modum.]

Time	Reading	Value	Second value
5ʰ 2ᵐ	*Distance of* ♀ *and* ♄ *by the sextant* [Diſt. ♀ & ♄] [per Sext.]	*36° 24½′*	*25° 3′*
5ʰ 4ᵐ		*36° 24¼′*	*24° 51½′*
5ʰ 5½ᵐ		*36° 24½′*	*24° 40½′*
5ʰ 6¾ᵐ		*36° 24½′*	*24° 33′*

1296

Afterwards ♀ *was observed from the bright [star] of* ♈ *in this way, by the sextant.* [Poſtea obſeruabatur ♀ a Lucida ♈ in hunc modum per Sextantem.]

1293 "Time" and "Remark" are this edition's heads; the five other heads are printed, in smaller italic, over the five value columns. This table and the sentence above it run across the full width of the page. These lines are set in italic. The remark *Poſtea magis / coarctatis ri- / mulis pinna- / cidiorum* stands at the right over four lines, beside the rows from $4^h\ 41^m$ to $4^h\ 49^m$, with no brace; it is given whole on the first of them. *orient.* and *occid.*, after a planet in a column head, are given as "east" and "west". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes. At $4^h\ 39^m$ the printed values 70 24¾ and 36 20⅓ add to 106° 45′ 5″, while the equatorial distance is printed 106 45; the other seven rows add exactly. The figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

1294 The sentence runs over two lines, the second set in; *106 45½* and *106 46* stand in the column of *Diſt. æquat.* of the table above. *horam 4¾* is given as $4¾^h$; the values, printed without unit marks, as degrees and minutes.

1295 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *Alt.* ♀ stands at the right on the line of $4^h\ 55^m$, with *25½* under it on the next line. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes, *0 29* as degrees and minutes; *25½*, a single figure with a fraction, as degrees.

1296 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *Diſt.* ♀ / & ♄ runs over two lines, the values on the second, and *per Sext.* stands on the line of $5^h\ 4^m$; the label is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Second value
5h 11m	♀ *from the bright [star] of* ♈ [♀ a.luc.♈]	*40° 46′*	*24° 6½′*
5h 13m		*40° 46⅓′*	*23° 54′*
5h 14½m		*40° 46⅙′*	*23° 41½′*
5h 16½m		*40° 46′*	*23° 24′*

1297

N. B. With these observations of Venus to the Sun made in the daytime, both before and after noon, and afterwards, with the sun already setting, [of] ♀ *to Jupiter as soon as [it] appeared, and afterwards [of]* ♃ *to Aldebaran and the lower head of* ♊*, and with* ♄ *and the bright [star] of* ♈ *also called into consultation, you can base yourself safely enough in establishing the places of the fixed [stars], or, the other way round, [in establishing] the Sun and the planets from these, taking account everywhere of refraction and parallax, where necessary.* [N. B. His obſeruationibus Veneris ad Solem diurno tempore factis tam ante quam poſt Meridiem & poſtea ſole jam occiduo ♀ ad Iouem quam primum apparuit et poſtea ♃ ad Aldeb. & infer. cap. ♊, adhibito etiam ♄ & luc. ♈ in conſilium, potes ſatis tuto te fundare in conſtituendis fixarum locis, ſiue viceverſa ex his Solem & planetas habita vbique ratione refractionis & parallaxeos, vbi opus fuerit.]

Time	Reading	Value	Second value
5h 48m	*Declination of* ♀ [Decl. ♀]	*0° 30′ north* [0 30 B.]	*Altitude of* ♀ [Altit. ♀] *17½°*

1298

On 26 January [DIE 26 JANUARIJ.]

Time	Reading	Value
2h 7m 8s [2″ 7′ 8″]	♀ [passed] through the meridian and had altitude [♀ per Merid. & habuit Alt.]	
	by the revolving quadrant [per Q. Volub.]	35° 7′
	the Tychonic quadrant [Q. Tychon.]	35° 7¾′

1297 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1298 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints the line as one run of text. It is set in italic. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes, *0 30* as degrees and minutes; *17½*, a single figure with a fraction, as degrees.

1299

This variation happened through the carelessness of the observers, because Venus was not seen well enough. Set [it] at 35° 7½′, infallibly. [Hæc varietas incuria obſeruatorum accidit ob Venerem non ſatis bene conſpectam. Pone 35 7½ infallibiliter.][1300]

Time	Reading	Value
2^h 17⅙^m	Declination of ♀ [Declinat. ♀]	1° 0¼′ north [1 0¼ B.]
	with the other [altero]	1° 0½′

1301

Time	♀ from ⊙ by the sextant [♀ a ⊙ per Sext.]	Declination of ⊙ [Declin. ⊙]	Altitude of ⊙ [Altit. ⊙]
2^h 27^m	35° 35½′	15° 55½′	11° 50′
2^h 33^m	35° 35¼′	15° 55½′	11° 10′
2^h 36^m	35° 34⅔′	15° 55⅓′	11° 0′
2^h 46^m	35° 34½′	15° 54¾′	10° 5′
2^h 55^m	35° 34′	15° 54⅓′	9° 20′
3^h 2^m	35° 33¾′	15° 54′	8° 50′
3^h 10^m	35° 33′	15° 53⅙′	8° 0′
3^h 12^m	35° 32¾′	15° 52⅔′	7° 45′
3^h 14^m	35° 33′	15° 52½′	7° 30′
3^h 19^m	35° 32′	15° 52′	6° 50′

1302

Time	Reading	Value	Second value
3^h 24⅓^m	Declination of ♀, with one [Decl. ♀ vno]	1° 2½′	Altitude of ♀ [Alt. ♀]
	with the other [altero]	1° 2¾′	32° 55′

[1299] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The time is printed *2″ 7′ 8″*, with two strokes after *2*, one after *7* and two after *8*; it is given as hours, minutes and seconds, which is this edition's reading of those marks. *per Q. Volub.* and *Q. Tychon.* are set in under *Merid.*, the values at the right; no *per* is printed before *Q. Tychon.*. The values, printed without unit marks, are given as degrees and minutes.

[1300] *35 7½*, printed without unit marks, is given as degrees and minutes.

[1301] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

[1302] "Time" is this edition's head; the three other heads are printed, in smaller roman, over the three value columns, the first over two lines (♀ *a* ⊙ / *per Sext.*). These lines are set in roman. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1303

Time	☿ from ☉ [☿ a ☉]	Declination of ☉ [Decl. ☉]	Altitude of ☉ [Alt. ☉]
$3^h\ 34^m$	35° 30′	15° 50¾′	5° 15′
$3^h\ 37^m$	35° 29½′	15° 50′	5° 0′
$3^h\ 39½^m$	35° 29½′		4° 45′
$3^h\ 42^m$	35° 27⅔′		4° 35′
$3^h\ 44^m$	35° 27½′		4° 20′

1304

Time	Reading	Value	Second value
$3^h\ 47⅓^m$	Then the declination of ☿ was [Fuit tunc] [Decl. ☿]	1° 3½′	Altitude of ☿ by the revolving [quadrant] [Alt. ☿ per Volub.]
	with the other [altero]	1° 3¼′	31° 33′

1305

Afterwards the equatorial distance of ♃ and ☿ was taken, when [they] were nearly at equal altitude. [Poſtea accipiebatur æquatoria diſt. ♃ & ☿ cum fere eßent in æquali altitudine.]

Time	♃, east [♃ or.]	☿, west [☿ occ.]	Equatorial distance [Diſt. æquat.]	Remark	Altitude of ☿ [Alt. ☿]
$4^h\ 37^m$	*68° 35′*	*37° 33′*	*106° 8′*		*27⅓°*
$4^h\ 39^m$	*67° 59′*	*38° 11⅔′*	*106° 10⅔′*		*27⅙°*
$4^h\ 41½^m$	*67° 30′*	*38° 39½′*	*106° 9½′*		
Clearer than the previous [ones]. [Serenior prioribus.]					
$4^h\ 43½^m$	*66° 56⅔′*	*39° 12′*	*106° 8⅔′*	*good* [bona]	*27°*
Afterwards [it] was clearer. [Poſtea erat melius ſerenum.]					

1303 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. *Alt.* ☿ stands at the right on the line of $3^h\ 24⅓^m$, with *32 55* under it on the next line. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1304 "Time" is this edition's head; the three other heads are printed, in smaller roman, over the three value columns. These lines are set in roman. From $3^h\ 39½^m$ the column of *Decl.* ☉ is empty. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1305 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. *Fuit tunc* stands after the time; *Decl.* ☿ on the next line, set in, with *1 3½* and then *Alt.* ☿ *per*; *Volub.* stands alone on the line below, at the right; *31 33* stands under it on the line of *altero*. The label *Alt.* ☿ *per / Volub.* is given whole. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

Time	♃, east [♃ or.]	♀, west [♀ occ.]	Equatorial distance [Diſt. æquat.]	Remark	Altitude of ♀ [Alt. ♀]
$4^h\ 46^m$	*66° 24′*	*39° 45⅙′*	*106° 9⅙′*	*better* [melior]	*26⅔°*
$4^h\ 48^m$	*65° 53⅓′*	*40° 16⅙′*	*106° 9½′*		*26⅓°*

1306

Therefore set the equatorial distance of ♃ and ♀, at about $4¾^h$, at 106° 9¼′, imperceptibly. [Pone itaque circa horam 4¾ diſt. æquat. ♃ & ♀ 106 9¼ inſenſibiliter]1307

Time	Reading	Value	Second value
$4^h\ 51^m$	*Declination of* ♀ [Declin. ♀]	*1° 4⅙′*	*26°*
	with the other [altero]	*1° 4¼′*	
$5^h\ 16^m$	♀ *from* ♄ *by the sextant* [♀ a ♄] [per Sext.]	*36° 0⅚′*	*23°*
$5^h\ 23^m$		*36° 0¾′*	
$5^h\ 29^m$	♀ *from the bright [star] of* ♈ [♀ a luc. ♈]	*40° 6′*	*22°*
$5^h\ 34^m$		*40° 6⅙′*	*21⅔°*

1308

At the immediately following noon the clock was going only $0^m\ 15^s$ [0 M. 15 S.] faster, the transit of ☉ through the meridian having been observed through the pinnules of the revolving quadrant by looking at the middle of the body of ☉. [Horologium in Meridie proxime ſequenti 0 M. 15 S. citius ſaltem ibat, obſeruato tranſitu ☉ per Meridianum per pinnacidia Q. volubilis medium corpus ☉ aſpiciendo.]

1306 "Time" and "Remark" are this edition's heads; the four other heads are printed, in smaller italic, on the line ending *tudine.* of the sentence above, over the four value columns. These lines are set in italic. *Serenior prioribus.* and *Poſtea erat melius ſerenum.* are centred lines between the rows; they are given as rows, in the first column, where they stand. *bona* and *melior* stand between the equatorial distance and the altitude (*melior* in smaller type). At $4^h\ 41½^m$ the altitude column is empty. *or.* and *occ.*, after a planet in a column head, are given as "east" and "west". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; the altitudes, single figures (with or without a fraction), as degrees.

1307 *106 9¼* stands in the column of *Diſt. æquat.* of the table above, with *inſenſi- / biliter* at its right over two lines. *horam 4¾* is given as $4¾^h$; *106 9¼*, printed without unit marks, as degrees and minutes.

1308 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here, and no label for the figures at the right (*26*, *23*, *22*, *21⅔*). These lines stand at the head of the right column and are set in italic. The label ♀ *a* ♄ stands on the line of $5^h\ 16^m$ and *per Sext.* on the line of $5^h\ 23^m$; the label is given whole on the first row. The times, printed without unit marks, are given as hours and minutes; the values *1 4⅙* to *40 6⅙*, printed without unit marks, as degrees and minutes; the figures at the right, single figures (with or without a fraction), as degrees.

On 27 January, P. M. *[DIE 27 JANUARIJ P. M.]*

Time	Reading	Value	Second value
$4^h\ 53^m$	*Declination of* ☿*, with one pinnule* [Declin. ☿ vno pinn.]	*1° 22¼′ north* [1 22¼ B.]	*Altitude* [Alt.]
	with the other [altero]	*1° 22⅙′*	*24⅔°*

1309

By the equatorial armillae. [Per Armillas æquatorias.]

Time	☿, west [☿ occid.]	♃, east [♃ orient.]	Equatorial distance [Dift. æquat.]	Altitude [Alt.]
$5^h\ 3^m$	*44° 32⅓′*	*61° 25½′*	*105° 57⅚′*	♃ *35°*
$5^h\ 5^m$	*45° 11¾′*	*60° 45⅙′*	*105° 57′*	☿ *24½°*
$5^h\ 14^m$	*47° 20′*	*58° 36½′*	*105° 56½′*	☿ *23½°*

1310

Therefore set the equatorial distance at 105° 57′. [Pone itaque dift. æquat. 105 57][1311]

Time	Reading	Value	Second value
$5^h\ 19^m$	*Repeated declination of* ☿ [Repetita Declin. ☿]	*1° 22′*	☿ *23°*
	with the other pinnule [altero pinnacidio]	*1° 22½′*	
	When the altitude of ☿ *was 19½°,* ☿ *was distant from the bright [star] of* ♈ [Quando alt. ☿ erat 19½ diftabat ☿ a lucida ♈]	*39° 50′*	
	It was then about 5¾ʰ [Fuit tunc Hora quafi 5¾]	*39° 49½′*	

[1309] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *Alt.* stands at the right on the line of $4^h\ 53^m$, with *24⅔* under it on the next line. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes; *24⅔*, a single figure with a fraction, as degrees.

[1310] "Time" is this edition's head; the four other heads are printed, in smaller italic, over the four value columns, the first three over two lines. These lines are set in italic. In the *Alt.* column the sign ♃ or ☿ stands before each value. *occid.* and *orient.*, after a planet in a column head, are given as "west" and "east". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; the altitudes, single figures (with or without a fraction), as degrees. At $5^h\ 5^m$ the printed values 45 11¾ and 60 45⅙ add to 105° 56′ 55″, while the equatorial distance is printed 105 57; the other two rows add exactly. The figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

[1311] The sentence runs over two lines, the second set in; *105 57* stands in the column of *Dift. æquat.* of the table above. Printed without unit marks, it is given as degrees and minutes.

1312

Time	Reading	Value	Altitude of ☿ [Alt. ☿]
6h 20m	*Between ☿ and the bright [star] of ♈* [Inter ☿ et luc. ♈]	*39° 48⅓′*	*15° 50′*
6h 25m		*39° 47½′*	*15° 0′*

1313

On 28 January *[DIE 28 JANUARIJ.]*

Afterwards[1] *☿ was observed from ☉ in this way.* [Poſtea[1] obſeruabatur ☿ a ☉ hoc modo.]

Time	Reading	Value	Remark
12h 18m	*Between ☿ from ☉ by the sextant* [Inter ☿ a ☉] [per Sext.]	*34° 15′*	
12h 20m		**34° 16½′*2* [34 16½2]	
12h 22m		*34° 15′*	
12h 24m		*34° 14′*	*well* [bene]
12h 25¾m		*34° 13¾′*	

1314

You will err imperceptibly if you set the distance of the Sun from Venus at this time at 34° 14½′. [Inſenſibiliter aberrabis ſi poſueris diſtantiam Solis a Venere hoc tempore 34 14½][1315]

Time	Reading	Value	Remark
12h 30½m	*Declination of ☿* [Declinatio ☿]	*1° 35½′ north* [1 35½ B.]	
	Repeated [Repetita]	*1° 34½′*	*better* [melior]

[1312] "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. ☿ *23* stands at the right on the line of 5^h 19^m, in the column of *Alt.* of the table above. *Quando alt. ☿ / erat 19½ diſtabat / ☿ a lucida ♈* runs over three lines, the value on the third, and *Fuit tunc Hora / quaſi 5¾* over two, the value on the second; each is given on one row. The time, printed without unit marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes; *19½* and ☿ *23*, single figures (with or without a fraction), as degrees; *Hora … 5¾* as $5¾^h$.

[1313] "Time", "Reading" and "Value" are this edition's heads; *Alt.* ☿ is printed, in smaller italic, on a line of its own over the last column. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1314] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Inter ☿ a ☉* stands on the line of 12^h 18^m and *per Sext.* on the line of 12^h 20^m; the label is given whole on the first row. The footnote cue [2] follows *34 16½. bene* follows *34 14*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1315] *34 14½* stands at the right on the line *pore*; printed without unit marks, it is given as degrees and minutes.

1316

[1] That is, after the observations of the Sun. [Id eſt, poſt obſeruationes Solis.]
[2] Struck through with lines. [Lineis inducta.]

On 30 January *[DIE 30 JANUARIJ.]*

Observation of ☿ *in the daytime.* [Obſeruatio ☿ interdiu.]

N.B. Before noon ☿ *was seen in some measure, and was observed from the Sun, before the Sun had reached the meridian, in this way.* [N.B. Ante Meridiem videbatur ☿ aliquo modo et obſeruabatur a Sole antequam Sol Meridiem attigißet hoc modo.]

Time	Reading	Value	Remark
10h 5m	*Declination of* ☿*, north* [Declinatio ☿ Borea]	*2° 2¾′*	*(It was not possible to take the declination except with a single pinnule).* [(Non licuit declinationem niſi unico pinnacidio accipere).]

1317

Time	☿, east [☿ orient.]	☉, east [☉ orient.]	Equatorial distance [Diſt. æquat.]	Altitude of ☉ [Altit. ☉]
10h 39½m	*48° 2¼′*	*19° 48′*	*28° 14¼′*	*17°*
10h 43½m	*47° 4¼′*	*18° 48½′*	*28° 15¾′*	*17½°*
10h 49m	*45° 38½′*	*17° 24¼′*	*28° 14¼′*	*17⅔°*
10h 51½m	*45° 3⅓′*	*16° 47½′*	*28° 15⅚′*	*17⅚°*
10h 56m	*43° 52¾′*	*15° 37¾′*	*28° 15′*	*18°*

1318

Note. Around these times ☉ *was in the 90th degree or near [it], and therefore caused no parallax of longitude. If you set the equatorial distance from the Sun at 28° 15′, you will err imperceptibly.* [Nota. ☉ erat circa hæc tempora in 90 gradu vel prope, ideoque nullam cauſabat parallaxin longitudinis. Si poſueris diſt. æquatoriam a Sole 28 15 inſenſibiliter aberrabis][1319]

[1316] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in italic. *Repetita* is set in. *B.* is given as "north". The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

[1317] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in italic. The parenthesis follows *2 2¾* on the same line, with no space, and runs over two further lines. The time, printed without unit marks, is given as hours and minutes, the value as degrees and minutes.

[1318] "Time" is this edition's head; the four other heads are printed, in smaller italic, over the four value columns, each over two lines. These lines are set in italic. *orient.*, after a planet or ☉ in a column head, is given as "east". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes; the altitudes, single figures (with or without a fraction), as degrees.

[1319] *28 15* stands in the column of *Diſt. æquat.* of the table above; printed without unit marks, it is given as degrees and minutes.

Time	Reading	Value	Altitude of ☉ [Alt. ☉]
11h 2m	*Declination of* ♀, *north* [Declin. ♀ B.]	*2° 3′*	
11h 8m	*Between* ♀ *and* ☉ *by the old sextant* [Inter ♀ et ☉] [per Sext. Vet.]	*32° 39⅔′*	*18° 30′*
11h 11m			
		32° 40¼′	*18° 35′*
11h 13m		*32° 40½′*	*18° 40′*
11h 15½m		*32° 40½′*	*18° 45′*
11h 18½m		*32° 40⅔′*	
11h 26m		*32° 40′*	
11h 29½m		*32° 40⅓′*	
11h 31½m		*32° 40′*	

1320

If, therefore, at 11h 30m you set the distance of the Sun from ♀ by the sextant at 32° 40⅙′, you will err imperceptibly. [Si itaque poſueris hora 11 M. 30 diſt. Solis a ♀ per Sext. 32 40⅙ inſenſibiliter aberrabis][1321]

Time	Reading	Value
11h 38m	*Declination of* ♀, *north* [Decl. ♀ B.]	*2° 3′*
11h 40m	*Declination of* ☉ [Decl. ☉], *with one* [vno]	*14° 45⅙′*
11h 41m	*with the other* [altero]	*14° 45¼′*

1322

Note. At the following noon the clock was moving only 1m and 5s slower than it should. [Nota. Horologium in Meridie ſequenti ſaltem vno minuto et 5 ſecundis iuſto tardius mouebatur.]

Time	Reading	Value
12h 5m	*Distance of* ♀ *and* ☉ [Diſt. ♀ & ☉]	*32° 38′*
12h 7½m		*32° 37⅔′*
12h 9m		*32° 38½′*
12h 13m		*32° 38′*

[1320] "Time", "Reading" and "Value" are this edition's heads; *Alt.* ☉ is printed, in smaller italic, at the right on the line of 11h 2m, over the column of *18 30–18 45*. These lines are set in italic. The label *Inter* ♀ *et* ☉ stands on the line of 11h 8m and *per Sext. Vet.* after the time on the line of 11h 11m, which carries no values; the label is given whole on the first row. *32 40¼* and *18 35* stand on the next line, which carries no time. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1321] *32 40⅙*, printed without unit marks, is given as degrees and minutes.

[1322] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. *B.* is given as "north"; no direction is printed with the declination of ☉. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value

1323

At 12⅙^{h}, set the distance of ♀ and ⊙ at 32° 38¼. [Pone hora 12⅙ dist. ♀ & ⊙ 32 38¼][1324]

Time	Reading	Value	Second value	Remark
1^{h} 39^{m}	*The declination of ♀ was* [Fuit Decl. ♀]	*2° 6¼*	*Altitude of ♀* [Alt. ♀] *36⅙°*	
	Repeated [Repetita]	*2° 5′*		*better* [melior]
	Repeated [Repetita]	*2° 5′*		*good* [bona]

1325

Therefore set the declination of ♀, when [it] was approaching the meridian, at 2° 5′. [Pone itaque declinationem ♀ cum ad merid. appropinquaret 2 5][1326]

Time	Reading	Value	Altitude of ⊙ [Alt. ⊙]
1^{h} 49^{m}	*Between ♀ and ⊙ by the sextant* [Inter ♀ & ⊙] [per Sext.]	*32° 33⅚′*	
1^{h} 51¼^{m}		*32° 33½′*	*15° 40′*

1327

Time	Reading	Value	Remark
1^{h} 52½^{m}	*♀ passed through the meridian at altitude* [transiuit ♀] [per Merid. in Alt.]	*36° 11¾′*	*by the revolving [quadrant], good* [per Volub.,] [bona]
		36° 11′	*by the mural [quadrant]* [per Muralem]
	Set [it] at [Pone]	*36° 11½′*	

[1323]"Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

[1324]The sentence runs over two lines, the second set in; *32 38¼* stands in the column of the values of the table above. *hora 12⅙* is given as 12⅙^{h}; *32 38¼*, printed without unit marks, as degrees and minutes.

[1325]"Time", "Reading", "Value", "Second value" and "Remark" are this edition's heads; the page prints no heads here. These lines stand at the foot of the left column and are set in italic. *Alt. ♀ 36⅙* stands on the line of 1^{h} 39^{m} after *2 6¼*; *melior* and *bona* follow *2 5*. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes; *36⅙*, a single figure with a fraction, as degrees.

[1326]This sentence stands at the head of the right column, over three lines; *2 5* at the right on the third. Printed without unit marks, it is given as degrees and minutes.

[1327]"Time", "Reading" and "Value" are this edition's heads; *Alt. ⊙* is printed, in smaller italic, at the right on the line of 1^{h} 49^{m}, with *15 40* under it on the next line. These lines are set in italic. The label *Inter ♀ & ⊙* stands on the line of 1^{h} 49^{m} and *per Sext.* on the line of 1^{h} 51¼^{m}; the label is given whole on the first row. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Remark
$1^h\ 54¼^m$	*Declination of* ☿ [Decl. ☿]	*2° 5¼′*	*by the armillae* [per Armillas]

1328

Time	☿ from ☉ [☿ a ☉]	Altitude of ☉ [Altit. ☉]	Altitude of ☿ [Altit. ☿]
by the old sextant [per Sext. vet.]			
$1^h\ 57^m$	*32° 33′*	*15° 10′*	
$2^h\ 0^m$	*32° 33′*	*15° 0′*	
By the new sextant [Per Sext. nouum]			
$2^h\ 5^m$	*32° 32½′*	*14° 50′*	*36° 7′*
$2^h\ 8½^m$	*32° 32′*	*14° 30′*	*36° 5′*
$2^h\ 14^m$	*32° 31½′*	*14° 10′*	*36° 1′*
Again by the old sextant [Rurſus per Sext. vet.]			
$2^h\ 18^m$	*32° 32½′*	*13° 50′*	*35° 58′*
$2^h\ 22½^m$	*32° 32′*	*13° 20′*	*35° 55′*
Again by the new sextant [Rurſus per Sext. nouum]			
$2^h\ 28^m$	*32° 30′*	*12° 55′*	*35° 43′*
$2^h\ 35^m$	*32° 30½′*		

1329

Note. In the last observations, from $2^h\ 18^m$ up to this point, the Sun was not very clear, but was veiled by thin little clouds. Afterwards, when the Sun no longer illuminated the pinnule very well, the declination of ☿ was taken by the armillae in the following way. [Nota. In poſtremis obſeruationibus ab hora 2 M. 18 hucusque Sol non erat bene clarus, ſed tenuibus nubeculis obuelabatur. Poſtea cum Sol non admodum bene amplius pinnacidium illuminaret accipiebatur ☿ declinatio per Armillas in hunc qui ſequitur modum.]

Time	Reading	Value	Second value
$2^h\ 40^m$	*Declination of* ☿ [Declinatio ☿] *with one pinnule* [vno pinn.]	*2° 6′*	*Altitude of* ☿ [Altit. ☿]

1328 "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in italic. *tranſiuit* ☿ stands after the time on the line of $1^h\ 52½^m$ and *per Merid. in Alt.* on the next line, with *36 11¾* and *per Volub.*,; the label is given on one row. *bona* stands alone on the line below, under *Volub.*. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1329 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the three value columns. These lines are set in italic. *per Sext. vet.* stands on a line of its own under the head ☿ *a* ☉, and *Per Sext. nouum*, *Rurſus per Sext. vet.* and *Rurſus per Sext. nouum* on lines of their own, all in smaller italic; they are given as rows, in the first column, where they stand. The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

Time	Reading	Value	Second value
	with the other pinnule [altero pinn.]	*2° 5¾′*	*35° 26′*

1330

Afterwards ☿ *could no longer be observed from the Sun, because somewhat scattered clouds came in the way of the Sun as [it] was heading toward setting; but after the setting of* ☉, ☿ *was observed in this way.* [Poſtea non poterat ☿ amplius obſeruari a Sole eo quod Soli ad occaſum tendenti nubes rariuſculæ occurrerent, ſed poſt occaſum ☉ obſeruabatur ☿ hoc modo.]

Time	Reading	Value	Second value
4ʰ 56ᵐ	*Declination of* ☿ [Declinatio ☿]		
	with one pinnule [vno pinn.]	*2° 9⅙′*	*Altitude* [Alt.] *24⅓°*
	with the other [altero]	*2° 9′*	

1331

Time	♃, east [♃ or.]	☿, west [☿ occ.]	Altitude of ♃ [Altit. ♃]	Altitude of ☿ [Altit. ☿]
5ʰ 3ᵐ	*57° 34½′*	*47° 54½′*	*37¼°*	*24° 5′*
5ʰ 5½ᵐ	*56° 52¼′*	*48° 36¾′*	*37° 35′*	*23° 45′*
5ʰ 7½ᵐ	*56° 19½′*	*49° 9⅚′*	*38° 0′*	*23° 30′*
5ʰ 10ᵐ	*55° 42½′*	*49° 46¾′*	*38° 30′*	*23° 10′*

1332

Reading	Value	Remark
Equatorial distance [Diſt. æquat.]	*105° 29′*	*Therefore set the equatorial distance of* ♃ *and* ☿*, at about the 5th hour from noon, at 105° 29⅙′, and you will err imperceptibly.* [Pone itaque diſt. æquat. ♃ & ☿ circa horam a Meridie 5ᵗᵃᵐ P. 105 M. 29⅙ et inſenſibiliter aberrabis.]

1330 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The line of $2^h\ 40^m$ carries no value. *Altit.* ☿ stands, in smaller italic, at the right on the line of *vno pinn.*, with *35 26* under it on the next line. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes.

1331 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The line of $4^h\ 56^m$ carries no value. *Alt. 24⅓* follows *2 9⅙* on the line of *vno pinn.*. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes; *24⅓*, a single figure with a fraction, as degrees.

1332 "Time" is this edition's head; the four other heads are printed, in smaller italic, over the four value columns. These lines are set in italic. *or.* and *occ.*, after a planet in a column head, are given as "east" and "west". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes; *37¼*, a single figure with a fraction, as degrees.

Reading	Value Remark
	105° 29′
	105° 29⅓′
	105° 29¼′

1333

Time	Reading	Value	Second value
5h 19m	*Declination of* ♀ [Declin. ♀]	*2° 10′*	*Altitude of* ♀ [Alt. ♀] *22⅙°*
	with the other [altero]	*2° 9¾′*	

1334

Time	♀ from the bright [star] of ♈ [♀ a luc. ♈]	Declination of ♀, north [Decl. ♀ B.]	Altitude of ♀ [Alt. ♀]
Afterwards [it] was observed [Poſtea obſeruabatur]			
5h 40m	*39° 11¾′*	*2° 10½′*	*19½°*
5h 42½m	*39° 12′*	*2° 10½′*	*19⅙°*
5h 44m	*39° 12′*	*2° 10½′*	*19° 0′*

1335

N.B. From all these preceding observations made on this day — first in the daytime from the Sun to ♀*, and afterwards from Venus to stars and planets — by comparing everything with one another, and with regard had to the changed parallax of* ☉ *and* ♀ *together with refraction, and also to the intermediate motion of Venus and of the Sun, the places of the fixed [stars] can be examined, and moreover the places of these planets,* ☉*,* ♀*,* ♄ *and* ♃*, correctly established. Therefore these observations [are] to be attended to well, for [they] were careful, and [it] was quite clear enough.* [N.B. Ex omnibus his antecedentibus obſeruationibus hoc die factis primum diurno tempore a

1333 "Reading", "Value" and "Remark" are this edition's heads. These four values stand at the head of the left column, under the label *Diſt. æquat.* on the first line, with no times; the table of ♃ and ♀ at the foot of p. 211 has four rows. The remark, in smaller italic, stands at the right of the four values over five lines and is given whole on the first row. These lines are set in italic. The values, printed without unit marks, are given as degrees and minutes; *P. 105 M. 29⅙* as 105° 29⅙′.

1334 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. *Alt.* ♀ *22⅙* stands at the right on the line of 5^h 19^m. The time, printed without unit marks, is given as hours and minutes, the values as degrees and minutes; *22⅙*, a single figure with a fraction, as degrees.

1335 "Time" is this edition's head; the three other heads are printed, in smaller italic, over the three value columns. *Poſtea ob- / ſeruabatur* stands, in smaller italic, at the left over two lines, level with the heads; it is given as a row, in the first column, where it stands. These lines are set in italic. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes; the distances and declinations, and *19 0*, as degrees and minutes; the single figures with a fraction as degrees.

Sole in ♀ & poſtea a Venere in ſtellas & planetas, inuicem conferendo omnia, & habito reſpectu mutatæ parallaxeos ☉ et ♀ cum refractione, tum etiam motus Veneris intermedij & Solis poßunt affixarum loca examinari et inſuper loca horum planetarum ☉, ♀, ♄ & ♃ recte conſtitui. Quare his obſeruationibus bene attendendum, nam erant diligentes et fuit ſatis bene ſerenum.]

N.B. The sextant was examined, and it appeared that [it] was in correct order. The clock also moved well during these days. But nevertheless, so that a more certain account of that matter could be had, the transit of Aldebaran through the meridian was observed, 6^h $39\frac{5}{6}^m$, having altitude 49° 42′ by the revolving [quadrant], 49° 41⅚′ by the Tychonic [quadrant]. [N.B. Sextans examinabatur et apparuit quod recte ſe habuerit. Horologium etiam bene his diebus mouebatur. Verum tamen ut ejus rej certior haberi poßit ratio obſeruabatur tranſitus Aldeboram per Meridiem, H. 6 M. 39⅚] [habens alt. 49 42 per Volub.] [49 41⅚ per Tychon.][1336]

On 5 February, P. M. [DIE 5 FEBRUARIJ P. M.]

Between ♀ and ♄ by the old sextant. [Inter ♀ & ♄ per Sext. vet.]

Time	Distance [Diſt.]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Altit. ♀]
7^h 12^m	36° 22¾′	3° 19′ north [3 19 B.]	11° 10′
7^h $16\frac{1}{2}^m$	36° 22⅔′		10° 40′
7^h 18^m	36° 22½′	3° 19½′	10° 30′

[1337]

Investigation of the motion of ♀ for the day of 5 February, when [it] was stationary, from the observation from ♄[1]. [Inueſtigatio motus ♀ ad diem 5 Februarij quando fuit ſtationaria ex obſer. a ♄[1].]

Time	Reading	Value
7^h 12^m [H. 7 M. 12]	Distance of ♀ from ♄ [Diſt. ♀ a ♄]	36° 22¾′
	Declination of ♀ [Declin. ♀]	3° 19′
	Declination of ♄ [Declin. ♄]	8° 34½′
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	36° 12′ 45″ [36 12 45″]
	Right ascension of ♄ [Aſc. R. ♄]	26° 41′ 6″

[1336] *H. 6 M. 39⅚* is given as 6^h $39\frac{5}{6}^m$. *habens alt. 49 42 per Volub.* stands on its own line, set in, in italic; *49 41⅚ per Tychon.* on the line below, in roman, *49 41⅚* under *49 42*. The altitudes, printed without unit marks, are given as degrees and minutes.

[1337] "Time" is this edition's head; the three other heads are printed, in smaller roman, over the three value columns. These lines are set in roman. At 7^h $16\frac{1}{2}^m$ the declination column is empty. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes, the values as degrees and minutes.

1338

Therefore right ascension of ♀ [Ergo Af. R. ♀]: 350° 28′ 20″. Declination [Declinatio]: 3° 19′ north [3 19 B.]. Altitude of ♀ 11⅙′ [Altit. ♀ 11⅙′]. Corresponding longitude [Reſp. Longitudo]: 22° 33′ 50″ ♓. Latitude [Latitudo]: 6° 50′ 4″ north [6 50 4 B.].[1339]

On 17 February, P. M. [DIE 17 FEBRUARIJ P. M.]

Time	Reading	Value	Altitude of ♀ [Alt. ♀]
$5^h\ 27^m$	Declination of ♀ [Decl. ♀], north [Bor.]	3° 14½′	10⅔°
$5^h\ 32^m$	Repeated [Repetita]	3° 15½′	almost 10° [10 fere]

1340

Time	♀, west [♀ occid.]	♃, east [♃ orient.]	Equatorial distance [Diſt. æqu.]	Altitude of ♀ [Alt. ♀]
$5^h\ 33^m\ 20^s$ [5 33 20″]	78° 5′	31° 48′	109° 53′	
$5^h\ 36^m\ 40^s$	78° 28′	31° 25′	109° 53′	9° 20′
$5^h\ 38^m\ 33^s$	78° 55¾′	30° 56½′	109° 52¼′	9° 0′
$5^h\ 41^m\ 13^s$	79° 34½′	30° 19′	109° 53½′	8° 45′
$5^h\ 42^m\ 58^s$	80° 0′	29° 53½′	109° 53½′	8° 15′
$5^h\ 45^m\ 7^s$	80° 32½′	29° 20½′	109° 53′	8° 0′

[1338] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The labels below the first are set in under *Diſt.*. *36° 22¾′* is printed with the degree and minute marks and *45″* with the seconds mark; the other values, printed without unit marks, are given as degrees and minutes, and the values in three figures as degrees, minutes and seconds.

[1339] These four lines stand at the head of the right column, the labels set in, the figures in three columns at the right. *Altit.* ♀ *11⅙′* stands at the left on the line of *Reſp. Longitudo*; the mark after *11⅙* is a single stroke, and is kept as printed. The values in three figures, printed without unit marks, are given as degrees, minutes and seconds; *3 19* as degrees and minutes. *B.* is given as "north". The right ascension of ♄, 26 41 6, less the angle of the difference of ascension, 36 12 45 (with 360° added), gives 350° 28′ 21″, while the right ascension of ♀ is printed 350 28 20; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

[1340] "Time", "Reading" and "Value" are this edition's heads; *Alt.* ♀ is printed, in smaller roman, on a line of its own over the last column. These lines are set in roman. *Bor.* stands before *3 14½*; *fere* follows *10*. The times, printed without unit marks, are given as hours and minutes, the declinations as degrees and minutes; the altitudes, single figures (with or without a fraction), as degrees.

1341

Time	Reading	Value	Second value	Third value
5^h 47^m	Declination of ☿ [Decl. ☿]		3° 16¾′	7° 40′
5^h $54½^m$	The same repeated [Eadem repetita]		3° 18′	6° 30′
6^h 11^m	*☿ from the bright [star] of ♈* [☿ a luc. ♈]	*43° 3′*		*4¼°*
6^h 14^m		*43° 2′*		*4° 0′*
6^h 15^m			*3° 21′ north* [3 21 B.]	*3⅝°*
6^h 20^m		*42° 59′*		*3⅓°*
6^h 23^m		*42° 57′*		*3° 0′*
6^h 26^m			*3° 28′* doubtful [dubia]	*2½°*

1342

N.B. From these the place of ☿, now tending toward the Sun, can be verified and explored, [to see] whether the intermediate motion from the last observation agrees better with the Alphonsine than with the Copernican calculation. For there is beyond doubt an evident difference. But it is necessary to take account, above all, of the refraction of ☿, and the difference arising, in large part on account of refraction, was to be applied; also the parallax. [N.B. Ex his poteſt locus ☿ jam ad Solem tendentis verificari & explorari, an motus intermedius ab vltima obſeruatione melius conſentiat cum Alphonſino quam Coperniano calculo. Eſt enim procul dubio euidens diſcrimen. Oportet autem habere rationem imprimis refractionis ☿, & differentia incidens magna ex parte ob refractionem erat adhibenda, etiam parallaxis.]

On 18 February, P. M. *[DIE 18 FEBRUARIJ P. M.]*

[It] was exceedingly clear. [Erat apprime ſerenum.]

Time	Reading	Equatorial distance [Diſt. æquat.]	Declination of ☿, north [Decl. ☿ B.]	Altitude of ☿ [Altit. ☿]
5^h 42^m			3° 9½′	9° 55′

1341 "Time" is this edition's head; the four other heads are printed, in smaller roman, over the four value columns. These lines are set in roman. The times are printed in three figures, the first with the seconds mark (*20″*); they are given as hours, minutes and seconds. At 5^h 33^m 20^s the altitude column is empty. *occid.* and *orient.*, after a planet in a column head, are given as "west" and "east". The values, printed without unit marks, are given as degrees and minutes.

1342 "Time", "Reading", "Value", "Second value" and "Third value" are this edition's heads; the page prints no heads here. These rows stand under the table above: *43 3* to *42 57* in its column of ☋ *orient.*, *3 16¾* to *3 28* in its column of *Diſt. æqu.*, *7 40* to *2½* in its column of *Alt.* ☿; they are given in three value columns, as they stand. The rows of 5^h 47^m and 5^h $54½^m$ are set in roman, those from 6^h 11^m in italic. *B.* after *3 21* is a small capital, given as "north". *dubia*, in smaller roman, stands on a line of its own under *3 28*. The times, printed without unit marks, are given as hours and minutes; the values, as degrees and minutes; the single figures with a fraction as degrees.

Time	Reading	Equatorial distance [Diſt. æquat.]	Declination of ☿, north [Decl. ☿ B.]	Altitude of ☿ [Altit. ☿]
5h 50½m	*☿ from ☋ [☿ a ☋]*	*110° 25⅓′*		*7°*
5h 54½m		*110° 25¼′*		*6¾°*
5h 56m		*110° 25¼′*		*6⅓°*
5h 57½m			*3° 10¾′*	*6 1/12°*
6h 4m	*Between ☿ and ♄ by the sextant* [Inter ☿ & ♄] [per Sext.]	*42° 37′*		
6h 8m		*42° 36′*		*4° 10′*
6h 15m			*3° 15′*	*3¼°*
6h 17m			*3° 15½′*	*2¾°*

1343

1 From codex V. [E codice V.]

From this, from the restored place of ♄ and ☋, the place of ☿ can be verified. But it is necessary to take account of refraction and parallax. [Hinc ex reſtituto loco ♄ et ☋ poteſt verificari locus ☿. Sed oportet habere rationem refractionis et parallaxeos.]

Examination of the observations for the place of ☿ [Examinatio obſeruationum pro loco ☿]

On 9 January, P. M. [DIE 9 JANUARIJ P. M.]

Time	Reading	Value
2h 49m 55s [2″ 49′ 55″]	Altitude of ☿ in the meridian [Alt. ☿ in Meridie]	28° 52′ 0″
		34° 5′ 20″
		5° 13′ 20″
3h 53m	Declination by the armillae [Declin. per Armillas]	5° 12′ 40″
	Set [for] 3h [Pone H. 3]	
	the declination of ☿, south [declinat. ☿ Mer.]	5° 13′
	Declination of ☿ [Declinatio ☿]	5° 9⅓′
	Difference [Differentia]	3⅔′
5h 40m	Between ☿ and the bright [star] of ♈ [Inter ☿ & lucidam ♈]	49° 14¼′
	Declination of ☿, south [Decl. ☿ auſt.]	5° 9¼′
	Difference of ascension [Diff. aſcenſ.]	42° 16′ 6″
	Right ascension of the bright [star] of ♈ [Aſcenſ. R. lucidæ ♈]	26° 1′ 25″
	Right ascension of ☿ [Aſcenſ. R. ☿]	343° 45′ 19″

1343 "Time" and "Reading" are this edition's heads; the three other heads are printed, in smaller roman, over the three value columns, each over two lines. The row of 5h 42m is set in roman, the rest in italic. *42 37* and *42 36*, the distances between ☿ and ♄, stand in the column headed *Diſt. æquat.* and are given there, as they stand. The label *Inter ☿ & ♄* stands on the line of 6h 4m and *per Sext.* on the line of 6h 8m; the label is given whole on the first row. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes; the values as degrees and minutes; the altitudes that are single figures (with or without a fraction) as degrees.

Time	Reading	Value
$6^h\ 6^m$	Equatorial distance of ♀ and of the eye of ☿ [Diſtant. æquat. ♀] [& oculi ☿]	
		79° 16½′
	Right ascension of the eye of ☿ [Aſcenſ. R. oculi ☿]	63° 4′ 40″
	By the armillae [Per Armillas]	
	Right ascension of ♀ [Aſcenſ. R. ♀]	343° 48′ 10″
	By the sextant, ascension [Per Sext. Aſcenſ.]	
	$5^h\ 50^m$ [H. 5. 50]	343° 45′ 19″
	Let the right ascension of ♀ be set at [Ponatur Aſcenſ. R. ♀]	343° 46′ 45″
	Declination of ♀, south [Declinatio ♀ auſtr.]	5° 9′ 15″
	Corresponding longitude [Reſp. Longitudo]	13° 4′ 48″ ♓
	Latitude [Latitudo]	1° 38′ 18″ north [1 38 18B.]

1344

On the 14th of the same month [DIE 14 EIUSDEM MENSIS.]

Time	Reading	Value
$2^h\ 41^m$	P. M. meridian altitude of ♀ [P. M. Alt. Merid. ♀]	30° 55′ 0″
		34° 5′ 20″
	Declination of ♀, south [Declinatio ♀ auſtr.]	3° 10′ 20″
$3^h\ 5^m$	By the armillae [Per Armillas]	3° 10′ 20″
$4^h\ 42^m$		3° 7′ 20″
$5^h\ 9^m$		3° 6′ 45″
$4^h\ 50^m$	Distance of ♀ from ♄ [Diſtantia ♀ a ♄]	40° 19′
	Declination of ♀, south [Declin. ♀ auſtr.]	3° 7¼′
	Declination of ♄, north [Declin. ♄ Bor.]	7° 56½′
	Difference of ascension [Diff. aſcenſ.]	38° 51′ 59″
$5^h\ 0^m$	Distance of ♀ from the bright [star] of ♈ [Diſtantia ♀ a luc. ♈]	45° 51′
	Difference of ascension [Diff. aſcenſ.]	39° 33′ 10″
	Right ascension of ♀ [Aſcenſ. R. ♀]	346° 28′ 15″
	Set the right ascension of ♀ [Pone Aſcenſ. R. ♀]	
	[for] $4\frac{5}{6}^h$ [H. 4⅚]	346° 27′ 30″
	Declination, south [Declinatio M.]	3° 6′ 45″

1344 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. The first time is printed with the marks *2″ 49′ 55″*; it is given as hours, minutes and seconds. *34 5 20* and *5 13 20* stand in the figure columns on lines of their own with no label. *Pone H. 3*, *Per Armillas*, *Per Sext. Aſcenſ.* and *Diſtant. æquat.* ♀ each stand on a line with no figures and are given as rows where they stand; the label *Diſtant. æquat.* ♀ / *&* *oculi* ☿ runs over two lines and is given whole on the first row, its value on the second. *H. 5. 50* stands in the label position, not in the time column, and is given there. *3⅔* stands alone in the minutes column and is given as minutes. *auſt.*, *auſtr.* and *Mer.* after a declination are given as "south", *B.* after the latitude as "north". The other times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees, minutes and seconds, or as degrees and minutes where two figures stand.

Time	Reading	Value
	Corresponding longitude [Reſp. Longitudo]	16° 20′ 19″ ♓
	Latitude [Latitudo]	3° 29′ 24″ north [3 29 24B.]

1345

On 15 January [DIE 15 JANUARIJ.]

Time	Reading	Value
4^h 38^m	Distance between ♀ and ♄ [Diſt. inter ♀ & ♄]	39° 48¼′
	Declination of ♀ [Decl. ♀]	2° 44½′ south [2 44½ M.,]
	Declination of ♄, north [Decl. ♄ B.]	7° 57½′
	Difference of ascension [Diff. aſcenſ.]	38° 26′ 14″
	Right ascension of ♀ [Aſc. R. ♀]	346° 55′ 0″
4^h 55^m	Equatorial distance [Diſt. æquat.]	38° 24½′
	Right ascension of ♀ [Aſc. R. ♀]	346° 56½′
	Set [for] 4^h 38^m [Pone H. 4 M. 38]	
	Right ascension of ♀ [Aſc. R. ♀]	346° 56′
	Declination of ♀, south [Decl. ♀ Auſt.]	2° 44½′
	Corresponding longitude [Reſp. Longitudo]	16° 55′ 20″ ♓
	Latitude [Latitudo]	2° 38′ 48″ north [2 38 48B.]

1346

On 21 February [DIE 21 FEBRUARIJ.]

Time	Reading	Value	Second value
5^h 59^m 23^s	Declination, north [Decl. B.]	2° 48′	Altitude [Altit.] 2½° [2½G.]
6^h $4⅙^m$	Equatorial distance of ♀ from Canis Minor [Diſt. æquat. ♀ [a Cane min.]		
		125° 42′	

1345 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *34 5 20* stands in the figure columns on a line of its own with no label; the rows of 4^h 42^m and 5^h 9^m carry figures and no label. *Pone Aſcenſ. R.* ♀ stands on a line with no figures and is given as a row where it stands; *H. 4⅚* stands in the label position on the line below and is given there, as hours. *auſtr.* and *M.* after a declination are given as "south", *Bor.* and *B.* as "north". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees, minutes and seconds, or as degrees and minutes where two figures stand.

1346 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *Pone H. 4 M. 38* stands on a line with no figures and is given as a row where it stands. *M.,* (with a comma) after *2 44½* and *Auſt.* after a declination are given as "south", *B.* as "north". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees, minutes and seconds, or as degrees and minutes where two figures stand.

1347

The declination could be observed only once, because [it] was so low. [Declin. ſemel tantum, quia adeo decliuis fuit, obſeruari potuit.]

Time	Reading	Value	Second value
6^h 12^m	♀ from ♄ by the sextant [♀ a ♄ per] [Sext.]	44° 28½′	Altitude [Alt.] 1° 0′
6^h $16⅙^m$		44° 27′	0° 30′
6^h 18^m		44° 26′	0° 20′

1348

In the observations it is necessary to take evident account of refraction. [Oportet in obſeruationibus refractionis habere rationem euidentem.]

On 24 February, in the morning *[DIE 24 FEBRUARIJ, MANE.]*

Note. In the morning, before the rising of ☉, a certain large star like ♀ was seen, with the Sun now just about to rise; perhaps [it] was ♀ itself, which nevertheless was west of the Sun. But on account of [its] excessive northern latitude [it] was seen before the Sun. [Nota. Videbatur mane ante ortum ☉ magna quædam ſtella inſtar ♀, Sole iam iam exorituro, quæ forte ipſa ♀ erat quæ tamen occidentalis a Sole fuit. Sed propter latitudinem nimiam boream ante Solem videbatur.]

On 26 February [DIE 26 FEBRUARIJ.]

On this day, before the rising of ☉, ♀ was sighted, when [it] was near the horizon; but [it] could not be observed a little later, on account of somewhat scattered clouds. N.B. On some preceding days also, although ♀ was not far from ♂ with ☉, [it] was seen in the evening and in the morning. [Hoc die ante ortum ☉ conſpiciebatur ♀ cum propre [recte: prope] horizontem eßet, obſeruari tamen paulo poſt propter rariuſculas nubes non potuit. N.B. Aliquot etiam antecedentibus diebus, quamuis ♀ non procul a ♂ cum ☉ abfuit, veſperi & mane videbatur.]

1347 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. The first time is printed in three figures and is given as hours, minutes and seconds; *6 4⅙* as hours and minutes. *Altit. 2½G.* stands at the right on the line of 5^h 59^m 23^s; *G.* is given as "°". The label *Diſt. æquat. ♀ / a Cane min.* runs over two lines and is given whole on the first row; *125 42* stands after *a Cane min.* on the second line. *B.* is given as "north". The values, printed without unit marks, are given as degrees and minutes.

1348 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. The label ♀ *a* ♄ *per* stands on the line of 6^h 12^m and *Sext.* on the line of 6^h $16⅙^m$; the label is given whole on the first row. *Alt.* stands on the line of 6^h 12^m only, before *1 0*. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

On 3 March *[DIE 3 MARTIJ.]*

N. B. The following observations on ♀ are very good, for [it] was exceedingly clear. [N. B. Sequentes obſeruationes in ♀ ſunt admodum bonæ, nam erat apprime ſerenum.]

5^h 1½^m The star ♀ began to rise. [5 1½ Incepit ♀ ſtella oriri.][1349]

Time	♀ from the bright [star] of the Vulture [♀ a luc. Vult.]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]
5^h 13½^m		*0° 10′ north* [B. 0 10]	*1° 35′*	
5^h 17⅓^m	*46° 15½′*		*2° 3′*	*86° 0′*
5^h 19¾^m			*2° 22⅓′*	*85° 45′*
5^h 21^m	*46° 16¼′*		*2° 34½′*	*85° 22′*
5^h 23⅙^m			*2° 48′*	*84° 46′*
5^h 24¼^m	*46° 17′*			*84° 5′*
5^h 26^m		*0° 1⅔′*		
5^h 28^m		*0° 1¾′*	*3° 32½′*	good [bonæ]
5^h 31¼^m	*46° 19′*	*0° 1′*	*3° 56′*	*83° 30′*
5^h 33¾^m	*46° 20¼′*	*0° 0⅔′*	*4° 17′*	*83° 25′*
5^h 37⅙^m	*46° 21⅓′*	*0° 0¼′*	*4° 44½′*	*83° 4′*
5^h 40¼^m	*46° 22′*	*0° 0½′ south* [M. 0 0½]	*5° 9′*	*82° 50′*
5^h 43⅚^m	*46° 22¼′*	*0° 1′*	*5° 35′*	*82° 32′*
5^h 47⅙^m	*48° 22¾′*	*0° 1½′*	*6° 2′*	*82° 18′*

1350

Afterwards ♀ could no longer be seen from the Vulture, but [it] was observed by the armillae from Arcturus, in this way. [Poſtea non poterat amplius videri ♀ a Vulture, ſed obſeruabatur per Armillas ab Arcturo hoc modo.]

Time	Arcturus, west [Arctur. occ.]	♀, east [♀ orient.]	Azimuth of ♀ [Azim. ♀]	Altitude of ♀ [Altit. ♀]
5^h 52¾^m	*51° 53½′*	*77° 15′*	*80° 9′*	*6° 50½′*
5^h 54^m 38^s [5 54 38″]	*52° 18′*	*76° 50¾′*	*79° 10′*	*7° 2′*

[1349] The time *5 1½*, printed without unit marks, is given as hours and minutes.

[1350] "Time" is this edition's head; the four other heads are printed, in smaller italic, over the four value columns, ♀ *a luc.* / *Vult.* over two lines. These lines are set in italic, except *bonæ*, which is roman. *B.* stands before *0 10* at 5^h 13½^m and *M.* before *0 0½* at 5^h 40¼^m, in the declination column; they are given as "north" and "south". *bonæ* stands, on the line of 5^h 28^m, where the azimuth column stands, after *3 32½*. At 5^h 47⅙^m the first column prints *48 22¾*; the values above it in that column begin *46*. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

Time	Arcturus, west [Arctur. occ.]	♀, east [♀ orient.]	Azimuth of ♀ [Azim. ♀]	Altitude of ♀ [Altit. ♀]
These are better than the ones above [Hæ ſunt meliores ſuperioribus]				
$5^h\ 56^m\ 50^s$	*52° 50′*	*76° 15¼′*	*78° 40′*	*7° 23½′*
Equatorial distance [Diſt. æquat.]	*129° 8½′*	*N. B. The azimuths are counted from the meridian toward the rising.* [N. B. Azimuta numerantur a Meridie verſus ortum.]		
	129° 8¾′			
	129° 5¼′			

1351

Time	Declination of ♀, south [Decl. ♀ Mer.]	Remark	Azimuth [Azim.]	Remark	Altitude [Alt.]
$6^h\ 1^m\ 0^s$ [6 1 0″]	*0° 6′*	doubtful [dubia]	*77° 44′*	good [bona]	*7° 58′*
$6^h\ 4^m$	*0° 4′*	good (for all three) [bonæ]	*77° 8′*		*8° 21½′*
$6^h\ 7¼^m$	*0° 3½′*				*8° 50′*
$6^h\ 10^m$	*0° 5′*				

1352

Note. The dawn produced this variation in the last two, for Venus was scarcely seen on account of the Sun now about to rise. [Nota. Hanc varietatem in poſtremis duabus peperit aurora, nam Venus vix videbatur propter Solem iamiam orituram.]

1351 "Time" is this edition's head; the four other heads are printed, in smaller italic, over the four value columns, *Arctur.* / *occ.* over two lines. These lines are set in italic. *Hæ ſunt meliores ſuperioribus* stands on a line of its own between the second and third timed rows and is given as a row, where it stands. The label *Diſt.* / *æquat.* stands at the left over two lines and is given whole on the first row; the three distances stand one under another in the first value column; the remark *N. B. Azimuta nu-* / *merantur a Meridie* / *verſus ortum.* stands to their right over three lines and is given whole on the first row. The second time is printed with the seconds mark (*38″*); the second and third times are given as hours, minutes and seconds, the first as hours and minutes. *occ.* and *orient.* are given as "west" and "east". The values, printed without unit marks, are given as degrees and minutes.

1352 "Time" and "Remark" are this edition's heads; the three other heads are printed, in smaller italic, over their columns. The times and figures are set in italic; *dubia*, *bona* and *bonæ* in roman. *dubia* stands after *0 6*, *bona* after *77 44*, on the line of $6^h\ 1^m\ 0^s$. A brace to the right of *0 4*, *0 3½* and *0 5* joins those three rows, and *bonæ* stands after it on the line of $6^h\ 7¼^m$; the braced remark is given once, on the first of the three rows. The first time is printed with the seconds mark (*0″*) and is given as hours, minutes and seconds; the other times, printed without unit marks, as hours and minutes. *Mer.* after the declination is given as "south". The values, printed without unit marks, are given as degrees and minutes.

N. B. So that the refraction of ♀ might be established more certainly, [we] observed, in the same night, the middle [star] of the Belt of Orion as [it] was tending toward setting, in this way. Now the true distance of Canis Minor and the middle [star] of the Belt of Orion is 31° 30¼′. [N. B. Vt refractio ♀ certius conſtaret, obſeruauimus eadem nocte mediam Balthej Orionis ad occaſum tendentem hoc modo. Eſt autem diſtantia Canis min. et Med. Balthej Orionis vera 31 30¼]

Declination [Declinatio]: 1° 31½′ south [1 31½ M.].

Time	Reading	Value	Second value
$11^h\ 3^m$	*Between Canis Minor and the middle [star] of the Girdle of Orion* [Inter Can. min. et mediam Cinguli Orionis]	*31° 24′*	
$11^h\ 9^m$	*The same repeated* [Eadem repetita]	*31° 22⅓′*	
	Declination of the Girdle of Orion [Declin.] [cinguli Orion.]		
		1° 24′	*altitude* [Alt.] *4° 30′*
	The same repeated [Eadem repet.]	*1° 21½′*	*3° 30′*

1353

From this it will be possible to investigate the refraction of the Girdle of Orion and afterwards to apply [it] to Venus; but [I] used the Girdle of Orion above all, because this star is near the equator, as ♀ also [is] at this time. [Hinc poterit indagari refractio cinguli Orionis & poſtea applicari Veneri; vſus ſum autem potißimum cingulo Orionis eo quod hæc ſtella ſit juxta æquatorem quemadmodum & ♀ hoc tempore.]

[You] can also compare the observations which [I] had on ♀ in the year 1582, especially on 23 February: the one which was taken at $6^h\ 57^m$ from the eye of ♉, 33° 47½′, up to those which were made near the setting. Likewise the one which [was taken] on the following day to the eye of ♉. Likewise on 25 February, up to the setting. [Potes etiam conferre obſeruationes quas habui in ♀ Anno 1582 præſertim die 23 Februarij, eam quæ capiebatur H. 6 M. 57 ab oculo ♉ 33 g. 47½ M. vsque in eas quæ fiebant iuxta occaſum. Item eam quæ die ſequente ad oculum ♉. Item die 25 Februarij vsque in occaſum.]

[You] can also investigate the morning refraction of Venus from the year 1585. For on 15 November, at an altitude of 8°, [it] had declination 6° 36′, and afterwards, at an altitude of 23°, [it] had the same [declination], 6° 44′. If therefore the change through refraction is in correct order in the declination, [it is] certainly also in the

1353 "Time", "Reading", "Value" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Inter Can. min. et mediam Cin- / guli Orionis* runs over two lines, *31 24* at the right of the second; it is given whole on one row. *Declin.* stands on a line of its own and *cinguli Orion.* at the head of the next line, before *1 24*; the label is given whole on the first row. *Alt. 4 30* follows *1 24,* on its line; *3 30* stands under *4 30*. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *Orionis vera 31 30¼* is set in italic, with the figures at the right of the column; *Declinatio 1 31½ M.* in roman, *M.* a small capital, given as "south".

distances. But [you] can make a comparison with the evening [observations]. [Potes etiam refractionem Veneris matutinam inquirere ex Anno 1585. Nam die 15 Nouembris in altitudine p. 8 habuit declin. 6 36 & poſtea in altitudine 23 part. habuit eandem 6 44. Si itaque in declinatione recte ſe habet mutatio per refractionem vtique etiam in diſtantijs. Potes autem facere collationem cum veſpertinis.]

[You] can also call into consultation the observations made on 23 November, from an altitude of ♀ of 10° up to 20°. [We] also took ♀ this year as [it] was tending toward setting, for investigating its refraction. [Potes etiam adhibere in conſilium obſeruationes die 23 Nov. factas ab Altit. ♀ 10 part. usque in 20 part. Accepimus etiam hoc anno ♀ʳᵉᵐ ad occaſum tendentem pro refractione eius indaganda.][1354]

Investigation[1] of the appearances [Greek: φαινομένων (phainomenōn, "of the appearances")] of ♀ from the observations of day 17 and 18 February and 3 March, for correcting the anomaly of the orb. [Inquiſitio[1] φαινομένων ♀ ex obſeruationibus diei 17 & 18 Februarij & 3 Martij pro anomalia orbis corrigenda.]

On 17 February [DIE 17 FEBRUARIJ.]

Time	Reading	Value
6^{h} 10^{m} [H. 6 M. 10]	Distance of ♀ from the bright [star] of ♈ [Diſt. ♀ a lucida ♈]	43° 3′ [43 3′]
Altitude of ♀ [♀ Altit.] 4¼°	Declination of ♀ [Declin. ♀]	3° 20′
	Declination of the bright [star] of ♈ [Declin. luc. ♈]	21° 29′
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	40° 14½′
	Right ascension of the bright [star] of ♈ [Aſc. R. luc. ♈]	26° 1½′
	Therefore right ascension of ♀ [Ergo Aſc. R. ♀]	345° 47′
	Corresponding longitude [Reſp. Longitudo]	18° 15′ ♓
	Latitude [Latitudo]	8° 41′ north [8 41B.]

[1355]

On 18 February [DIE 18 FEBRUARIJ.]

[1354] *33 g. 47½ M.* is given as 33° 47½′; *p. 8*, *23 part.*, *10 part.* and *20 part.* as degrees; *6 36* and *6 44*, printed without unit marks, as degrees and minutes. ♀ʳᵉᵐ (with *rem* raised) is given as "♀".

[1355] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. ♀ *Altit. 4¼°* stands at the left of the second line, in the time position, and is given there; it is printed with the degree mark. *43 3′* is printed with a minute mark after *3*. *B.* is given as "north". The other values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
$6\frac{1}{12}^{h}$ [H. $6\frac{1}{12}$]	Distance of ☿ from ♄ [Diſt. ☿ a ♄]	42° 37′
Altitude of ☿ [Alt. ☿] 5°	Declination of ☿ [Declin. ☿]	3° 11′ north [3 11 B.]
	Declination of ♄ [Declin. ♄]	9° 4′ north [9 4 B.]
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	42° 28⅚′

1356

[1] From codex V. [E codice V.]

___1357

Reading	Value
Right ascension of ♄ [Aſc. R. ♄]	27° 44′ 45″ [27 44 45″]
Therefore right ascension of ☿ [Ergo Aſc. R. ☿]	345° 15′ 55″
Corresponding longitude [Reſp. Longitudo]	17° 41½′ ♓
Latitude [Latitudo]	8° 45½′ north [8 45½ B.]

1358

On 3 March, in the morning [DIE 3 MARTIJ, MANE.]

Time	Reading	Value
$5\frac{1}{2}^{h}$ [H. 5½]	Distance of ☿ from the bright [star] of the Vulture [Diſt. ☿ a luc. Vulturis]	46° 20¼′
	Declination of ☿ [Declin. ☿]	0° 0⅔′ north [0 0⅔ B.]
	Declination of the Vulture [Declin. Vulturis]	7° 51⅔′ north [7 51⅔ B.]
	Angle of the difference of right ascension [Ang. diff. Aſc. R.]	45° 49′
	Right ascension of ☿ [Aſc. R. ☿]	338° 27⅓′
Altitude of ☿ [Alt. ☿] 4¼°	Corresponding longitude [Reſp. Longitudo]	10° 6⅔′ ♓

1356 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *Alt.* ☿ *5°* stands at the left of the second line, in the time position, and is given there; it is printed with the degree mark, as is *42° 37′* with degree and minute marks. *B.* is given as "north". The other values, printed without unit marks, are given as degrees and minutes.

1357 The table of 18 February breaks at the foot of the preceding page, after the angle of the difference of ascension; its remaining lines stand at the head of this page's left column, with no date heading above them.

1358 "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *27 44 45″* is printed with a double-prime mark after *45* only; it and *345 15 55*, printed without other unit marks, are given as degrees, minutes and seconds. *B.* is given as "north". The other values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
	Latitude [Latitudo]	8° 26¼′ north [8 26¼ B.]

1359

On 8 March *[DIE 8 MARTIJ.]*

Morning [Mane]	♀, *east* [♀ orient.]	*Arcturus, west* [Arctur. occ.]	*Equatorial distance* [Dist. æquat.]	*Altitude of* ♀ [Alt. ♀]
5^h 30¼^m	76° 45′	50° 46½′	127° 31½′	6°
5^h 32½^m	76° 14′	51° 17¾′	127° 31¾′	6⅓°
5^h 44^m	*Declination of* ♀ [Decl. ♀]	*1° 30½′ south* [1 30½ Mer.]		

1360

Afterwards [it] was not possible to observe more on ♀*, because clouds were obscuring it; but these observations are moderately good, which [you] can use without perceptible error in investigating the place of* ♀. [Postea non licuit plus obseruare in ♀, quia nubes eam offuscabant, sed sunt mediocriter bonæ hæ obseruationes, quibus sine sensibili errore vti potes in ♀ loco inquirendo.]

On 11 March *[DIE 11 MARTIJ.]*

The pre-dawn observations of ♀ *follow.* [Sequuntur obseruationes ♀ antelucanæ.]

Time	♀ *from the bright [star] of the Vulture, by the sextant* [♀ a luc. Vult. per Sext.]	*Declination of* ♀ [Declin. ♀]	*Altitude of* ♀ [Alt. ♀]
5^h 19^m	*A. M.*	*2° 20′ south* [2 20 M.]	*6° 5′*
5^h 22½^m	*44° 40′*	*2° 20⅙′*	*6° 40′*
5^h 26^m	*44° 39′*		*7° 5′*
5^h 28^m	*44° 40′*	*2° 21′*	*7° 20′*

1359 "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in roman. *Alt.* ♀ *4¼°* stands at the left of the line of the corresponding longitude, in the time position, and is given there; it is printed with the degree mark, as is *46° 20¼′* with degree and minute marks. *B.* is given as "north". The other values, printed without unit marks, are given as degrees and minutes.

1360 The five heads are printed, in smaller italic; *Mane* on one line, the other four each over two lines. These lines are set in italic. At 5^h 44^m, *Decl.* ♀ stands in the second column and its value *1 30½* in the third, where Arcturus's values stand; the value is given in the column where it is printed. *Mer.* after the declination is given as "south". The times, printed without unit marks, are given as hours and minutes; the altitudes *6* and *6⅓*, printed as single figures, as degrees; the other values, printed without unit marks, as degrees and minutes.

1361

Afterwards ☿ *was observed from Arcturus in equatorial distance, once.* [Poſtea obſeruabatur ☿ ab Arcturo in diſt. æquat. ſemel.]

Time	*Arcturus, west* [Arctur. occ.]	☿, *east* [☿ orient.]	*Equatorial distance* [Diſt. æquat.]	*Altitude of* ☿ [Alt. ☿]
5h 32m	*55° 16½′*	*71° 42′*	*126° 58½′*	*8° 0′*
5h 36m	*Repeated declination of* ☿ [Repet. Decl. ☿]		*2° 22′*	*8° 30′*

1362

These observations on ☿ *were sufficiently good for verifying its place near the morning departure from the Sun; but account of refraction is to be taken, so that its place may be established exactly.* [Hæ obſeruationes in ☿ erant ſatis bonæ pro loco eius verificando iuxta digreßionem a Sole matutinam, ſed refractionis eſt habenda ratio, vt locus eius exacte conſtet.]

On 2 April [DIE 2 APRILIS.]

In the morning. Between ☿ and the Vulture. [Mane. Inter ☿ et Vulturem.]

Time	Distance by the old sextant [Diſt. per Sext. vet.]	Declination of ☿, south, by the armillae [Decl. ☿ M. per Armill.]	Altitude of ☿ by the revolving quadrant [Altit. ☿ per Q. volub.]
4h 27⅓m	50° 34′	4° 45¾′	4° 57′
4h 31½m	50° 34¾′	4° 46½′	5° 32′
4h 35m	50° 35′	4° 47′	5° 59′
4h 38m	50° 35⅔′	4° 47½′	6° 28′
4h 41½m	50° 36¼′	4° 48′	6° 52′
5h 14m		4° 59½′	11½°

1363

1361 "Time" is this edition's head; the three other heads are printed, in smaller italic, each over two lines. These lines are set in italic. *A. M.* stands after the time of the first line, where the values of the second column stand. *M.* after the declination is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1362 "Time" is this edition's head; the four other heads are printed, in smaller italic, each over two lines. These lines are set in italic. At 5h 36m, *Repet. Decl.* ☿ runs over the second and third columns, and its value *2 22* stands in the fourth, where the equatorial distance stands; the value is given in the column where it is printed. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1363 "Time" is this edition's head; the three other heads are printed, in smaller type, each over three lines. These lines are set in roman. *M.* in the declination head is given as "south". The times, printed without unit marks, are given as hours and minutes; the altitude *11½*, printed as a single figure, as degrees; the other values, printed without unit marks, as degrees and minutes.

On 5 April, in the morning [DIE 5 APRILIS, MANE.]

Time	Between ♀ and the Vulture [Inter ♀ & Vultur.]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]
4^h 8⅙^m	…	4° 32⅔′ south [4 32⅔Auſt.]	…
4^h 10^m	…	…	3° 38½′
4^h 15½^m	52° 15′	4° 34½′	4° 26′
4^h 17⅚^m	52° 16⅔′	4° 35½′	4° 44′

1364

Time	By the old sextant [Per Sext. vet.]	By the subterranean armillae [Per Arm. subt.]	By the revolving [quadrant] [Per Volub.]
4^h 20⅓^m	52° 17½′	4° 35¾′	5° 9′
4^h 23⅙^m	52° 19′	4° 36¼′	5° 28′
4^h 26½^m	52° 19¼′	4° 36¼′	5° 53′
4^h 56^m		4° 38′	9° 41′

1365

Time	Between ♀ and ⊙ [Inter ♀ & ⊙]	Value	Second value	Altitude of ⊙ [Alt. ⊙]
4^h 59^m	41° 23′	4° 38′	10° 5′	0° 31½′
5^h 2½^m	41° 24′	4° 38½′		1° 15′
5^h 5^m	41° 24¾′	4° 38¾′		1° 40′
5^h 8¼^m	41° 25′			2° 0′
5^h 13⅚^m	41° 27′	4° 38⅚′	11° 55′	2° 45′
5^h 17⅔^m	41° 28′	4° 39¼′	12° 32′	3° 10′
5^h 20^m	41° 28⅔′	4° 39½′	12° 51′	3° 30′
5^h 24^m	Declination of ⊙ [Declin. ⊙]	9° 42′		4° 5′
5^h 26⅚^m		9° 41′		4° 19′

1366

⊙ was then, from the meridian toward the east, 96° 17′ [Fuit tunc ⊙ a Mer. ad ortum 96 17].

1364 "Time" is this edition's head; the three other heads are printed, in smaller type. The points (…) stand as printed. *Auſt.* is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1365 "Time" is this edition's head; the three other heads are printed, in smaller type, each over two lines, below the preceding rows. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1366 "Time", "Value" and "Second value" are this edition's heads; the page prints heads, in smaller type, over the second and fifth columns only, and the fourth column stands under *Per / Volub.* of the heads above. At 5^h 24^m, *Declin.* ⊙ stands in the second column and its value *9 42* in the third. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

At the immediately following noon the clock was going 5½^{m} [5½ M.] slower than it should; this error applies to several days. [Horologium in Meridie proxime ſequenti 5½ M. tardius iuſto ibat, is error aliquot diebus competit.]

On 6 April, in the morning [DIE 6 APRILIS, MANE.]

Morning [Mane]	Between ♀ and Aquila [Inter ♀ & Aquilam]	Declination of ♀ [Declin. ♀]	Altitude of ♀ [Altit. ♀]
4^{h} 8^{m}	by the sextant [per Sext.]	4° 29′ south [4 29 M.]	3¾°
4^{h} 11⅚^{m}	52° 49′	4° 29¾′	4° 30′
4^{h} 14¼^{m}	52° 50⅙′	4° 30′	4° 50′
4^{h} 17½^{m}	52° 51⅓′	4° 30¾′	5° 15′
4^{h} 20¾^{m}	52° 52′	4° 31¼′	5° 40′
4^{h} 23⅔^{m}	52° 52½′	4° 32′	6° 0′

1367

N. B. At the following noon the clock was moving 14⅓^{m} [14⅓ M.] slower than it should, from the immediately preceding noon. [N. B. Horologium in Meridie ſequenti 14⅓ M. iuſto tardius mouebatur a Meridie proxime antecedente.]

On 10 April, in the morning [DIE 10 APRILIS, MANE.]

♀ from the Vulture by the sextant. [♀ a Vulture per Sext.]

Time	Value	Declination of ♀, south [Decl. ♀ M.]	Altitude of ♀ [Alt. ♀]
4^{h} 6^{m}	55° 18′	4° 3½′	3° 50′
4^{h} 10^{m}	55° 19′	4° 4′	4° 20′

1368

On 17 August, A. M. *[DIE 17 AUGUSTI A. M.]*

♃ *and* ♀*, which were very close, were observed in this way, which follows.* [Obſeruabantur ♃ & ♀ qui admodum erant propinqui in hunc qui ſequitur modum.]

[1367] The four heads are printed, in smaller type. These lines are set in roman. *per Sext.* stands in the second column of the first line, in body type. *M.* after the declination is given as "south". The times, printed without unit marks, are given as hours and minutes; the altitude *3¾*, printed as a single figure, as degrees; the other values, printed without unit marks, as degrees and minutes.

[1368] "Time" and "Value" are this edition's heads; *Decl.* ♀ *M.* and *Alt.* ♀ are printed, in smaller type, over the third and fourth columns, and the line ♀ *a Vulture per Sext.* stands, centred, above them. These lines are set in roman. *M.* in the declination head is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

Time	Reading	Value
3h 28m [3H28′]	*Declination of* ♀ [Declin. ♀]	*19° 30′*

1369

Their distance with the Radius was observed at that time [to be] only 10′. [Diſtantia illorum per Radium obſeruabatur tunc temporis ſcrupulorum ſaltem 10.]

They were very close, but ♀ *was a little more westerly; the latitude [was] nearly the same.* [Erant admodum propinque, ſed ♀ erat paulo occidentalior, latitudo fere eadem.]

Time	Reading	Value
3h 31m	*Declination of* ♀*, repet.* [Declin. ♀] [repet.]	*19° 30⅙′*
3h 33m	*Repeated distance with the Radius* [Repetita diſt.] [per Radium]	*0° 8′*
	the same immediately repeated with the Radius [eadem mox repetita] [per Radium]	*0° 7′*
3h 33m	*The altitude of both was* [Fuit vtriusque] [altitudo]	*11° 52½′*
3h 36¼m	*Altitude of* ♀ [Altit. ♀] *12° 5′*; *azimuth 73° 7′ from the north* [Azim. 73 7 a Sept.]	
	☊ *was a little more northerly than* ♀*, scarcely to the extent of the diameter of* ♀. [☊ erat paululum ♀ ſeptentrionalior vix ad quantitatem diametri ♀.]	

1370

Afterwards the distance of both from the northern head *of ☊ was observed by the sextant.*[1] [Poſtea obſeruabatur vtriusque diſtantia a boreali Cap. ☊ per Sext.[1]]

Time	Reading	Value	Remark
3h 41m	*Distance of* ♀ [Diſt. ♀]	*22° 19¾′*	
3h 42m		*22° 20′*	*Altitude of* ♀ *15°* [Alt. ♀ 15 G.] *very nearly* [proxime]
3h 50m	*Declination of* ♀ [Declin. ♀]	*19° 29½′*	
	Repeated [Repetita]	*19° 29¾′*	*good* [bona]
	Distance of both with the Radius [Diſtantia] [vtriusque] [per Radium]	*0° 6′*	*good (for all three)* [bonæ]
		0° 6′	
		0° 6′	

[1369] "Time", "Reading" and "Value" are this edition's heads. The line is set in italic. The time is printed *3H28′*, with a raised H and a raised mark like a prime, and is given as hours and minutes; the value, printed without unit marks, as degrees and minutes.

[1370] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. The labels *Declin. ♀ / repet.*, *Repetita diſt. / per Radium*, *eadem mox repetita / per Radium* and *Fuit vtriusque / altitudo* each run over two lines, the value on the second; each is given whole on its row. The line of 3h 36¼m runs across the column, *Altit. ♀ 12 5 Azim. 73 7 a Sept.*, and its values are given where they stand in it. The sentence ☊ *erat paululum …* is set in under the labels, over three lines. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1371

N. B. [You] can safely trust these observations of ☿ *and* ♃. *Afterwards* ☿ *was observed from* ☉ *in this way.* [N. B. His obſeruationibus ☿ et ♃ potes tuto credere. Poſtea obſeruabatur ☿ a ☉ hoc modo.]

Time	*Between* ☿ *and* ☉ [Inter ☿ & ☉]	*Declination of* ☿ [Declin. ☿]	*Altitude of* ☉ [Altit. ☉]
5h 4m	*28° 8′*		
5h 6½m	*28° 8⅔′*		*2°* nearly [2 G. fere]
5h 8m	*28° 8⅔′*		*2° 10′*
5h 10½m		*19° 26½′*	
5h 12m	Repeated [Repetita]	*19° 26½′*	
5h 13½m	*28° 9¼′*		*2° 50′*
5h 16m	*28° 11′*		*3° 10′*
5h 18m	*28° 12′*		*3° 20′*
5h 19½m	*28° 12½′*		*3° 40′*
		Declination of ☉ [Decl. ☉]	
5h 21¾m		*10° 32½′*	*3° 50′*
	Azimuth 103° from the north [Azim. 103 g. a Sept.]		
5h 23½m	*Repeated declination* [Repet. Decl.]	*10° 33′*	*4° 10′*
5h 26m	*28° 13½′*		*4° 30′*
5h 28m	*28° 14′*		*4° 45′*
5h 30m	*28° 14½′ or* ⅓′ [28 14½ vel ⅓]		*5° 0′*
5h 31¾m		*10° 30¾′*	*5° 15′*
5h 34m	*Repeated* [Repetita]	*10° 30⅓′*	*5° 30′*
5h 36m	*28° 15½′*		*5° 45′*
5h 38m	*28° 16½′*		*6° 0′*
5h 40½m	*28° 18′*		*6° 20′*
5h 42½m	*28° 16½′*		*6° 45′*
5h 44m	*28° 17¼′*		*6° 55′*
5h 46m	*28° 18′*		*7° 10′*
5h 47¾m	*28° 18⅔′*		*7° 22′*
5h 50m	*28° 19½′*		*7° 35′*
5h 51m	*28° 20′*		*7° 50′*
5h 53½m	*28° 20⅓′*		*8° 10′*
5h 55m		*10° 28′*	*8° 20′*
6h 0m	*Declination of* ☿ [Decl. ☿]	*19° 25′ north* [19 25 B.]	
6h 34½m	*Repeated* [Repetita]	*19° 25′*	

1371 "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints no heads here. These lines are set in italic. *Alt.* ☿ *15 G.* stands after *22 20*, at the right, and *proxime* below it, between the lines of 3^h 42^m and 3^h 50^m. The label *Diſtantia / vtriusque / per Radium* runs over three lines, each with its value *0 6*; it is given whole on the first row. A brace joins the three values, with *bonæ* after it, level with the middle line; *bonæ* is given once. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes; *15 G.* as 15°.

1372

At the following noon the clock was moving $4\frac{1}{3}^{m}$ *[M. 4⅓] faster than it should, an error which is to be corrected in the preceding times from the preceding noon.* [Horologium in Meridie ſeq. iuſto celerius mouebatur M. 4⅓, qui error in præcedentibus temporibus a Meridie præcedente eſt corrigendus.]

[It] was not perfectly clear. [Non erat exquiſite ſerenum.]

On 18 August *[DIE 18 AUGUSTI.]*

Observation of ☋ *and* ♀. [Obſeruatio ☋ & ♀.]

Time	Reading	*Distance* [Diſtantia]	*Declination of* ♀ [Declin. ♀]	*Altitude of* ♀ [Altit. ♀]
$3^{h}\ 35^{m}$			*19° 14¾′*	*10° 55′*
$3^{h}\ 39\frac{1}{2}^{m}$			*19° 14⅔′*	*11° 31′*
$3^{h}\ 51\frac{1}{2}^{m}$	*Between* ♀ *and the lower* head *of* ♊ [Inter ♀ &] [infer.] [Cap. ♊]	*19° 22½′*		*13⅙°*
$3^{h}\ 55^{m}$		*19° 23′*		
$3^{h}\ 57^{m}$		*19° 22½′*		*13⅔°*
$3^{h}\ 59^{m}$		*19° 23′*		*14°*
$4^{h}\ 2^{m}$	♀ *from the bright [star] of the foot of* ♊ [♀ a lucid.] [ped. ♊]	*33° 16½′*		*14½°*
$4^{h}\ 4^{m}$		*33° 17′*		

1373

[1] Cf. above, p. 177, among the observations of Jupiter. [Cf. ſupra p. 177 inter obſervationes Iovis.]

___1374

1372 "Time" is this edition's head; the three other heads are printed, in smaller italic, at the head of the right column, which carries no date heading: these rows follow *Poſtea obſeruabatur* ♀ *a* ☉ *hoc modo* at the foot of the left column. These lines are set in italic, except *Repetita* at $5^{h}\ 12^{m}$ and *G. fere* at $5^{h}\ 6\frac{1}{2}^{m}$, which are roman. *Decl.* ☉ stands, in smaller italic, on a line of its own over the third column before $5^{h}\ 21\frac{3}{4}^{m}$, and *Azim. 103 g. a Sept.* on a line of its own before $5^{h}\ 23\frac{1}{2}^{m}$; each is given as a row where it stands. *B.* is given as "north". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes; *2 G.* and *103 g.* as degrees.

1373 "Time" and "Reading" are this edition's heads; *Diſtantia*, *Declin.* ♀ and *Altit.* ♀ are printed, in smaller italic, over the third, fourth and fifth columns. These lines are set in italic, except *Cap.*, which is roman. The label *Inter* ♀ *&* / *infer.* / *Cap.* ♊ runs over three lines, and ♀ *a lucid.* / *ped.* ♊ over two, each line with its own time and value; each label is given whole on its first row. The times, printed without unit marks, are given as hours and minutes; the altitudes *13⅙*, *13⅔*, *14* and *14½*, printed as single figures, as degrees; the other values, printed without unit marks, as degrees and minutes.

1374 The rows at the head of the left column continue the 18 August table that ends at the foot of p. 216 (*4 4 ped.* ♊ *33 17*); this page sets the table's three heads again above them.

Time	Reading	*Distance* [Diſtantia]	*Declination of* ☿ [Declin. ☿]	*Altitude of* ☿ [Altit. ☿]
4h 6m		*33° 17′*		*15°*
4h 8m		*33° 17½′*		*15¼°*
4h 9½m			*19° 13′*	*15¾°*
	with the other pinnule [alt. pin.]		*19° 12½′*	
4h 19m	☿ from the bright shoulder of Orion [☿ a luc.] [hum.] [Orion.]	*45° 26′*		*16° 45′*
4h 21m		*45° 25¾′*		*17° 0′*
4h 24m		*45° 26½′*		*17° 25′*
4h 27m		*45° 25¼′*		*17° 55′*

1375

Therefore, around this time, set the distance of Venus from the left and bright shoulder of Orion at 45° 26′. [Pone itaque circa hoc tempus diſtantiam Veneris a ſiniſtro & lucido humero Orionis 45 26.]

Time	*Declination of* ☿	*Altitude of* ☿
4h 33m	*19° 11½′*	*18½°*

1376

Time	Reading	Value
	I	*0° 47′*
4½h [H.4½]	*Distance of* ☋ *and* ☿ *with the Radius* [Diſt. ☋ & ☿ per Radium] *II*	*0° 48′*

1377

5h 6m 36s [5 6 36″] ☿ *passed through the 90th degree at altitude 23° 17⅙′. From this its place and declination will be able to be verified.* [tranſiuit ☿ per 90 grad. in Altit. 23 17⅙. Hinc poterit eius locus & declinatio verificari.][1378]

[1375] "Time" and "Reading" are this edition's heads; *Diſtantia*, *Declin.* ☿ and *Altit.* ☿ are printed, in smaller italic, over the third, fourth and fifth columns. These lines are set in italic, except ☿ *a luc.*, *hum.* and *Orion.*, which are roman. *alt. pin.* stands, with no time, in the second column, running into the third. The label ☿ *a luc.* / *hum.* / *Orion.* runs over three lines, each with its own time and values; it is given whole on its first row. The times, printed without unit marks, are given as hours and minutes; the altitudes *15*, *15¼* and *15¾*, printed as single figures, as degrees; the other values, printed without unit marks, as degrees and minutes.

[1376] This row stands below the sentence, under the fourth and fifth columns of the table above, whose heads are repeated here; the page prints no heads over it. *18½*, printed as a single figure, is given as degrees; the other figures, printed without unit marks, as hours and minutes and as degrees and minutes.

[1377] "Time", "Reading" and "Value" are this edition's heads. *I 0 47* stands on a line of its own above, set at the right; *II 0 48* ends the line *H.4½ Diſt.* ☋ *&* ☿ *per Radium*. *I* and *II* are italic capitals. The values, printed without unit marks, are given as degrees and minutes.

[1378] The time is printed *5 6 36″*, with a raised double mark after *36*, and is given as hours, minutes and seconds; the altitude, printed without unit marks, as degrees and minutes.

Time	Reading	Value
5h 9m	*Declination of ☿ by the armillae* [Declin. ☿] [per Armillas]	*19° 10½′*
5h 10½m		*19° 11′*
5h 14m		*19° 11′*

1379

On this day Venus could by no means be observed from the Sun as [she was] yesterday, because of rather thin little clouds, which shut off the sight of her for the whole of that time in which [she] could be seen after the rising of ☉ yesterday. But yesterday's observations of ☿ from ☉ are sufficiently exact, on which [you] can rely in restoring the places of the fixed [stars] from the Sun by means of Venus, a comparison being made with those which we obtained in the year 82. The place of Venus, however, from today's observation at the fixed [stars] can be compared very carefully with yesterday's, made at the northern head of ♊, the diurnal motion being taken into account. [Hoc die Venus a Sole vt heri obſeruari nequaquam poterat ob rariusculas nubeculas, quæ eius aſpectum toto illo tempore quo videri poſt ortum ☉ heri poterat, intercludebant. Verum heſternæ obſeruationes ☿ a ☉ ſunt ſatis exactæ, quibus fidere potes in reſtituendis locis affixarum a Sole per Venerem, collatione facta cum ijs, quas Anno 82 nacti ſumus. Locus autem Veneris ex hodierna ad fixas obſeruatione admodum diligenter poteſt conferri cum heſterna facta ad Bor. Cap. II adhibito in conſilium motu diurno.][1380]

On 20 September, in the morning [DIE 20 SEPTEMBRIS, MANE.]

Time	Reading	Value	Second reading	Second value
5h 46m	Declination of ☿ by the southern armillae [Decl. ☿ per Arm. Auſtr.]			6° 40′ north [6 40 B.]
5h 57m	Azimuth from the meridian [Azim. a Mer.]	78° 15′	Altitude [Alt.]	15° 42′
6h 0¼m	toward the east [ad ort.]	77° 44′		16° 2½′
6h 1¾m		77° 32′		16° 12′

[1379] "Time", "Reading" and "Value" are this edition's heads; the page prints no heads here. These lines are set in italic. The label *Declin. ☿ / per Armillas* runs over two lines, the value on the second; it is given whole on its row. The values stand under the fourth column (*Declin. ☿*) of the table above. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[1380] The paragraph begins at the foot of the left column and runs on at the head of the right column. The page sets *Cap. II*, two italic capitals, where p. 216 sets *Cap.* ♊; given as ♊.

1381

On 5 February[1] [DIE 5 FEBRUARIJ[1].]

Time	Reading	Value
7^{h} 12^{m} [H. 7 M. 12]	♀ Longitude [♀ Longitudo]	22° 33′ 50″ ♓
	Latitude [Latitudo]	6° 50′ 4″ north [6 50 4 B.]

On 17 February[1] [DIE 17 FEBRUARIJ[1].]

Time	Reading	Value
6^{h} 10^{m} [H. 6 M. 10]	♀ Longitude [♀ Longitudo]	18° 15′ 0″ ♓
	Latitude [Latitudo]	8° 41′ north [8 41 B.]

On 18 February[1] [DIE 18 FEBRUARIJ[1].]

Time	Reading	Value
$6\frac{1}{12}^{h}$ [H. $6\frac{1}{12}$]	♀ Longitude [♀ Longitudo]	17° 41½′ ♓
	Latitude [Latitudo]	8° 45½′ north [8 45½ B.]

On 3 March[1] [DIE 3 MARTIJ[1].]

Time	Reading	Value
$5\frac{1}{2}^{h}$ [H. 5½]	♀ Longitude [♀ Longitudo]	10° 6⅔′ ♓
	Latitude [Latitudo]	9° 26¼′ north [9 26¼ B.]

1382

[1381] "Time", "Reading", "Value", "Second reading" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. *6 40 B.* stands at the right, in the position of the altitudes below it. *ad ort.* is indented under *a Mer. Auſtr.* is given with the armillae ("southern armillae"); *B.* after the declination as "north"; *a Mer.* as "from the meridian", as the work writes *Meridiano* out in full elsewhere; "from the south" is the other construal. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. A short horizontal rule stands below these rows.

[1382] For the four tables above, "Time", "Reading" and "Value" are this edition's heads; the page prints no heads. These lines are set in roman. *B.* is given as "north". The values, printed without unit marks, are given as degrees and minutes, and, where three figures are printed (5 and 17 February, longitude; 5 February, latitude), as degrees, minutes and seconds. On 17 February the latitude prints two figures and *B.*, the third position empty. On 3 March the latitude is printed 9 26¼ here and 8 26¼ in the computation of the same day on p. 201 (the 9 and the 8 each confirmed on a native-resolution crop); both figures are given as printed, and no correction is made.

Observations of Mercury [OBSERUATIONES MERCURIJ.]

On 6 January [DIE 6 JANUARIJ.]

Note. Let us attend very carefully to ☿ this evening, because it was due to be at its greatest evening removal from ☉, of about 18°, in a sign of long descensions. And [with] the sextant directed into the plane through ☾ and ♀, and the distance of ☿ from ♀ set at about 27°, such as the Prutenic calculation gave. For ☿ appeared nowhere, right down to the clouds which were near the setting itself, at an altitude of about 3°, to [us] watching most carefully. But because of the excessive wind and the twilight, the clearness of the air was a little denser than usual. I was therefore surprised that ☿ did not appear at so great a distance, since earlier we had seen [it] much nearer to ☉. But in the following [days], God willing [D.V.], let us attend further. [Nota. Ad ☿ eo veſperi admodum diligenter attendamus, eo quod eße debebat in maxima remotione a ☉ veſpertina 18 quaſi graduum in ſigno longarum deſcenſionum. Et directo Sextante in planum per ☾ & ♀ poſitaque diſtantia ☿ a ♀ partium quaſi 27 qualem calculus præbebat Prutenicus. Nusquam enim apparuit ☿ vsque in nubes quæ erant prope ipſum occaſum in altitud. quaſi 3 part. diligentiſſime animaduertentibus. Sed ob nimium ventum et crepuſculum aëris claritas paulo denſior ſolito erat. Mirabar itaque ☿ in tanta diſtantia non apparere cum prius longe ☉ⁱ propinquiorem viderimus. Sed in ſequentibus D.V. vlterius attendamus.][1383]

On 9 January *[DIE 9 JANUARIJ.]*

P.M. ☿ was observed from ♀ by the sextant's distance, and that near the limits of the greatest removal from ☉. [P.M. Obſeruabatur ☿ a ♀ per diſtantiam Sextantis idque iuxta limites maximæ remotionis a ☉.]

[1] From codex V. [E codice V.]

Time	*Distance of ♀ and ☿* [Diſt.] [♀ & ☿]	*Declination of ☿, south* [Decl.] [☿ M.]	*Azimuth of ☿* [Azim.] [☿]	*Altitude of ☿ by the least quadrant* [Altit. ☿] [per Q.] [minim.]
4^h $48\frac{1}{2}^m$	25° 15¾′	15° 27½′		5° 50′
4^h $52\frac{2}{3}^m$	25° 16′			5° 25′
4^h $58\frac{1}{2}^m$	25° 15′			4° 40′
5^h 3^m	25° 15¼′			4° 5′
5^h 6^m	25° 13½′		*By the revolving [quadrant]* [Per Volub.]	3° 56′
5^h 12^m	25° 12¾′		56° 5′	3° 15½′
5^h 16^m	25° 11½′		56° 55′	2° 46′
5^h $18\frac{1}{2}^m$		15° 22¼′ *by the armillae* [per Armillas.]		
5^h 21^m	25° 9½′		57° 54′	2° 15′
5^h 23^m		15° 21′		

[1383] The paragraph begins in the left column of the lower block and runs on at the head of the right column. ☉ⁱ is printed with a raised small *i*.

Time	*Distance of ☿ and ☽* [Diſt.] [☿ & ☽]	*Declination of ☽, south* [Decl.] [☽ M.]	*Azimuth of ☽* [Azim.] [☽]	*Altitude of ☽ by the least quadrant* [Altit. ☽] [per Q.] [minim.]
5h 26½m	*25° 9′*	*15° 17′* nearly [fere]	*59° 5′*	*1° 40′*

1384

N. B. These observations of ☽ are sufficiently exact, and [it] was exceedingly clear, with the north wind blowing; and the size of ☽, when [it] was near setting, appeared similar to the size of the bright [star] of ♈; yet [it] was not so large as when [it] was observed, east, in November of the preceding year. But the variation in the distance from ☿ and the declination arises most of all through refraction. [N.B. Hæ obſeruationes ☽ ſunt ſatis exactæ, eratque apprime ſerenum flante Borea, & apparuit magnitudo ☽ cum eßet iuxta occaſum ſimilis magnitudini Lucidæ ♈, non tamen tam magnus erat, atque cum obſeruaretur in Nouemb. præcedentis anni orientalis, varietas autem in diſtant. a ☿ & declinatione fit maxime per refractionem.]

On 14 January, P. M. *[DIE 14 JANUARIJ P. M.]*

Time	*Between ☿ and ☽ by the sextant* [Inter ☿ & ☽] [per. Sext.]	*Declination of ☽, south* [Declin. ☽ M.]	*Altitude of ☽* [Alt. ☽]
5h 15m	*25° 10¼′*	*13° 7½′*	*3° 45′*
5h 18½m	*25° 9¼′*		*3° 20′*
5h 21m	*25° 8′*	*13° 6′*	*3° 5′*
5h 25m	*25° 7′*	*13° 6′*	*2° 45′*
5h 28m	*25° 6′*	*13° 5′*	*2° 30′*
5h 32m	*25° 4′*	*13° 2′*	*2° 25′*

1385

From these, therefore, the place of ☽ will be able to be traced with sufficient certainty, provided that account is taken of the refraction occurring in so low a position, and this either from the preceding or the following [observations] on ☿ and ♄. [Ex his itaque poterit locus ☽ ſatis certo indagari, modo habeatur ratio refractionis in

[1384] These rows continue the 9 January entry at the foot of p. 217; the page opens with their heads and no date heading. "Time" is this edition's head; the four other heads are printed, in smaller italic, over two or three lines each. These lines are set in italic, except *fere*, which is roman, in small type, on a line of its own under *15 17*. *Per Volub.* stands in the fourth column, running into the third; *per Armillas.* runs from the third column across the fourth and fifth. *M.* in the declination head is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[1385] "Time" is this edition's head; the three other heads are printed, in smaller italic. These lines are set in italic. *per.* is printed with a point. *M.* in the declination head is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

tam decliui ſitu contingentis, idque vel ex præcedentibus vel ſequentibus in ♀ & ♄.]

On 15 January, P. M. *[DIE 15 JANUARIJ P. M.]*

☿ *was observed from* ♀ *by the sextant.* [Obſeruabatur ☿ a ♀ per Sextantem]

Time	Value	Declination of ☿ [Decl. ☿]	Altitude of ☿ [Alt. ☿]
5ʰ 21ᵐ	*25° 30½′*	*12° 41½′*	*2° 30′*
5ʰ 27ᵐ	*25° 29′*		*2° 15′*
5ʰ 29ᵐ		*12° 29′*	*2° 0′*

1386

Afterwards ☿ *appeared no more this evening, hiding itself in denser clouds near setting; but these observations were nevertheless sufficiently good and certain.* [Poſtea non amplius hoc veſperi apparuit ☿ denſioribus ſe nubibus abdens iuxta occaſum, ſed fuerunt tamen hæ obſeruationes ſatis bonæ et certæ.][1387]

Examination of the observation of ☿. [Examinatio obſeruationis ☿.]

To learn its refraction, the distance between the Dog and the left foot of Orion was observed at altitude 3⅓°: 38° 25¾′. Refraction 11¾′; the true distance is 38° 37½′. Altitude 2½°, distance 38° 25′. Refraction 12½′. [Pro refractione ipſius cognoſcenda obſeruabatur diſtantia inter canem et finiſt. pedem Orionis in Altit. 3⅓ part. 38 gr. 25¾ M. Refractio 11¾ M., vera diſtantia eſt 38 37½ Altit. 2½ grad., diſtant. 38 25. Refractio 12½.][1388]

Reading	*In altitude* [in Altit.]	*In distance* [in Diſt.]	*In declination* [in Declin.]
Thus from the distance of Canis Minor and the heart of ♌¹ [Sic ex diſt.] [Canis min.] [& Cordis ♌¹]	4° 35′ [4°35′]	5′ 45″ [5′45″]	8′ 15″ [8′15″]
	4° 0′	7′ 0″	9′ 50″
	3° 25′	7′ 30″	11′ 15″
	3° 0′	8′ 30″	12′ 0″
	2° 0′	9′ 0″	13′ 30″

1389

[1386] "Time" and "Value" are this edition's heads; *Decl.* ☿ and *Alt.* ☿ are printed, in small roman, over the third and fourth columns. The rows are set in italic. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[1387] The sentence begins at the foot of the left column and runs on at the head of the right column.

[1388] The colon after "3⅓°" is this edition's; the page sets no mark there. *38 37½* and *38 25*, printed without unit marks, are given as degrees and minutes; the last *12½*, printed without a unit mark, as minutes, on the analogy of *11¾ M.* before it.

[1389] "Reading" is this edition's head; *in Altit.*, *in Diſt.* and *in Declin.* are printed, in small roman, over the three pairs of figures. The label *Sic ex diſt. / Canis min. / & Cordis* ♌¹ runs over three lines, each with its own values; it is given whole on its first row. The first row prints its unit marks; the figures below it, printed without them, are given in the same units.

On 9 January ♀ was also observed on account of the refraction of ☿. The diurnal motion in longitude on that day is 45′ from Mästlin's Ephemerides, but [that] of the declination 25′ from observation. [Die 9 Januarij obſeruabatur ♀ etiam ob refractionem ☿. Motus diurnus Long. eſt eo die Min. 45 ex Ephemerid. Mæſtl. declinationis vero 25 Min. ex obſeruatione.]

Time	Reading	Value	Second reading	Second value
$5^h\ 49^m$	Distance between ♀ and the bright [star] of ♈ [Diſt. inter ♀ & lucid. ♈]	49° 14½	true [vera]	
	Declination of ♀, south [Declin. ♀ Auſt.]	5° 10′	true [vera]	
$7^h\ 39^m$	Therefore the true declination would be [Ergo eßet] [vera Decl.]	5° 8′	the true distance [diſt.] [vera]	49° 11′
$8^h\ 5^m$	the true declination would be [eßet Decl.] [vera]	5° 7⅔′	the true distance [diſt.] [vera]	49° 10′

1390

Altitude of ♀ [Altit. ♀]	Refr. declination [Refr. declin.]	Refract. distance [Refract. diſt.]
5° 30′	7′ 0″ [7′ 0″]	…
5° 10′	…	…
4° 45′	…	7′ 40″
4° 20′	7′ 30″	8′ 30″
4° 0′	8′ 10″	9′ 30″
3° 0′	10′ 5″	10′ 40″
2° 30′	…	13′ 15″
2° 20′	…	14′ 30″
2° 0′	14′ 10″	16′ 15″

1391

Because the declination of ☿ is southern, the refraction is to be added to the observed declination, just as also to the distance, so that each may be obtained true. [Quia declinatio ☿ eſt auſtrina refractio obſeruatæ declinationi addenda eſt, ſicuti etiam diſtantiæ vt vtraque vera habeatur.]

1390 "Time", "Reading", "Value", "Second reading" and "Second value" are this edition's heads; the page prints no heads here. These lines are set in roman. The second line has no time and is indented. At $7^h\ 39^m$ and $8^h\ 5^m$ two labels run over two lines each: *Ergo eßet / vera Decl.* (then *eßet Decl. / vera*) with the declination after it on the second line, and *diſt. / vera* with the distance after it on the second line; each label is given whole on its row. *Auſt.* is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

1391 The three heads are printed, in small roman. The points (…) stand as printed, in place of values. The altitudes, printed without unit marks, are given as degrees and minutes; the refractions, printed with marks only at *7′ 0″* and *7′ 40″*, are all given as minutes and seconds.

From ♄ [Ex ♄]: Altitude of ♄ [Altit. ♄]	Refr. declination [Refr. declin.]	Refract. distance [Refract. diſt.]
2° 35′	13′ 30″	10′ 0″
2° 10′	14′ 30″	11′ 30″

1392

[1] See below, among the observations of the southern stars, on 29 January. [Vide infra inter obſervationes ſtellarum auſtralium d. 29 Januarij.]

On 9 January [DIE 9 JANUARIJ.]

Time	Altitude of ☿ [Altit. ☿]	Distance of ♀ and ☿ by the sextant [Diſt. ♀ & ☿] [per Sext.]	Declination of ☿, south [Decl. ☿ M.]
$4^h\ 48^m$	5° 50′	25° 16′	15° 27½′
	Refr.	5′, add [5adde]	7′, add [7adde]
		25° 21′	15° 34½′
$5^h\ 15^m$	2° 40′	25° 11½′	15° 22¼′
	Refr.	10′, add [10adde]	12′
		25° 21½′	15° 34¼′

1393

Reading	Value
Set, [at] $4^h\ 50^m$, the true distance between ☿ and ♀ at [Pone H.4.50 M. diſt. veram] [inter ☿ & ♀]	25° 21¼′
Declination of ☿, south [Declinatio ☿ auſtr.]	15° 34½′
Declination of ♀, south [Declinatio ♀ auſtr.]	5° 10′
Difference of ascension [Differ. aſcenſ.]	23° 32′ 40″
Right ascension of ♀ [Aſc. R. ♀]	343° 45′ 15″
Right ascension of ☿ [Aſcenſio Recta ☿]	320° 12′ 35″
Declination, south [Declinatio Merid.]	15° 34′ 30″
Corresponding longitude [Reſp. Longitudo]	17° 45′ 7″ ♒
Latitude [Latitudo]	0° 1′ south

[1392] The heads are printed, in small roman; *Ex* ♄ stands at the left of the head line, over no figures, and is given in the first head. The altitudes, printed without unit marks, are given as degrees and minutes; the refractions, printed without unit marks, as minutes and seconds, as in the table above.

[1393] "Time" is this edition's head; the three other heads are printed, in small roman, *Diſt.* ♀ & ☿ / *per Sext.* over two lines. *Refr.* stands under the altitude column, and *adde* is set close after the figure. *M.* in the declination head is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes; the refraction figures *5*, *7*, *10*, *12*, printed without unit marks, as minutes.

1394

On 14 January, P. M. [DIE 14 JANUARIJ P. M.]

Time	Altitude of ☿ [Altit. ☿]	Distance of ☿ and ♀ [Diſt. ☿ et ♀]	Declination of ☿, south [Decl. ☿ Mer.]
$5^h\ 15^m$	3° 45′	25° 10′	13° 7½′
	Add Rfr. [Adde Rfr.]	8′	8½′
	True distance [Vera diſt.]	25° 18′	
	true declination [vera decl.]		13° 16′
$5^h\ 21^m$	3° [3 G.]	25° 7′	13° 6′
	add [adde]	10′	10½′
	True distance [Diſt. vera]	25° 17′	
	True declination [Vera decl.]		13° 16½′
$5^h\ 28^m$	2° 30′	25° 6′	13° 5′
	add [adde]	11½′	12′
	True distance [Vera diſt.]	25° 17½′	
	true declination [veıa decl.] [recte: vera decl.]		13° 17′

1395

Reading	Value
Let the true distance of ♀ and ☿ [at] $5¼^h$ be set [at] [Ponatur H. 5¼ Diſt. ♀] [et ☿ vera]	25° 17½′
Declination of ☿, south [Declinatio ☿ Merid.˙]	13° 16½′
Declination of ♀, south [Declinatio ♀ M.]	3° 6¾′
Difference of ascension [Differ. aſcenſ.]	23° 26′ 7″
Right ascension of ♀ [Aſc. R. ♀]	346° 26′ 45″
Right ascension of ☿ [Aſcenſio Recta ☿]	323° 0′ 38″
Declination, south [Declinatio M.]	13° 16′ 30″
Corresponding longitude [Reſp. Longitudo]	21° 2′ 56″ ♒
Latitude [Latitudo]	1° 19′ 18″ north

1394 "Reading" and "Value" are this edition's heads; the page prints none here. The label *Pone … veram / inter* ☿ *&* ♀ runs over two lines, the figures on the second; it is given whole on its row. *auſtr.*, *Merid.* and *M.* are given as "south". The values, printed without unit marks, are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed.

1395 "Time" is this edition's head; the three other heads are printed, in small roman. The labels *Vera diſt. / Diſt. vera* begin under the altitude column with their figures under the distance column; the labels *vera decl. / Vera decl.* stand under the distance column with their figures under the declination column — each is given here in the second column. In the last row the first word prints a stem without the arm of an *r* (*veıa*). *Mer.* in the declination head is given as "south". The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes; the refraction figures (*8*, *8½*, *10*, *10½*, *11½*, *12*), printed without unit marks, as minutes.

1396

Time	Reading	Value
$4^h\ 50^m$	Ascension of ♀ [Aſcenſ. ♀]	346° 27′ 30″
	subtract [ſubtrahe]	45″
		346° 26′ 45″

1397

From Canis Minor[1] [A Cane minore[1]]

Reading	Value
Set declination of ☿ [Poſita Declinat. ☿]	13° 18⅓′
Declination of ♀ [Declinatio ♀]	3° 6¾′
Distance [Diſtantia]	25° 17½′
Difference of ascension [Differ. aſcenſ.]	23° 25′ 18″
Longitude [Longitudo]	21° 4′ ♒
Latitude [Latitudo]	1° 19⅓′ north

1398

On 15 January, P. M. [DIE 15 JANUARIJ P. M.]

Time	Reading	Value	Second reading	Second value
$5^h\ 21^m$	Distance of ♀ and ☿ [Diſt. ♀] [& ☿]	25° 30½′	Declination of ☿ [Declin.] [☿]	12° 41½′
	Altitude of ☿ 2½° [Alt. ☿ 2½ G.]			
	Refr., add [Refr. adde]	12½′		12½′
	True distance [Diſt.] [vera]	25° 42′	True declination [Decl.] [vera]	12° 54′
$5^h\ 27^m$	The same distance [Diſtant.] [eadem]	25° 29′	Declination [Declin.]	12° 39½′
	Altitude 2¼° [Alt. 2¼ G.]			
	Refr.	13′		14′
		25° 42′		12° 53½′

[1396] "Reading" and "Value" are this edition's heads; the page prints none here. The label *Ponatur … ♀ / et ☿ vera* runs over two lines, the figures on the second; it is given whole on its row. A raised point stands after *Merid. Merid.* and *M.* are given as "south", *B.* as "north". The values, printed without unit marks, are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed.

[1397] "Time", "Reading" and "Value" are this edition's heads; the page prints none here. The time, printed without unit marks, is given as hours and minutes; the values as degrees, minutes and seconds; the lone *45*, printed under the last figure column, as seconds.

[1398] "Reading" and "Value" are this edition's heads; the page prints none here. These lines stand at the head of the right column, with no date heading above them. *B.* is given as "north". The values, printed without unit marks, are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed.

1399

Reading	Value
Let [there] be assumed, [at] 5^h 21^m [Aßumatur H. 5 M. 21]	
Distance of ♀ and ☿ [Diſt. ♀ & ☿]	25° 42′
Declination of ☿ [Declin. ☿]	12° 54′ southern [auſtrina]
Declination of ♀ [Declin. ♀]	2° 43½′ southern [auſtrina]
Difference of ascension [Differ. aſcenſ.]	23° 51′ 28″
Right ascension of ♀ [Aſcenſ. R. ♀]	346° 57′ 10″
Right ascension of ☿ [Aſcenſ. R. ☿]	323° 5′ 40″
Declination, south [Decl. auſtr.]	12° 54′ 0″
Corresponding longitude [Reſp. Longitudo]	21° 14′ 42″ ♒
Latitude [Latitudo]	1° 39′ 4″ north

1400

N. B.[2] For the refraction of ☿, see the distances observed below in the southern asterisms, between Canis Minor and the left foot of Orion; then also, in the asterisms of ♌, the distances between Canis Minor and the heart of ♌. [N. B.[2] Pro refractione ☿ vide diſtantias obſeruatas inferius in Aſteriſmis Auſtralibus inter Canem minorem & ſiniſtrum pedem Orionis. Tum etiam in Aſteriſmis ♌ diſtant. inter Canem minorem & cor ♌.]

For the place of ☿ from the observation of the day of 9 January. [Pro loco ☿ ex obſeruat. diei 9 Januarij.]

Time	Reading	Value
$4\frac{5}{6}^h$	Distance of ☿ from ♀ [Diſt. ☿ a ♀]	25° 16′
	Declination of ☿ [Declin. ☿]	15° 27′ south
	Declination of ♀ [Declin. ♀]	5° 9′ south
	Right ascension of ♀ from observation [Aſc. R. ♀ ex obſer.]	343° 44¾′
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	23° 29′ 25″

1399 "Time", "Reading", "Value", "Second reading" and "Second value" are this edition's heads; the page prints none here. The labels *Diſt.* ♀ / & ☿, *Declin.* / ☿, *Diſt.* / *vera*, *Decl.* / *vera* and *Diſtant.* / *eadem* each run over two lines, the figures on the second; each is given whole on its row. The times, printed without unit marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes; the refraction figures (*12½*, *13*, *14*), printed without unit marks, as minutes. At 5^h 21^m the distance 25 30½ with the refraction 12½ added gives 25° 43′, while the true distance is printed 25 42; the declination and the pair at 5^h 27^m add exactly. The figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

1400 "Reading" and "Value" are this edition's heads; the page prints none here. A short raised stroke stands between *2* and *43½* in the declination of ♀. *auſtr.* is given as "south", *B.* as "north". The values, printed without unit marks, are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed. The right ascension of ♀, 346 57 10, less the difference of ascension, 23 51 28, gives 323° 5′ 42″, while the right ascension of ☿ is printed 323 5 40; the figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

Time	Reading	Value
	Therefore the right ascension of ☿ [Ergo Aſc. R. ☿]	320° 15′ 20″

1401

[1] See the following note, "For the refraction of ☿...". [Vide annotationem ſequentem »Pro refractione ☿...«.]

[2] From codex V. [E codice V.]

Time or altitude	Reading	Value
Altitude 5⅚° [Alt. 5⅚°]	Corresponding longitude [Reſp. Longitudo]	17° 49⅔′ ♒
	Latitude [Latitudo]	0° 5¾′ north
	Corresponding refraction [Reſp. refractio]	9′ 20″
	parallax [parallaxis]	3′ 20″
	Difference [Differentia]	6′ 0″
	in longitude [in long.]	3′ 50″ s.
	in latitude [in lat.]	4′ 30″ s.
	Corresponding true longitude [Reſp. vera Longitudo]	17° 45⅚′ ♒
	Latitude [Latitudo]	0° 1¼′ north

1402

For the right ascension of ♀, from which ☿ was taken. [Pro Aſcenſione recta ♀ ex qua ☿ capta fuit.]

Time	Reading	Value
5⅔^{h}	Distance of ♀ from the bright [star] of ♈ [Diſt. ♀ a luc. ♈]	49° 14′
	Declination of ♀ [Declin. ♀]	5° 10′ south
	Declination of the bright [star] of ♈ [Decl. luc. ♈]	21° 29′
	Its right ascension [Aſc. R. eius]	26° 1′ 25″
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	42° 15⅙′
	Therefore the right ascension of ♀ then [Ergo Aſc. R. ♀ tum]	343° 46′ 15″

1403

[1401] "Time", "Reading" and "Value" are this edition's heads; the page prints none here. The time is printed *H. 4⅚. M.* after the declinations is given as "south". *25° 16′* and *25″* carry their printed marks; the other values, printed without unit marks, are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed.

[1402] "Time or altitude", "Reading" and "Value" are this edition's heads; the page prints none. These rows open the page, with no date heading above them. *Alt. 5⅚°* stands at the left of the first line. A rule is printed under the parallax; *Differentia 6 0* is joined by a brace to the two lines *in long. 3 50 s.* and *in lat. 4 30 s.*, given here as the two rows under it; *s.* is kept as printed. *B.* is given as "north". Values printed without unit marks are given as degrees and minutes (longitude, latitude) or as minutes and seconds (parallax, difference, and its parts in longitude and latitude), as the marks on *9′ 20″* show for the refraction.

[1403] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed *H. 5⅔. M.* is given as "south". Values printed without unit marks are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed.

Altitude of ♀ 20½°. Therefore free from refraction. [Altit. ♀ 20½°. Itaque immunis a refractione.]

On 14 January, in the evening [DIE 14 JANUARIJ, VESPERI.]

Time or altitude	Reading	Value
5¼^{h}	Distance of ☿ from ♀ [Diſt. ☿ a ♀]	25° 10¼′
	Declination of ☿ [Declin. ☿]	13° 7½′ south
	Declination of ♀ [Declin. ♀]	3° 6½′ south
	Right ascension of ♀ [Aſc. R. ♀]	346° 28⅝′, reduced, good, from observation [reducta bona] [ex obſeruat.]
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	23° 22′ 30″
	Right ascension of ☿ [Aſc. R. ☿]	323° 6′ 20″
	Corresponding apparent longitude of ☿ [Reſp. viſa ☿ Longit.]	21° 10′ 55″ ♒
	latitude [Latit.]	1° 26½′ north
Altitude 3¾° [Alt. 3¾°.]		
	Corresponding refraction [Reſp. refractio]	11′ 20″
	parallax [parallaxis]	4′ 0″
	Difference [Differentia]	7′ 20″
	in longitude [in long.]	5′ 23″ s.
	in latitude [in lat.]	4′ 53″ s.
	True longitude of ☿ [Vera ☿ Longitudo]	21° 5½′ ♒
	Latitude [Latitudo]	1° 21⅗′ north

1404

For the right ascension of ♀ on account of ☿. [Pro Aſcenſione recta ♀ propter ☿.]

Time	Reading	Value
5^{h} 4^{m}	Distance of ♀ from the bright [star] of ♈ [Diſt. ♀ a lucida ♈]	45° 51′
	Declination of ♀ [Declin. ♀]	3° 7′ south
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	39° 32′ 55″
	Therefore the right ascension of ♀ [Ergo Aſc. R. ♀]	346° 28′ 30″
	Altitude of ♀ 24° [Altit. ♀ 24°]	

1404 "Time or altitude", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed *H. 5¼. reducta bona / ex obſeruat.* stands on two lines under the figures of the right ascension of ♀. *Alt. 3¾°.* stands at the left margin, a little below the latitude line. A rule is printed under the parallax; *Differentia 7 20* is joined by a brace to the two lines *in long. 5 23 s.* and *in lat. 4 53 s.*; *s.* is kept as printed. The last two rows stand at the head of the right column. *M.* is given as "south", *B.* as "north". Values printed without unit marks are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed; the parallax, the difference and its parts, as minutes and seconds.

1405

On 15 January, in the evening [DIE 15 JANUARIJ, VESPERI.]

Time or altitude	Reading	Value
5⅓ʰ	Distance of ☿ from ♀ [Diſt. ☿ a ♀]	25° 30½′
	Declination of ☿ [Declin. ☿]	12° 41½′ south
	Declination of ♀ [Declin. ♀]	2° 44½′ south
	Right ascension of ♀ [Aſc. R. ♀]	346° 59′ 45″
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	23° 44¼′
	Hence the right ascension of ☿ [Igitur Aſc. R. ☿]	323° 15½′
	Corresponding apparent longitude of ☿ [Reſp. ☿ viſa Longit.]	21° 27½′ ♒
	latitude [Latit.]	1° 50⅔′ north
Altitude 2½° [Alt. 2½°.]		
	Corresponding refraction [Reſp. refractio]	14¼′
	parallax [parallaxis]	4′
	Difference [Differentia]	10¼′
	in longitude [in long.]	7½′ s.
	in latitude [in lat.]	6′ 40″ s.
	Therefore the true longitude [Ergo vera Longitudo]	21° 20′ ♒
	Latitude [Latitudo]	1° 44⅙′ north

1406

For the right ascension of ♀. [Pro Aſcenſione recta ♀.]

Time	Reading	Value
5½ʰ	Distance of ♀ from the bright [star] of ♈ [Diſt. ♀ a lucida ♈]	45° 12¾′
	Declination of ♀ [Declin. ♀]	2° 45′ south
	Altitude 21⅓° [Altit. 21⅓°]	
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	39° 1′ 35″
	Hence the right ascension of ♀ [Igitur Aſc. R. ♀]	346° 59′ 50″

1405 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed *H. 5 M. 4. M.* after the declination is given as "south". Values printed without unit marks are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed.

1406 "Time or altitude", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed *H. 5⅓. Alt. 2½°.* stands at the left margin, a little below the latitude line. A rule is printed under the parallax; *Differentia 10¼* is joined by a brace to the two lines *in long. 7½′ s.* and *in lat. 6′ 40″ s.*; *s.* is kept as printed. *M.* is given as "south", *B.* as "north". Values printed without unit marks are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed; the bare parallax *4* and the difference *10¼* as minutes, as the mark on *14¼′* shows for the refraction. The apparent latitude 1 50⅔ less its part of the difference, 6′ 40″, gives 1° 44′ 0″, while the true latitude is printed 1 44⅙; the figures are confirmed on a native-resolution crop (the denominator of the ⅙ only probably), and are given as printed, with no correction.

1407

Observations of the fixed stars in the zodiac, and first of all [of] those that are in Aries[1] [OBSERUATIONES STELLARUM FIXARUM IN ZODIACO ET PRIMO QUIDEM EARUM QUÆ SUNT IN ARIETE[1].]

On 6 January [DIE 6 JANUARIJ.]

Reading	Instrument	Value
The second [star] of ♈ in the meridian [Secunda ♈ in Meridie]	by the Tychonic quadrant [per Q.Tych.]	52° 52⅓′
The third or bright [star] of ♈ in the meridian [Tertia vel lucida ♈] [in Meridie]	by the revolving [quadrant] [per Volub.]	55° 34¼′
	by the Tychonic quadrant [per Q.Tych.]	55° 34′

1408

On 9 January [DIE 9 JANUARIJ.]

Time	Reading	Value
$5^h\ 39^m\ 5^s$	The bright [star] of ♈ through the meridian, altitude by the revolving [quadrant] [Luc. ♈ per Merid., alt.] [per Volub.]	55° 34¼′
$6^h\ 45¾^m$	The bright [star] of ♈, west, 16° 50′; the bright [star] in the □ of the Bear passed through the meridian at altitude [Lucida ♈ occ. 16° 50′, tranſiuit Lucida in □ Vrsæ per Merid. in alt.]	41° 44¾′

1409

[1] All the observations of the fixed stars of this year are found in codex V. alone. [Omnes obſervationes ſtellarum fixarum hujus anni in codice V. solo reperiuntur.]

1407 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed *H. 5½. M.* is given as "south". Values printed without unit marks are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed.

1408 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *per Q.Tych. 52 52⅓* stands on a line of its own under *Meridie*. The label *Tertia vel lucida ♈ / in Meridie* runs over two lines and is joined by a brace to both instrument lines; it is given once, on the first row. The values, printed without unit marks, are given as degrees and minutes.

1409 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The first time is printed *5ᴴ39′ 5″*, with a small raised *H* and the marks ′ and ″ for its minutes and seconds; it is given as hours, minutes and seconds. The second time, printed *6 45¾* without unit marks, is given as hours and minutes. Each label runs over two or three lines and is given whole on its row. The values, printed without unit marks, are given as degrees and minutes.

On 17 January [DIE 17 JANUARIJ.]

Reading	Instrument	Value
Meridian altitude of the bright [star] of ♈ [Alt. Merid. Lucidæ ♈]	by the revolving [quadrant] [per Volub.]	55° 34⅚′

1410

On 20 January [DIE 20 JANUARIJ.]

Reading	No.	Value	Remark
For examining the sextant, the distance between the bright [star] of ♈ and Aldebaran was observed [Pro examinando Sextante obſeruabatur diſtantia inter lucidam ♈ & Aldeb.]	I	35° 32½′	doubtful [dubia]
	II	35° 32¼′	
	III	35° 32¼′	

1411

Therefore the sextant is in good order, since this distance [was] earlier found 35° 32⅙′, which differs imperceptibly. [Ergo Sextans bene ſe habet, ſiquidem hæc diſtantia prius reperta 35 32⅙ quæ inſenſibiliter differt.][1412]

On 26 January, in the evening [DIE 26 JANUARIJ, VESPERI.]

Reading	Value
For the examination of the sextant, the distance between the bright [star] of ♈ and the eye of ♉ was taken, and was found [Pro examine Sextantis accipiebatur] [diſt. inter Lucid.] [♈ & oculum ♉ &] [inveniebatur]	35° 32½′
	35° 32¼′
	35° 32¼′

1413

[1410] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

[1411] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. The sentence runs over three lines and is given whole on the first row; the numerals I, II, III stand before the three values. *dubia* stands after the first value only. The values, printed without unit marks, are given as degrees and minutes.

[1412] The value in this sentence, printed *35 32⅙* without unit marks, is given as degrees and minutes.

[1413] "Reading" and "Value" are this edition's heads; the page prints none. The sentence runs over four lines and is given whole on the first row; the three values stand to the right of its second, third and fourth lines, with no numerals before them. The values, printed without unit marks, are given as degrees and minutes.

Since, therefore, it was established that the sextant was in sufficiently good order, I afterwards observed some fixed [stars] by the same [sextant] in this manner that follows. [Cum itaque conſtaret Sextantem ſatis bene ſe habere, obſeruaui poſtea per eundem aliquas fixas in hunc qui ſequitur modum.]

Reading	Value	Remark
Distance of the head of ♈ and of the head of Andromeda [Diſtantia capitis ♈ & capitis Andromedæ]	27° 7¾′	twice [bis]

1414

The following altitudes were observed by the revolving [quadrant]. [Altitudines ſequentes per Volubilem ſunt obſeruatæ.]

On 9 January, in the evening [DIE 9 JANUARIJ, VESPERI.]

Reading	Value	Remark
Meridian altitude of the second [star] in the head of ♈ [Secundæ in capite ♈ Alt. Merid.]	52° 51½′	with both [vtroque]
The third and bright [star] of ♈ in the meridian [Tertia & Luc. ♈ in Merid.]	55° 34⅙′	with both [vtroque]

1415

On 14 January [DIE 14 JANUARIJ.]

Reading	Value	Remark
The bright [star] of ♈ in the meridian, having altitude [Lucida ♈ in Merid. habens Alt.]	55° 34′	with both [vtroque]

1416

On 15 January [DIE 15 JANUARIJ.]

Reading	Value	Remark
Meridian altitude of the bright [star] of ♈ [Alt. merid. Lucid. ♈]	55° 34′	with both [vtroque]

1414 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The label runs over two lines, the value and *bis* standing on the second. The value, printed without unit marks, is given as degrees and minutes.

1415 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. Each label stands on a line of its own, its value and *vtroque* on the next line. The values, printed without unit marks, are given as degrees and minutes.

1416 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The label stands on a line of its own, its value and *vtroque* on the next line. The value, printed without unit marks, is given as degrees and minutes.

1417

On 16 January [DIE 16 JANUARIJ.]

Reading	Value	Remark
Meridian altitude of the bright [star] of ♈ [Alt. merid. lucidæ ♈]	55° 34⅙′	with the new [nouo]
	55° 34⅓′	with the old [veteri]

1418

By the Tychonic quadrant. [Per Q. Tychonicum.]

On 9 January [DIE 9 JANUARIJ.]

Reading	Value	Remark
The second [star] of ♈ had altitude [Secunda ♈ altit. habuit]	52° 51½′	with both [vtroq.]
The third and bright [star] in the head of ♈ [Tertia & luc. in cap. ♈]	55° 34⅙′	with both [vtroq.]

1419

On 14 January [DIE 14 JANUARIJ.]

Reading	Value	Remark
Meridian altitude of the bright [star] of ♈ [Lucidæ ♈ Merid. Alt.]	55° 34′	with both [vtroq.]

1420

On 15 January [DIE 15 JANUARIJ.]

Reading	Value	Remark
Altitude of the head of ♈ [Altit. capitis ♈]	55° 34′	with both [vtroque]

1421

[1417]"Reading", "Value" and "Remark" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

[1418]"Reading", "Value" and "Remark" are this edition's heads; the page prints none. This heading and its rows stand at the head of the right column. The second value stands under the first, with no label. The values, printed without unit marks, are given as degrees and minutes.

[1419]"Reading", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1420]"Reading", "Value" and "Remark" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

[1421]"Reading", "Value" and "Remark" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

On 16 January [DIE 16 JANUARIJ.]

Reading	Value
Meridian altitude of the bright [star] of ♈ [Altit. Merid. Lucidæ ♈]	55° 34⅙′
	55° 34⅓′

1422

On 16 December [DIE 16 DECEMBRIS.]

Reading	Value	Remark
The northern [star] in the horn of ♈ [Borealis in cornu ♈]	52° 50′	with both [vtroque]
The bright [star] of ♈ [Lucida ♈]	55° 34⅓′	

1423

On 26 December [DIE 26 DECEMBRIS.]

Reading	Value	Remark
Meridian altitude of the bright [star] of ♈ [Alt. Luc. ♈ Merid.]	59° 36⅔′	with the old [veteri]
	59° 36⅙′	with the new [nouo]

1424

On 27 December [DIE 27 DECEMBRIS.]

Reading	Value
The northern [star] in the horn of ♈ [Borealis in cornu ♈]	52° 51⅙′
	52° 50⅚′
Altitude of the bright [star] of ♈ [Alt. lucidæ ♈]	55° 34′
	55° 33⅔′

1422 "Reading" and "Value" are this edition's heads; the page prints none. The second value stands under the first, with no label. The values, printed without unit marks, are given as degrees and minutes.

1423 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

1424 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The second value stands under the first, with no label. The values, printed without unit marks, are given as degrees and minutes. On 26 December the altitudes printed against the bright [star] of ♈, 59 36⅔ and 59 36⅙ (confirmed on a native-resolution crop), stand apart from every other altitude of that star on this page (55 33⅔ to 55 34⅚) and close to the 59 36 and 59 35¾ printed on 31 December for the bright [star] in the tail of ♈; the figures are given as printed, and no correction is made.

1425

On 31 December [DIE 31 DECEMBRIS.]

Reading	Value	Remark
The northern [star] in the horn of ♈ [Borealis in cornu ♈]	52° 51′	with the old [veteri]
	52° 51⅔′	with the new [nouo]
Altitude of the bright [star] of ♈ [Lucidæ ♈ Alt.]	55° 34⅓′	with both [vtroq.]
The bright [star] in the tail of ♈ (not sufficiently certain) [Lucida in cauda ♈] [(non satis certa)]	59° 36′	with the old [veteri]
	59° 35¾′	with the new [nouo]

1426

Observations of the stars in Taurus [OBSERUATIONES STELLARUM IN TAURO.]

On 6 January [DIE 6 JANUARIJ.]

Reading	Instrument	Value
The lowest [star] in the thigh of ♉ [Infima in femore ♉]	by the Tychonic [quadrant] [per Tych.]	41° 36⅔′
Meridian altitude of the breast of ♉ [Alt. mer. pectoris ♉]	by the Tychonic [quadrant] [per Tych.]	45° 22′
The eye of ♉ [Oculus ♉]	by the Tychonic quadrant [per Q. Tych.]	49° 42′
	with the old [veteri]	49° 42½′
	by the revolving quadrant [per Q. Volub.]	49° 42′

1427

On 20 January [DIE 20 JANUARIJ.]

1425 "Reading" and "Value" are this edition's heads; the page prints none. Under each labelled value a second value stands with no label. The values, printed without unit marks, are given as degrees and minutes.

1426 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *(non satis certa)* stands indented under *Lucida in cauda* ♈, on the line of *59 35¾ nouo*; the label runs over the two value lines and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

1427 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *veteri* stands at the right, directly before its figures; *per Q. Volub.* stands indented on the last line. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value	Remark
The southern horn of ♉ in the meridian [Auſtrale cornu ♉ in merid.]		54° 54⅝′	
For the examination of the sextant, the distance between the bright [star] of ♈ and Aldebaran was taken [Pro examine Sextantis accepta eſt] [diſt. inter] [lucidam ♈] [& Aldeboram]	I	35° 32½′	doubtful [dubia]
	II	35° 32¼′	
	III	35° 32¼′	

1428

Therefore the sextant is in good order, since this distance [was] earlier found 35° 32⅙′, which differs imperceptibly. [Ergo Sextans bene ſe habet, ſiquidem hæc diſtantia prius reperta 35 32⅙ quod inſenſibiliter differt.][1429]

On 26 January [DIE 26 JANUARIJ.]

Time	Reading	Value
	The third [star] of the Hyades, which is the middle [one] in the lower line, altitude [Tertia ſuccularum, quæ eſt media in infer. linea, Alt.]	48° 59½′
6ʰ 56⅔ᵐ	The bright [star] of ♈, west, 37° 10′, meridian altitude of Aldebaran [Luc. ♈ occid. 37 10, Aldeb. Alt. Merid.]	49° 42′

1430

Reading	Instrument	No.	Value	Remark
Distance of the eye of ♉ and the knee of Cassiopeia [Diſt. oculi ♉ &] [genu Caßiop.]		I	55° 23⅓′	
		II	55° 23½′	
	by the sextant [per Sext.]	III	55° 23½′	
Aldebaran and Procyon [Aldeboram & Procyon]		I	46° 20⅙′	
		II	46° 20⅙′	
		III	46° 20¼′	
Aldebaran and the right shoulder of Orion [Aldeb. & dext. hum. Orion.]			21° 22⅚′	twice [bis]

[1428] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. The sentence runs over four lines and is given whole on the first of its rows; the numerals I, II, III stand before the three values, on its second, third and fourth lines. *dubia* stands after the first value only. The values, printed without unit marks, are given as degrees and minutes.

[1429] The value in this sentence, printed *35 32⅙* without unit marks, is given as degrees and minutes.

[1430] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time, printed *6 56⅔* without unit marks at the left of its line, is given as hours and minutes. *37 10,* stands within the line, a comma after it. Each label runs over two lines and is given whole on its row. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	No.	Value	Re-mark
Aldebaran and the left shoulder of Orion [Aldeb. & ſiniſter hume-] [rus Orionis]			15° 46′	
			15° 45⅚	twice [bis]
Between both eyes of ♉ [Inter vtrumque oculum ♉]			3° 10¼′	
	by the sextant [per Sext.]			

1431

On 27 January [DIE 27 JANUARIJ.]

H. M. S.	The bright [star] of ♈, west [Luc. ♈] [occ.]	Of the Hyades [Succu-] [larum]	Value	With the old [Vet.]
$6^h\ 38^m\ 10^s$	33° 10¼′	I	48° 39′	48° 38⅚′
$6^h\ 41^m\ 16^s$	33° 59′	II	50° 33⅔	50° 34′
$6^h\ 46^m\ 21^s$	35° 14¾′	III	52° 16½′	
$6^h\ 53^m\ 54^s$	37° 8½′	Aldebaran [Aldeb.]	49° 41⅚′	
The time is not known [Tempus] [ignoratur]	35° 25′	IV	48° 59⅔′	

1432

Note. These observations are sufficiently good for the stars of the Hyades. [Nota. Hæ obſeruationes ſunt ſatis bonæ pro ſtellis Hyadum.]

On 30 January [DIE 30 JANUARIJ.]

Time	Reading	Value
$6^h\ 39^m\ 50^s$	Aldebaran passed the meridian, having altitude by the revolving [quadrant] [tranſiuit Aldeb. Merid. habens Alt. per Volub.]	49° 42′
	The bright [star] of ♈ was then distant toward the west [Diſtabat tunc Luc. ♈ verſ. occ.]	37° 12′

1431 "Reading", "Instrument", "No.", "Value" and "Remark" are this edition's heads; the page prints none. *genu Caßiop.* and *per Sext.* stand indented under *Diſt. oculi ♉ &*, on the lines of the values II and III; the label is given whole on the first row and *per Sext.* is kept on the third. The label *Aldeb. & ſiniſter hume-* / *rus Orionis* runs over two value lines and is given whole on the first. The last *per Sext.* stands alone on its line, at the right under the figures *3 10¼*. The values, printed without unit marks, are given as degrees and minutes.

1432 The heads are the page's, except "Value", which is this edition's: the page prints no head over that pair of figures. The head *Luc. ♈* / *occ.* and the head *Succu-* / *larum* are each printed on two lines. *Aldeb.* stands in the column of the roman numerals. *Tempus* / *ignoratur* stands on two lines in the time column. The figures under *Vet.* are printed in the first two rows only. The values, printed without unit marks, are given as degrees and minutes; the times, printed as three figures under *H. M. S.*, as hours, minutes and seconds.

1433

On 5 February [DIE 5 FEBRUARIJ.]

Reading	No.	Value
Between the eye of ♉ and Canis Major [Inter oculum ♉ &] [canem maiorem]	I	45° 57′
	II	45° 57⅙′
	III	45° 57⅙′

1434

The altitudes by the mural [quadrant] follow. [Sequuntur Altitudines per Muralem.]

On 14 January, in the evening [DIE 14 JANUARIJ, VESPERI.]

Reading	Remark	Value
Aldebaran through the meridian at altitude [Aldeb. per Merid. in Alt.]		49° 42′
	with the other pinnule [alt. pinn.]	49° 42⅓′
Of the northern horn of ♉ [Borealis cornu ♉]	with both [vtroque]	62° 15⅚′

1435

On 20 January [DIE 20 JANUARIJ.]

Reading	Remark	Value
Meridian altitude of the preceding [star] of the Hyades, with only a single pinnule [Alt. Merid. Succular. præcedentis, vnico ſaltem pinnacidio]		48° 39⅚′
Of the middle [star] toward the south [Mediæ verſus. Auſtrum]		49° 2′
Altitude of the eye of ♉ [Alt. oculi ♉]	with one [vno]	49° 41⅚′
	with the other pinnule [alt. pin.]	49° 42′

1433 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed *H. 6 39′ 50″*. The second row stands at the head of the right column, with no heading above it. Each label runs over two lines and is given whole on its row. The values, printed without unit marks, are given as degrees and minutes.

1434 "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over two lines and is given whole on the first row; the numerals I, II, III stand before the three values. The values, printed without unit marks, are given as degrees and minutes.

1435 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *alt. pinn.* and *vtroque* stand directly before their figures. The values, printed without unit marks, are given as degrees and minutes.

1436

On 26 January [DIE 26 JANUARIJ.]

Reading	Remark	Value
Meridian altitude of the northern eye of ♉ [Alt. Mer. Boreal. oculi ♉,]	with one pinnule [vno pin.]	52° 17⅙′
Meridian altitude of Aldebaran [Aldeb. Alt. Merid.]	with both [vtroque]	49° 42′

1437

On 27 January [DIE 27 JANUARIJ.]

Reading	Remark	Value
Altitude of the preceding [star] in the Hyades [Alt. præcedentis in ſucculis,]	with both [vtroque]	48° 39′
Of the middle [star] toward the north [Mediæ verſus Boream,]	with the new [nouo]	50° 35′
	with the old [veteri]	50° 35½′
Of the middle [star] toward the south [Mediæ verſus Auſtrum]		48° 59⅓′
Meridian altitude of Aldebaran [Alt. Merid. Aldeboræ,]	with both [vtroq.]	49° 41⅚′

1438

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Remark	Value
Meridian altitude of Aldebaran [Alt. Merid. Aldeb.,]	with both [vtroq.]	49° 41⅚′

1439

1436 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, *vnico ſaltem pinnacidio* standing at the left of the second, and is given whole on its row. A point is printed after *verſus*. *vno* and *alt. pin.* stand directly before their figures. The values, printed without unit marks, are given as degrees and minutes.

1437 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first label stands on a line of its own, *vno pin.* and the figures on the next line. The sign after *oculi* is set with a sort whose lower ring is open at the left, the horns as in the other ♉ sorts of the page. The values, printed without unit marks, are given as degrees and minutes.

1438 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first label stands on a line of its own, *vtroque* and the figures on the next line. *veteri* stands directly before its figures, with no label at the left. The values, printed without unit marks, are given as degrees and minutes.

1439 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

On 26 December [DIE 26 DECEMBRIS.]

Remark	Reading	Value
In the intersection [In inter-] [ſectione]	Altitude of the southern [star] in the belly of ♉ [Alt. Auſtral.] [in aluo ♉]	41° 37′
		41° 36⅚′
	Of the following [star] in the belly of ♉ [Sequentis in] [aluo ♉]	42° 19½′
		42° 19⅓′
	Altitude of the breast of ♉ [Alt. pectoris ♉]	45° 21⅙′
		45° 20¾′
	Altitude of the knee of ♉ [Alt. genu ♉] with only one pinnule [vno ſaltem pinnacidio.]	38° 54⅓′

1440

Observations of the stars in Gemini [OBSERUATIONES STELLARUM IN GEMINIS.]

On 6 January [DIE 6 JANUARIJ.]

Time	Reading	Instrument	Value
11^{h} 8^{m}	The upper head of ♊ passed through the meridian, having altitude [Tranſiuit ſuperius caput ♊ per Merid. habens Alt.]	by the revolving [quadrant] [per Volub.]	66° 48¼′
		by the Tychonic [quadrant] [per Tychon.]	66° 48¼′
		Its declination by the armillae [Declin. eius per Armill.]	32° 41½′
11^{h} 19⅚^{m}	The lower head of ♊ passed through the meridian, having altitude [Tranſiuit inferius caput ♊ per Merid. habens Alt.]	by the revolving quadrant [per Q. Volub.]	63° 2½′
		by the Tychonic quadrant [per Q. Tychon.], with the new [nouo]	63° 1¾′
		with the old [veteri]	63° 2¼′

1440 "Remark", "Reading" and "Value" are this edition's heads; the page prints none. *In inter-* / *ſectione* stands at the left margin on two lines, a short vertical rule after it spanning the two lines *Alt. Auſtral.* / *in aluo* ♉, each of which has a value at its right. *Sequentis in* / *aluo* ♉ likewise runs over two value lines; each label is given whole on its first row. The second value for the breast stands alone on its line. *vno ſaltem pinnacidio.* stands alone on the last line, set to the right below the line of *Alt. genu* ♉. The values, printed without unit marks, are given as degrees and minutes.

1441

On 9 January [DIE 9 JANUARIJ.]

Time	Reading	Instrument	Value
11^h $1¾^m$	The upper head of ♊ through the meridian, altitude [Super. cap. ♊ per Mer. Alt.]	by the revolving [quadrant] [per Volub.]	66° 48$\frac{8}{12}$′
		Its declination by the armillae [Declinatio eius per Arm.]	31° 41½′
		with both [vtroque]	
11^h 13^m 32ˢ	The lower head through the meridian, altitude [Infer. cap. per Mer. Alt.]		63° 2′
		Declination of the lower head [Declin. infer. cap.]	28° 56′
		with the other pinnule [alt. pinnac.]	28° 56⅙′

1442

On 14 January, in the evening [DIE 14 JANUARIJ, VESPERI.]

Reading	Instrument	Value
Propus ♊ in the meridian [Propus ♊ in Mer.,]	by the revolving [quadrant] [per Volub.]	56° 39′
Meridian altitude of the heel of the foot of ♊ [Calcis pedis ♊ Alt. Merid.]		56° 44′
The bright foot of the lower ♊ in the meridian [Lucid. pes infer. ♊ in Mer.]		50° 46½′

1441 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The times are printed *H. 11 M. 8* and *H. 11 19⅝*; the second, printed with no *M.*, is given as hours and minutes. Each sentence runs over two lines and is given whole on its row. The lines *per Volub.*, *per Tychon.*, *Declin. eius per Armill.*, *per Q. Volub.* and *per Q. Tychon.* stand indented under the sentences, the figures at the right. *nouo* stands directly before its figures, on the line of *per Q. Tychon.*; *veteri* stands directly before its figures on the next line, with nothing at the left. The values, printed without unit marks, are given as degrees and minutes.

1442 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first time is printed *H. 11 1¾*, with no *M.*, and is given as hours and minutes; the second, printed as three figures *11 13 32* with no *H.* and no unit marks, is given as hours, minutes and seconds. *per Volub.* and *Declinatio eius per Arm.* stand indented under the first label; *vtroque* stands alone on its line, at the right, below the figures *31 41½*. The second label runs over two lines, *Alt.* standing on the second directly before its figures, and is given whole on its row; no sign is printed after *cap.* there. *Declin. infer. cap.* stands indented; *alt. pinnac.* stands directly before its figures. The degrees of the declination of the upper head are printed *31* here and *32* under 6 January. The values, printed without unit marks, are given as degrees and minutes.

1443

On 20 January, in the evening [DIE 20 JANUARIJ, VESPERI.]

Reading	No.	Value
Between Capella and the lower head of ♊ [Inter Capellam &] [infer. cap. ♊]	I	34° 19′
	II	34° 18½′
	III	34° 18½′

1444

The two later [ones] are truer, but set rather 34° 18⅔′. [Duæ poſteriores ſunt veriores, ſed pone potius 34 18⅔][1445]

On 26 January [DIE 26 JANUARIJ.]

Reading	Value
Between the lower head of ♊ and the northern horn of ♉ [Inter infer. caput ♊ &] [Boreale cornu ♉]	30° 33¾′
	30° 33⅔′
Between the lower head of ♊ and the heart of ♌ [Inter infer. cap. ♊ & cor ♌]	36° 59⅓′

1446

On 27 January [DIE 27 JANUARIJ.]

H. M. S.	The bright [star] of ♈, west [Luc. ♈ occ.]	Reading	Meridian altitude [Alt. mer.]
8h 31m 30ſ	61° 42′	The sole of the foot of ♊ [Planta pedis ♊]	56° 38⅙′
8h 39m 20ſ	63° 39¼′	The other, which is the heel of the foot [Altera, quæ eſt calx pedis]	56° 44$\frac{1}{12}$′
		The lower foot of the preceding ♊ [Inf. pes anteced. ♊]	54° 29½′
8h 54m 40ſ	67° 34½′	The bright foot of ♊ [Luc. pes ♊]	50° 46′
		The upper head of ♊ [Super. caput ♊]	66° 47⅔′

[1443] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *per Volub.* stands on the first line, after a comma, directly before the figures. The values, printed without unit marks, are given as degrees and minutes.

[1444] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over two lines and is given whole on the first row; the numerals I, II, III stand before the three values. The values, printed without unit marks, are given as degrees and minutes.

[1445] The value in this sentence, printed *34 18⅔* without unit marks and with no point after it, is given as degrees and minutes.

[1446] "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, a value at the right of each, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

1447

The lower head of ♊, meridian altitude 63° 2′; the eye of ♉ was then distant from the meridian towards the west 47° 8½′. [Infer. caput ♊ Alt. Mer. 63 2, diſtabat tunc oculus ♉ a Meridie ad occaſum 47 8½.][1448]

Altitudes by the Tychonic quadrant [Altitudines per Q. Tychonicum]

On 9 January, in the evening [DIE 9 JANUARIJ, VESPERI.]

Reading	Value
Altitude of the upper head of ♊ [Alt. ſuper. cap. ♊]	66° 48′
Meridian altitude of the lower head of ♊ [Alt. Merid. inf. cap. ♊]	63° 2⅓′

1449

On 14 January [DIE 14 JANUARIJ.]

Reading	Remark	Value
The bright [star] of the heel of ♊, meridian [Lucida calcis ♊ Merid.]		50° 45⅚′
	with the other pinnule [alt. pinn.]	50° 46′
Meridian altitude of the upper head of ♊ [Alt. mer. ſuper. cap. ♊]		66° 48⅓′
Meridian altitude of the lower head of ♊ [Alt. mer. infer. cap. ♊]		63° 2′
		63° 1⅚′

1450

On 15 January [DIE 15 JANUARIJ.]

[1447]The heads are the page's, except "Reading", which is this edition's: nothing is printed over the labels. The label *Altera, quæ / eſt calx pedis* runs over two lines, the time and the figures under *Luc.* ♈ *occ.* standing on the first and the figures under *Alt. mer.* on the second; it is given on one row. *Inf. pes anteced.* ♊ and *Super. caput* ♊ begin at the left margin, in the position of the time figures, and carry a value under *Alt. mer.* only. The times, printed as three figures under *H. M. S.*, are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes.

[1448]These three lines stand at the head of the right column, with no heading above them. The values, printed *63 2* and *47 8½* without unit marks, are given as degrees and minutes.

[1449]"Reading" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1450]"Reading", "Remark" and "Value" are this edition's heads; the page prints none. *alt. pinn.* stands directly before its figures, with no label at the left. The last value stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Remark	Value
Meridian altitude of the bright [star] of the heel of ♊ [Alt. Merid. lucidæ] [calcis ♊]	with the old [vet.]	50° 45⅔′
	with the new [nouo]	50° 45½′

1451

On 20 January [DIE 20 JANUARIJ.]

Reading	Value
Altitude of the first [star] in the northern foot of ♊ [Alt. primæ in Bor. pede ♊]	56° 37⅔′

1452

On 26 January [DIE 26 JANUARIJ.]

Reading	Remark	Value
Meridian altitude of the bright foot of ♊ [Alt. Merid. Luc. pedis ♊]	with the old [vet.]	50° 45½′
	with the new [nouo]	50° 45⅓′

1453

On 27 January [DIE 27 JANUARIJ.]

Reading	Remark	Value
Of the following [star] in the northern foot [Sequentis in Bor. pede,]	with both [vtroque]	56° 43⅔′
Of the bright [star] of the heel of ♊ [Lucidæ calcis ♊]	with both [vtroque]	50° 45½′
The lower head of ♊ [Infer. cap. ♊]	with the new [nouo]	63° 1⅔′
	with the old [veteri]	63° 2′

[1451] "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The label runs over two lines and is given whole on the first row; *vet.* and *nouo* stand directly before the figures, one on each line. The values, printed without unit marks, are given as degrees and minutes.

[1452] "Reading" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

[1453] "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *vet.* stands directly before its figures, on the label's line; *nouo* directly before its figures on the next line, with no label at the left. The values, printed without unit marks, are given as degrees and minutes.

1454

N. B. In these [it] was not sufficiently clear. [N. B. In his non erat ſatis ſerenum.]

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Remark	Value
Altitude of the northern heel of the foot of ☿ [Alt. Bor. Calcis] [pedis ☿]	with the new [nouo]	56° 43⅓′
	with the old [veteri]	56° 43⅔′

1455

On 17 February [DIE 17 FEBRUARIJ.]

Reading	Remark	Value
Meridian altitude of the sole of the foot of ☿ [Alt. mer. plantæ pedis ☿]		56° 37½′
Of the heel of the foot of ☿ [Calcis pedis ☿]		56° 38⅓′
Of the following foot [Pedis ſequentis]		54° 28⅔′
The bright foot of ☿ in the meridian [Lucidus pes ☿ in Merid.]		50° 45¾′
The northern head of ☿ [Boreale caput ☿]	(doubtful) [(dubia)]	66° 47⅚′
The southern head of ☿ [Merid. caput ☿]		63° 2⅙′

1456

On 18 February [DIE 18 FEBRUARIJ.]

Reading	Value	Remark
Propus ☿	57° 17⅙′	
The toe of the foot of ☿ [Digitus pedis ☿]	57° 37⅔′	
		approximately [fere]
The far end of the foot [Extrema pedis]	56° 43½′	
The following [star] in the foot [Sequens in pede]	54° 28⅔′	

1454 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first label stands on a line of its own, a comma after *pede* and no sign after it; *vtroque* and the figures stand on the next line. *veteri* stands directly before its figures, with no label at the left. The values, printed without unit marks, are given as degrees and minutes.

1455 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The label runs over two lines and is given whole on the first row; *nouo* and *veteri* stand directly before the figures, one on each line. The values, printed without unit marks, are given as degrees and minutes.

1456 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *Calcis pedis ☿* and *Pedis ſequentis* stand indented under the first label. *(dubia)* stands, in parentheses, directly before its figures. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Remark
The bright [star] of the foot [Pedis lucida]	50° 45⅚′	
The northern knee [Genu boreale]	59° 32¾′	
The southern foot [Auſtralis pes]	47° 20⅚′	
The middle knee [Genu medium]	55° 10⅔′	
The southern knee [Auſtrale genu]	52° 17¾′	
The thigh [Femur]	56° 44⅚′	
The second [star] in the breast [Secunda in pectore]	62° 38′	
The third [star] in the breast [Tertia in pectore]	62° 48½′	
The northern head of ♊ [Boreale caput ♊]	66° 48⅙′	
The southern shoulder [Auſt. humerus]	59° 24⅙′	
The southern head of ♊ [Merıd. caput ♊] [recte: Merid. caput ♊]	63° 2½′	

1457

On 21 February [DIE 21 FEBRUARIJ.]

Reading	Remark	Value
The toe of the foot of ♊ in the meridian [Digitus pedis ♊ in Mer.,]	with the new [nouo]	56° 37⅔′
The far end of the foot [Extrema pedis]	with the new [nouo]	56° 43⅔′
The following foot [Sequens pes]		54° 28¾′
The bright [star] of the foot [Lucida pedis]		50° 46⅓′
The northern knee [Boreale genu]		59° 32⅔′
The far end of the feet [Extrema pedum]		47° 21¼′
The northern hand [Borealis manus]		68° 27½′
The middle [star] between the knees [Media inter genua]		55° 10⅚′
The southern knee [Auſtrale genu]		51° 18⅙′
The thigh of ♊ [Femur ♊]		56° 45⅙′
The northern head [Boreale caput]		66° 48¼′
The third [star] in the breast [Tertia in pectore]		61° 49½′
The last [star] in the breast [Vltima in pectore]		59° 24¼′
The southern head of ♊ [Merid. caput ♊]		63° 2⅓′

1457 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *fere* stands alone on its line, at the right, below the figures *57 37⅔*. The second letter of *Merıd.* is printed without a dot. The values, printed without unit marks, are given as degrees and minutes.

1458

On 26 December [DIE 26 DECEMBRIS.]

By the revolving azimuthal [quadrant]. [Per Volubilem Azimuthalem.]

Reading	Value	Remark
The upper head of ♊ [Super. cap. ♊]	66° 48′	
The lower head of ♊ [Infer. cap. ♊]	63° 2¼′	
Of the first [star] in the left foot [Primæ in ſiniſtro pede]	56° 37¾′	
	56° 38′	
The following [star] in the same foot [Sequent. in eodem pede]	56° 43¾′	with both [vtroq.]
Of the southern foot of ♊ [Auſtral. pedis ♊]	47° 21′	with both [vtroq.]
The upper head of ♊¹ [Super. cap. ♊¹]	66° 48¼′	with only the new pinnule [nouo ſaltem pinn.]
The lower head of ♊¹ [Infer. cap. ♊¹]	63° 2½′	with the old [veteri]
	63° 2⅓′	with the new [nouo]

1459

Observations of the stars in Cancer [OBSERUATIONES STELLARUM IN CANCRO.]

On 27 January [DIE 27 JANUARIJ.]

Reading	Instrument	Value
Praesepe ♋ [Præſepe ♋]	by the Tychonic quadrant [per Q. Tych.]	55° 2′

1460

[1458] "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first four rows stand in the left column; the ten rows from *Boreale genu* stand at the head of the right column, with no heading above them. *nouo* stands directly before its figures in the first two rows. The values, printed without unit marks, are given as degrees and minutes. Under three labels the figures printed here stand about a degree from those printed under 18 February: *Digitus pedis* ♊ 56 37⅔ against 57 37⅔, *Auſtrale genu* 51 18⅙ against 52 17¾, *Tertia in pectore* 61 49½ against 62 48½ (all six confirmed on a native-resolution crop). The page does not say whether the labels name the same stars on both days; the figures are given as printed, and no correction is made.

[1459] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *vtroq.*, *nouo* and *veteri* stand after the figures. *ſaltem pinn.* stands alone on the next line, at the right, below the figures and *nouo* of *66 48¼ nouo*; the two are given together on that row. The second value of the first star in the left foot and the last value stand with no label at the left. The values, printed without unit marks, are given as degrees and minutes.

[1460] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Instrument	Value
Meridian altitude of Praesepe [Alt. Mer. Præſepis]	by the revolving [quadrant] [per Volub.]	55° 1½′

1461

Reading	With one pinnule [vno pinn.]	With the other [alt.]
Its declination by the armillae [Declinatio eius per Armillas]	20° 59′	20° 59′
	20° 59½′	20° 59′
	20° 58′	20° 59½′
	20° 59½′	
	20° 59⅔′	

1462

Reading	Instrument	Value
Meridian altitude of Praesepe [Alt. præſepis Merid.]	by the Tychonic [quadrant] [per Tych.]	55° 5½′

1463

Its more probable declination is therefore 20° 59½′. [Eſt itaque veroſimilior eius decl. 20 59½][1464]

Reading	No.	Value
Between the heart of ♌ and the nebulous ring of ♋ [Inter cor ♌ & nebuloſum] [♋ gyrum]	I	22° 31⅙′
	II	22° 32′
	III	22° 32⅙′
	IIII	22° 31½′

[1461]"Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

[1462]"Reading" is this edition's head. *vno pinn.* and *alt.* are printed once each, not as heads but directly before the first pair of figures of the left-hand and of the right-hand set; they are given here at the head of the two columns. *Declinatio eius per Armillas* stands alone on the line above. The left-hand set has five pairs of figures, the right-hand set three. The values, printed without unit marks, are given as degrees and minutes.

[1463]"Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *per Tych.* stands indented on the next line, with the figures. The value, printed without unit marks, is given as degrees and minutes.

[1464]The sentence runs over two lines, the figures at the right of the second. The value, printed *20 59½* without unit marks, is given as degrees and minutes.

1465

Set the distance of the heart of ♌ and of the nebulous [ring] at 22° 31½′. [Pone diſt. cordis ♌ & nebuloſi 22 31½][1466]

On 17 February [DIE 17 FEBRUARIJ.]

Reading	Value
Meridian altitude of Praesepe ♋ [Alt. Merid. Præſepis ♋]	55° 2′

1467

On 21 February [DIE 21 FEBRUARIJ.]

Reading	Value
Praesepe of Cancer [Præſepe Cancri]	55° 5½′
The northern Asellus [Aſellus Boreus]	56° 58½′
The southern Asellus [Aſellus Auſtralis]	53° 42′
In the southern foot [In pede Auſtrali]	50° 57½′
The southern claw [Chele Auſtralis]	47° 29⅓′

1468

On 23 February [DIE 23 FEBRUARIJ.]

Reading	Instrument	Remark	Value
Declination of Praesepe [Præſepis declin.]	by the armillae [per Armill.]		21° 0½′
			21° 0′
Altitude of Praesepe [Altit. Præſepis]	by the revolving [quadrant] [per Volub.]		55° 5½′
		repeated [repetita]	55° 4′
The northern Asellus in the meridian [Aſellus bor. in Merid.]			56° 57½′
The southern Asellus in the meridian [Aſellus auſtr. in Merid.]			53° 42⅔′

[1465]"Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over two lines and is given whole on the first row; the numerals I, II, III, IIII stand before the four values. The values, printed without unit marks, are given as degrees and minutes.

[1466]The value in this sentence, printed *22 31½* without unit marks and with no point after it, is given as degrees and minutes.

[1467]"Reading" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

[1468]"Reading" and "Value" are this edition's heads; the page prints none. This heading and its rows stand at the head of the right column. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Remark	Value
Altitude of Praesepe [Alt. Præſepis]	By the mural [quadrant] [Per Muralem]		55° 5⅙′
		with the other pinnule [altero pinnac.]	55° 6⅓′

1469

Its declination is therefore undoubtedly 21° 0′. [Eſt itaque eius declinatio indubitanter 21 0][1470]

On 26 December [DIE 26 DECEMBRIS.]

Reading	Instrument	Remark	Value
Altitude of the northern Asellus [Alt. Bor. Aſelli]	by the Tychonic [quadrant] [per Tych.]	with both [vtroq.]	56° 58⅓′

1471

[1] Perhaps by the Tychonic quadrant. [Forſitan per Quadrantem Tychonicum.]

Observations of the stars in Leo [OBSERUATIONES STELLARUM IN LEONE.]

On 1 January [DIE 1 IANUARIJ.]

Reading	No.	Value
Distance between the heart of ♌ and Spica ♍ by the old sextant [Diſtantia inter] [cor ♌ & Spicam] [♍ per Sext.] [veterem]	I	54° 1⅝′
	II	54° 1¾′
	III	54° 1⅝′
	IIII	54° 1⅝′

1472

[1469] "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The second value stands alone on its line. *repetita* and *altero pinnac.* stand directly before their figures, with no label at the left. *Per Muralem* is printed at the beginning of its line, before *Alt. Præſepis*. The values, printed without unit marks, are given as degrees and minutes.

[1470] The sentence runs over two lines, the figures at the right of the second. The value, printed *21 0* without unit marks, is given as degrees and minutes.

[1471] "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The label and *per Tych.* stand on one line; *vtroq.* and the figures stand on the next, at the right. The value, printed without unit marks, is given as degrees and minutes.

[1472] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over four lines and is given whole on the first row; the numerals I, II, III, IIII stand before the four values, one on each of the four lines. The values, printed without unit marks, are given as degrees and minutes.

On 9 January, in the morning [DIE 9 JANUARIJ, MANE.]
By the Tychonic quadrant. [Per Q. Tychonicum.]

Reading	Remark	Value
Meridian altitude of the heart of ♌ [Alt. Merid. cordis ♌,]	with both [vtroq.]	48° 2⅔′
The bright [star] of the neck [Lucida ceruicis,]	with both [vtroque]	55° 58¾′
Altitude of the star in the back of ♌ [Alt. ſtellæ in dorſo ♌,]	with both [vtroq.]	56° 51′
Altitude of the tail of ♌ [Alt. caudæ ♌]		50° 58⅔′

1473

On 14 January [DIE 14 JANUARIJ.]

Reading	Remark	Value
Of the lowest [star] in the neck of ♌ [Infimæ in collo ♌]	with the old [veteri]	49° 41⅔′
	with the new [nouo]	49° 41½′
Meridian altitude of the heart of ♌ [Cordis ♌ alt. merid.]	with both [vtroq.]	48° 2⅔′
Of the highest [star] in the neck of ♌ [Supremæ in collo ♌]	with the old [veteri]	59° 31⅔′
	with the new [nouo]	59° 31½′
Of the bright [star] in the neck of ♌ [Lucidæ in collo ♌]	with the new [nouo]	55° 58⅚′

1474

On 26 January, in the morning [DIE 26 JANUARIJ, MANE.]

Reading	Instrument	Remark	Value
Meridian altitude of the back of ♌ [Alt. Merid. dorſi] [♌]	by the Tychonic quadrant [per Q. Tych.]	with the old [vet.]	56° 51¾′
		with the new [nouo]	56° 51⅔′
The thigh of ♌ [Femur ♌]	by the Tychonic quadrant [per Q. Tych.]	with the old [vet.]	51° 46½′
		with the new [nouo]	51° 46⅓′
The tail of ♌ [Cauda ♌]	by the Tychonic quadrant [per Q. Tych.]		50° 58⅔′

1473 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *vtroq.* and *vtroque* stand directly before the figures, after a comma. The values, printed without unit marks, are given as degrees and minutes.

1474 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *veteri*, *nouo* and *vtroq.* stand directly before the figures; the first two *nouo* lines stand with no label at the left; the third stands on the line of its label. The values, printed without unit marks, are given as degrees and minutes. The lowest [star] in the neck of ♌ is printed 49 41⅔ and 49 41½ here (both confirmed on a native-resolution crop), while 21 February prints 52 50⅙ for the lowest [star] of the neck and 26 December 52 50⅙ and 52 50⅓ for the lowest star in the neck; the figures are given as printed, and no correction is made.

Reading	Instrument	Remark	Value
Meridian altitude of the tail of ♌[1] [Alt. merid. caudæ ♌[1]]			50° 59⅓′

1475

On 27 January [DIE 27 JANUARIJ.]

Reading	Value
Meridian altitude of the heart of ♌ [Cordis ♌ Alt. Merid.]	48° 3′
Canis Minor, west, 40° 2′, [Canis min. occid. 40 2,] the neck of ♌ in the meridian [Ceruix ♌ in Merid.]	55° 59⅔′

1476

On 21 February [DIE 21 FEBRUARIJ.]

Meridian altitude by the Tychonic quadrant. [Alt. Merid. per Q. Tychonicum.]

Reading	Remark	Value
The brighter [star] in the head of ♌ [Lucidior in cap. ♌]	with both [vtroque]	59° 43⅓′
The following [star] in the head [Sequens in capite]	with the new [nouo]	62° 0′
	with the old [veteri]	62° 0⅙′
The lowest [star] of the neck [Infima colli]	with both [vtroque]	52° 50⅙′
The heart of ♌ [Cor ♌]	with the new [nouo]	48° 2⅚′
	with the old [veteri]	48° 3′

1477

On 23 February [DIE 23 FEBRUARIJ.]

The following altitudes were observed by the revolving quadrant. [Sequentes Altitudines per Q. Volubilem ſunt obſeruatæ.]

[1475] "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over two lines: *Alt. Merid. dorſi* stands on the first, with *vet.* and its figures at the right; ♌ *per Q. Tych.* stands indented on the second, with *nouo* and its figures at the right; it is given whole on the first row. The second *nouo* stands directly before its figures, with no label at the left. The values, printed without unit marks, are given as degrees and minutes.

[1476] "Reading" and "Value" are this edition's heads; the page prints none. The second entry runs over two lines: the figures *40 2* stand inside the first line, directly after *occid.* and before a comma, not in the column of figures at the right; *Ceruix* ♌ *in Merid.* stands indented on the second line, its figures at the right. All the values, printed without unit marks, are given as degrees and minutes.

[1477] "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *vtroque*, *nouo* and *veteri* stand directly before the figures; the two *veteri* lines stand with no label at the left. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
The breast of ♌ [Pectus ♌]	45° 30⅙′
The far end of the left foot [Extrema ſiniſtri pedis]	42° 23⅚′
The following [star] of the same foot [Sequens pedis eiusdem]	43° 39½′
The lowest [star] in the hip of ♌ [Infima in coxa ♌]	51° 46 5/[?]′
The extreme [star] in the right foot [Extrema in dextro pede]	42° 3⅔′
The middle [star] of the same foot [Media pedis eiusdem]	46° 52⅚′
The tail of ♌ in the meridian [Cauda ♌ in meridie]	50° 58⅔′

1478

On 3 March, in the evening [DIE 3 MARTIJ AD VESPERAS.]

Reading	No.	Value
Between the heart and the tail of ♌ [Inter cor & caudam ♌]	I	24° 40½′
	II	24° 40½′
	III	24° 40½′

1479

On 5 March [DIE 5 MARTIJ.]

Reading	No.	Value
Declination of the tail of ♌, north [Declinatio caudæ ♌ Bor.]		16° 53½′
Between Arcturus and the tail of ♌ by the sextant [Inter Arcturum &] [caudam ♌ per] [Sextantem]	I	35° 21½′
	II	35° 22′
	III	35° 21¼′
	IIII	35° 21½′

1480

On 10 March [DIE 10 MARTIJ.]

[1478] "Reading" and "Value" are this edition's heads; the page prints none. In 51° 46 5/[?]′ the numerator of the fraction is 5; the denominator is a sort open at the foot and does not settle between 6 and 8 on the scan. The values, printed without unit marks, are given as degrees and minutes.

[1479] "Reading", "No." and "Value" are this edition's heads; the page prints none. The numerals I, II, III stand before the three values. The values, printed without unit marks, are given as degrees and minutes.

[1480] "Reading", "No." and "Value" are this edition's heads; the page prints none. The second label runs over three lines and is given whole on its first row; the numerals I, II, III, IIII stand before the four values, the fourth with nothing at the left. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Between Arcturus and the bright [star] of the neck of ♌ [Inter Arcturum &] [Lucid. ceruicis ♌]	55° 20½′
	55° 20½′
	55° 20⅔′

1481

On 26 December [DIE 26 DECEMBRIS.]

Reading	Remark	Value
Altitude of the mouth of ♌ [Alt. oris ♌]		59° 43½′
Of the heart of ♌ [Cordis ♌]		48° 3′
Of the bright [star] in the neck of ♌ [Lucidæ in ceruice ♌]		56° 0′
Of the tail of ♌ [Caudæ ♌]		50° 59′
Altitude of the lowest star in the neck of ♌ [Alt. ſtellæ infimæ] [in collo ♌]	with the new [nouo]	52° 50⅙′
	with the old [vet.]	52° 50⅓′
Of the highest [star] in the neck of ♌ [Supremæ in] [collo ♌]	with the old [veteri]	59° 32⅓′
	with the new [nouo]	59° 32′
Of the bright or middle [star] in the neck of ♌ [Lucidæ ſeu mediæ] [in collo ♌]		55° 59¼′
		55° 59⅙′
Altitude of the heart of ♌ [Alt. cordis ♌]	with the old [veteri]	48° 2⅔′
	with the new [nouo]	48° 2½′
Altitude of the hip of ♌ [Alt. coxæ ♌]		56° 52′
		56° 51⅔′
Of the thigh of the same [♌] [Femoris eiusdem]		51° 46⅙′
		51° 46′
Altitude of the tail of ♌ [Alt. caudæ ♌]		50° 59′
		50° 58¾′

1482

[1] Perhaps by the revolving quadrant. [Forſitan per Q. Volubilem.]

1481 "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines, a value at the right of each, and is given whole on the first row; the third value stands with nothing at the left. The values, printed without unit marks, are given as degrees and minutes.

1482 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The labels of the fifth, seventh and ninth rows run over two lines, a value at the right of each line, and are given whole on the first row. *nouo*, *vet.* and *veteri* stand directly before the figures. The second values of the heart, the hip, the thigh and the tail stand with no label at the left. The values, printed without unit marks, are given as degrees and minutes.

Observations of the stars in Virgo [OBSERUATIONES STELLARUM IN VIRGINE.]

On 9 January [DIE 9 JANUARIJ.]

In the morning. [Matutino tempore.]

Time	Reading	Instrument	Remark	Value
	Altitude of the middle [star] of the three in the right wing of ♍ [Alt. mediæ trium in dextra ala ♍]	by the Tychonic [quadrant] [per Tychon.]		39° 45⅓′
			with the old pinnule [Vet. pinn.]	39° 45⅔′
$4^h\ 38^m\ 4^s$	Vindemiator passed through the meridian and had altitude [Tranſiuit Vindemiator per Merid. & habuit altitudinem]	by the revolving [quadrant] [per Volub.]		47° 18′
		by the Tychonic [quadrant] [per Tychon,]	with the old [vet.]	47° 18½′
			with the new [nouo]	47° 18′
	The last [star] of the lower wing [Vltima inferioris ala] [recte: Vltima inferioris alæ]	by the revolving [quadrant] [per Volub.]		30° 41′
$4^h\ 54^m\ 38^s$	Spica ♍ in the meridian [Spica ♍ in] [mer.]			25° 8⅙′
		by the Tychonic [quadrant] [per Tychon.]	with the new [novo]	25° 8′
	The northern foot of ♍ [Borealis pes ♍]	by the revolving [quadrant] [per Volub.]		30° 28⅙′
	The unformed [star] above the northern foot of ♍ [Informis ſupra Bor. pedem ♍]	by the revolving [quadrant] [per Volub.]		37° 47½′

1483

1483 "Time", "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The times are printed *H. 4 38′ 4″* and *H. 4 54′ 36″*, at the head of their lines. The first label stands alone on its line, *per Tychon.* indented under it with the figures; *Vet. pinn.* stands directly before its figures on the next line. The sentence on Vindemiator runs over two lines, without figures, and is given whole on its row; *per Volub.*, *per Tychon, vet.* (a comma after *Tychon*) and *nouo* stand on the three lines below it, each with its figures. The label is printed *Vltima inferioris ala*, ending in *ala*; the genitive *inferioris* calls for *alæ* (as in *Extremæ infer. alæ* under 26 January), and it is rendered so. It stands alone on its line, *per Volub.* and the figures on the next. The label *Spica* ♍ *in* / *mer.* runs over two lines and is given whole on its first row: the first line carries the time, *Spica* ♍ *in* and the figures *25 8⅙*; the second carries *mer. per Tychon. novo* and the figures *25 8*. *Informis ſupra Bor. pedem* ♍ stands alone on its line, *per Volub.* and the figures on the next. The values, printed without unit marks, are given as degrees and minutes.

On 11 January [DIE 11 JANUARIJ.]

Time	Reading	Instrument	Remark	Value
	The girdle of ♍ in the meridian [Cingulum ♍ in merid.]			39° 46¼′
4h 29m 5	Vindemiator in the meridian [Vindemiator in mer.]			47° 17⅝′
	Meridian altitude of Spica ♍ [Spicæ ♍ alt. mer.]	by the Tychonic [quadrant] [per Tych.]		25° 8′
				25° 8¼′
	The knee of ♍, meridian altitude [Genu ♍ alt. merid.]			35° 39′
	Declination of Spica beyond the meridian [Decl. Spicæ vltra merid.]			8° 57½′
			with the other pinnule [alt. pinn.]	8° 57½′

1484

Time	The Vulture, east [Vultur or.]	Spica, west [Spica occ.]	Value
7h 4m 40s	63° 42¼′	32° 58½′	96° 40¾′
7h 6m 45s	63° 13′	33° 28′	96° 41′
7h 8m 55s	62° 43′	33° 58′	96° 41′

1485

These equatorial distances of the Vulture and Spica are not to be relied on, for the true equatorial distance is 96° 45′, perhaps on account of refraction. [His æquatorijs diſtantijs Vulturis & Spicæ non fidendum, nam vera æquatoria diſtantia eſt 96 45, forte propter refractionem.][1486]

On 14 January [DIE 14 JANUARIJ.]

Reading	Instrument	Remark	Value
Spica ♍ through the meridian [Spica ♍ per meri-] [dianum]	by the Tychonic [quadrant] [per Tych.]	with the new [nouo]	25° 7¾′

[1484] "Time", "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The time is printed *H. 4 29′ 5″*, at the head of its line; the label *Vindemiator in / mer.* runs over two lines, the figures on the second. The second value of Spica stands with no label at the left. *alt. pinn.* stands directly before its figures. The values, printed without unit marks, are given as degrees and minutes.

[1485] "Time" and "Value" are this edition's heads; the page prints heads, in smaller type, over the second and third columns only. The first time is printed *7H 4′ 40″*; the second and third, printed as three figures without marks, are given as hours, minutes and seconds. The values, printed without unit marks, are given as degrees and minutes.

[1486] The value in this sentence, printed *96 45* without unit marks, is given as degrees and minutes.

Reading	Instrument	Remark	Value
		with the old [vet.]	25° 8′

1487

On 26 January [DIE 26 JANUARIJ.]

Time	Reading	Instrument	Re-mark	Value
	Meridian altitude of the first [star] of the southern wing of ♍ [Primæ auſtr. alæ ♍ alt. mer.]			38° 11½′
	The second [star] in the southern wing [Secunda in auſt. ala]			35° 43⅓′
	The 3rd [star] in the southern wing [3 in auſtr. ala]	by the Tychonic [quadrant] [per Tych.,]	with both [vtroq.]	34° 55⅚′
	The middle [star] of the same wing [Media alæ ejusd.]	by the Tychonic [quadrant] [per Tych.]		39° 45½′
		by the sextant [per Sextant.]		39° 45⅚′
3h 21m 20	Vindemiator through the meridian, altitude [Vindemiator per merid., alt.]			47° 17¾′
	The same [altitude] [Eadem]	by the sextant [per Sext.]		47° 17½′
	Meridian altitude of the far end of the lower wing [Extremæ infer. alæ alt. mer.]			30° 47′
3h 42m 17	The heart of ♌, west, 49° 18¼′, Spica ♍ passed through the meridian at altitude [Cor ♌ occ. 49 18¼ tranſiuit Spica ♍ per merid. in alt.]			25° 8′ 25″ [25 8 25]
		by the Tychonic [quadrant] [per Tychon.]		25° 8¼′
		by the sextant [per Sextantem]		25° 8′
	The last but one [star] of the northern wing, meridian altitude [Penultima Bor. alæ, alt. mer.]			37° 41⅔′

1487 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The label runs over two lines and is given whole on the first row: *Spica* ♍ *per meri-* stands on the first, with *nouo* and its figures at the right; *dianum per Tych.* stands indented on the second, with *vet.* and its figures at the right. The values, printed without unit marks, are given as degrees and minutes.

1488

On 27 January [DIE 27 JANUARIJ.]

Reading	Instrument	Remark	Value
Meridian altitude of Spica ♍ [Spicæ ♍] [alt. merid.]	by the revolving [quadrant] [per Volub.]		25° 8⅓′
	by the Tychonic [quadrant] [per Tychon.]		25° 7¾′
			25° 8′
		with the old pinnule [vet. pin.]	25° 7⅚′
	by the sextant [per Sext.]		25° 8′

1489

The exact altitude of Spica ♍ by the revolving [quadrant] may be 25° 8¼′. [Poterit exacta eße Spicæ ♍ Alt. per Volub. 25 8¼][1490]

Note. From these observations on Spica ♍, with some [observations] of preceding years, made by the mural [quadrant] and the portable, it is gathered that, if you set the meridian altitude of Spica ♍ in the month of January of this year at 25° 8′ 10″, you will err altogether imperceptibly, so that the error can scarcely be 5″ in either direction. And set the altitude of the pole at 55° 54′ 40″, and in this way you will err imperceptibly, nowhere by 10″, [with] the greatest declination of the ecliptic standing at 23° 31½′.

[1488] "Time", "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The first five rows stand at the foot of the left column; the seven rows from *Vindemiator per* stand at the head of the right column, with no heading above them. The label of the third row opens with the figure *3*. *per Sextant.* stands directly before its figures, with no label at the left. The first time is printed *H. 3 21′ 20″*; the second, printed *H. 3 42 17,* as three figures without marks, is given as hours, minutes and seconds. The labels *Vindemiator per / merid., alt.* and *Cor ♌ occ. 49 18¼ tranſiuit / Spica ♍ per merid. in alt.* run over two lines, the figures on the second, and are given whole on their rows; the figures *49 18¼* stand inside the first line of the second, after *occ.*. On the line of *Spica ♍ per merid. in alt.* three figures are printed, *25 8 25*: the first two stand in the column of figures and the third after them at the right, beyond that column. They are given here as degrees, minutes and seconds; that reading of the third figure is this edition's —; the line carries no unit marks, the third figure stands outside the column of figures, and the two values printed below it (*25 8¼*, *25 8*) have two figures only. *per Tychon.* and *per Sextantem* stand indented on the two lines below, each with its figures. The other values, printed without unit marks, are given as degrees and minutes.

[1489] "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The label runs over two lines, *Spicæ ♍* on the first and *alt. merid.* indented on the second, and is given whole on the first row; *per Volub.* stands on the first line and *per Tychon.* on the second, each with its figures. The third value stands alone on its line; *vet. pin.* and *per Sext.* stand directly before their figures. The values, printed without unit marks, are given as degrees and minutes.

[1490] The sentence runs over two lines, the figures at the right of the second. The value, printed *25 8¼* without unit marks and with no point after it, is given as degrees and minutes.

The declination of Spica ♍ is therefore, this year in January, exactly 8° 57′ 10″, from which its longitude, for its assumed latitude 1° 59½′, comes out in 18° 4¼′ ♎[1]. Our other observations assume it in 18° 5′ ♎. You will err imperceptibly if you set the longitude of Spica at the beginning of this year in 18° 4½′ ♎.[1491]

On 29 January, in the morning [DIE 29 JANUARIJ, MANE.]

Reading	Instrument	Value
When the heart of ♌ was distant from the meridian toward the west 49° 20′, Spica ♍ passed through the meridian at altitude [Cum Cor ♌ abeßet a merid. verſus occaſum 49 20, tranſiuit Spica ♍ per merid. in alt.]	by the revolving [quadrant] [per Volub.]	25° 8⅓′
	by the Tychonic quadrant [per Q. Tych.]	25° 8′
		25° 7⅚′

1492

[1] Cf. vol. II, p. 220. [Cf. T. II. p. 220.]

On 23 February [DIE 23 FEBRUARIJ.]

Reading	Instrument	Value
Altitude of the first [star] in the □ of the head of ♍ [Alt. primæ in □ capitis ♍]	by the revolving [quadrant] [per Volubilem]	42° 56¼′
Of the second [star] in the □ of the same [Secundæ in □ eiusdem]		44° 50′
Of the first [star] in the southern wing of ♍ [Primæ in auſtr. ala ♍]		38° 12⅓′
Of the third [star] in the □ of the head of ♍ [Tertiæ in □ capitis ♍]		43° 2′
Of the fourth [star] in the □ of the head of ♍ [Quartæ in □ capitis ♍]		45° 9½′
Of the middle [star] of the southern wing of ♍ [Mediæ Auſtr. alæ ♍]		35° 44¾′

[1491] Two paragraphs on the page. *25° 8′ 10″* and *5″* carry their unit marks on the page; in *10 ſcrupulis ſecundis* the unit is written out in words. *55 54 40* and *8 57 10*, printed as three figures without unit marks, are given as degrees, minutes and seconds; *23 31½*, *1 59½*, *18 4¼*, *18 5* and *18 4½*, printed without unit marks, are given as degrees and minutes.

[1492] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The sentence runs over three lines and is given whole on the first row; the figures *49 20* stand inside its second line. *per Volub.* stands on the third line of the sentence, with its figures; *per Q. Tych.* stands under it on the next line; the third value stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

1493

On 2 March [DIE 2 MARTIJ.]

Reading	Instrument	Value
Meridian altitude of the 2nd [star] of the southern wing [II Auſtr. alæ alt. mer.]	by the revolving [quadrant] [per Volub.]	35° 45′
Meridian altitude of the 3rd [star] of the southern wing [III Auſtr. alæ alt. mer.]		34° 56½′

1494

Reading	No.	Value
Between the 2nd and the 3rd [star] of the southern wing of ♍ by the old sextant [Inter II & III Auſtr.] [alæ ♍ per Sext.] [veterem]	I	5° 32′
	II	5° 31⅓′
	III	5° 31½′
Between the 3rd [star] of the southern wing and Spica [Inter III Auſtr. alæ] [& Spicam]	I	14° 29′
	II	14° 29¼′
Between the 2nd [star] of the southern wing and Spica [Inter II Auſtr. alæ] [& Spicam]	I	19° 15⅔′
	II	19° 16′
Between the 3rd [star] of the southern wing and the heart of ♌ [Inter III Auſtr. alæ] [& cor ♌]	I	40° 22′
	II	40° 22¼′
Between the 2nd [star] of the southern wing and the heart of ♌ [Inter II Auſtr. alæ] [& cor ♌]	I	34° 58′
	II	34° 58⅙′

1495

On 3 March [DIE 3 MARTIJ.]

Reading	No.	Value
Between the heart of ♌ and Vindemiator [Inter cor ♌ & Vin-] [demiatorem]	I	42° 33⅚′
	II	42° 33⅚′

1493 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. No section title stands above this date line on the page; the column opens with it. □ is printed as a square sort. The first label stands alone on its line, *per Volubilem* and the figures on the next. The values, printed without unit marks, are given as degrees and minutes.

1494 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The labels open with the numerals *II* and *III*, given as "2nd" and "3rd". The first label stands alone on its line, *per Volub.* and the figures on the next. The values, printed without unit marks, are given as degrees and minutes.

1495 "Reading", "No." and "Value" are this edition's heads; the page prints none. Each label runs over two or three lines and is given whole on its first row; the numerals I, II, III stand before the values, one on each line. In the labels the numerals *II* and *III* are given as "2nd" and "3rd". The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
	III	42° 33¾′
Between Vindemiator and the tail of ♌ [Inter Vindemiatorem] [& caudam ♌]		18° 10⅙′
		18° 10⅙′
Between the heart of ♌ and the 1st [star] of the southern wing of ♍ by the old sextant [Inter cor ♌ & I] [Auſtr. alæ ♍] [per Sext. vet.]	I	27° 14½′
	II	27° 14½′
	III	27° 14½′
Declination of Vindemiator [Declin. Vindemiatoris]		13° 12½′
Declination of the 1st [star] of the southern wing of ♍ [Decl. I alæ Auſtr. ♍]		4° 5½′
Meridian altitude of the second [star] in the wing [Alt. merid. Secundæ in ala]		*35° 45′*
Of the third [star] in the wing [Tertiæ in ala]		*34° 56½′*
Declination of the 2nd [star] of the wing [Declin. II alæ]		*1° 39′*
Declination of the 3rd [star] of the wing [Declin. III alæ]		*0° 51′*
Between the second and the third in the southern wing of ♍ [Inter ſecundam & tertiam] [in auſtrali ala ♍]		*5° 31½′*
Between the second and Spica [Inter ſecundam & Spicam]		*14° 29⅙′*
Between the third and Spica [Inter tertiam & Spicam]		*19° 15⅚′*
Between the second and the heart of ♌ [Inter ſecundam & cor ♌]		*34° 58 1/12′*
Between the third and the heart of ♌ [Inter tertiam & cor ♌]		*40° 22⅙′*

1496

On 5 March [DIE 5 MARTIJ.]

Time	Reading	Value
$1^h\ 25^m\ 50^s$	Spica through the meridian at altitude [Spica per merid. in Alt.]	25° 8¼′

1497

1496 "Reading", "No." and "Value" are this edition's heads; the page prints none. The first five rows stand at the foot of the left column; the rows from *Inter cor ♌ & I* stand at the head of the right column, with no date line above them. The labels over two or three lines are given whole on their first rows; the numerals I, II, III stand before the values, one on each line, and the two values of *Inter Vindemiatorem / & caudam* ♌ stand one on each of its two lines, without numerals. In the labels the numerals *I*, *II* and *III* are given as "1st", "2nd" and "3rd". The nine rows from *Alt. merid. Secundæ in ala* are set in italic, words and figures. *58 1/12* is printed with the fraction 1 over 12. Under 2 March the page sets *14 29* and *14 29¼* against *Inter III Auſtr. alæ / & Spicam* and *19 15⅔* and *19 16* against *Inter II Auſtr. alæ / & Spicam*; the italic lines here set *14 29⅙* against *Inter ſecundam & Spicam* and *19 15⅚* against *Inter tertiam & Spicam*. The two sets thus set the two Spica distances against opposite stars of the wing, while for the heart of ♌ they agree (*II* and *ſecundam* with 34 58 …, *III* and *tertiam* with 40 22 …). The page does not show which is right; both are given as printed. The values, printed without unit marks, are given as degrees and minutes; *0 51* is printed with the figure 0.

1497 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed *H. 1 25′ 50″*, at the head of its line; the label runs over two lines, the figures on the second. The value, printed without unit marks, is given as degrees and minutes.

On 5 May [DIE 5 MAIJ.]

Reading	Instrument	Value
Meridian altitude of Spica ♍ [Spicæ ♍] [alt. merid.]	by the revolving [quadrant] [per Volub.]	25° 8⅓′
	by the Tychonic [quadrant] [per Tych.]	25° 8¼′

1498

On 6 May [DIE 6 MAIJ.]

Reading	Instrument	Value
Meridian altitude of Spica ♍ [Spicæ ♍] [alt. merid.]	by the revolving [quadrant] [per Volub.]	25° 8⅓′
	by the Tychonic [quadrant] [per Tych.]	25° 8⅙′

1499

On 26 December [DIE 26 DECEMBRIS.]

Reading	Instrument	Remark	Value
Altitude of Spica [Alt. Spicæ]	by the Tychonic [quadrant] [per Tych.,]	with both [vtroq.]	25° 8⅙′

1500

Observations of the stars in Libra [OBSERUATIONES STELLARUM IN LIBRA.]

On 9 January, in the morning [DIE 9 IANUARIJ, MANE.]

Reading	Instrument	Value
The southern scale-pan of ♎ [Auſt. lanx ♎]	by the revolving [quadrant] [per Volub.]	19° 51′
	by the Tychonic [quadrant] [per Tychon.]	19° 51⅔′

1498 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label runs over two lines, *Spicæ* ♍ on the first and *alt. merid.* indented on the second, and is given whole on the first row; *per Volub.* stands on the first line and *per Tych.* on the second, each with its figures. The values, printed without unit marks, are given as degrees and minutes.

1499 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label runs over two lines, *Spicæ* ♍ on the first and *alt. merid.* indented on the second, and is given whole on the first row; *per Volub.* stands on the first line and *per Tych.* on the second, each with its figures. The values, printed without unit marks, are given as degrees and minutes.

1500 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. *vtroq.* stands directly before the figures, after a comma. The value, printed without unit marks, is given as degrees and minutes.

Reading	Instrument	Value
		19° 51⅓′

1501

On 11 January [DIE 11 JANUARIJ.]

Reading	Instrument	Value
Meridian altitude of the preceding scale-pan [Alt. merid. præced. lancis]	by the Tychonic [quadrant] [per Tych.]	19° 51⅔′
		19° 51¾′
Of the following scale-pan [Sequentis lancis]	by the Tychonic [quadrant] [per Tych.]	26° 18½′
		26° 18⅔′

1502

On 14 January [DIE 14 JANUARIJ.]

Reading	Instrument	Remark	Value
The southern scale-pan in the meridian [Auſtr. lanx in merid.]			19° 52½′
The northern scale-pan [Bor. lanx]	by the Tychonic [quadrant] [per Tych.,]	with both [vtroq.]	26° 18½′

1503

On 26 January, in the morning [DIE 26 JANUARIJ, MANE.]

Reading	Instrument	Remark	Value
The southern scale-pan in the meridian [Auſtr. lanx in merid.]			19° 51½′
	by the Tychonic [quadrant] [per Tychon.]		19° 51¼′
			19° 51⅓′

[1501] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *per Tychon.* stands indented on the second line, with its figures; the third value stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

[1502] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first label stands alone on its line, *per Tych.* indented on the next with its figures; the second and fourth values stand alone on their lines. The values, printed without unit marks, are given as degrees and minutes.

[1503] "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. *vtroq.* stands directly before the figures, after a comma. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Remark	Value
The northern scale-pan in the meridian [Borealis lanx in merid.]			26° 19½′
	by the Tychonic [quadrant] [per Tych.,]	with both [vtroque]	26° 18¾′

1504

On 29 January [DIE 29 JANUARIJ.]

Reading	Instrument	Value
The southern scale-pan of ♎ in the meridian [Auſtralis lanx ♎ in merid.]	by the revolving [quadrant] [per Volub.]	19° 51¼′

1505

Observations of the stars of Sagittarius [OBSERUATIONES STELLARUM SAGITTARIJ.]

On 11 April [DIE 11 APRILIS.]

Reading	Value
Between the mouth of Pegasus and the middle [star] of the head of ♐ [Inter os Pegaſi & med. cap. ♐]	50° 13′

1506

On 28 April [DIE 28 APRILIS.]

Reading	Value
Declination of the middle [star] of the head of ♐ [Declin. mediæ cap. ♐]	22° 8½′ south [Auſt. 22 8½]
Distance of the middle [star] of the head of ♐ from the mouth of Pegasus [Diſt. med. cap. ♐] [ab ore Pegaſi]	50° 13′
	50° 14′

[1504] "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. *per Tychon.* stands indented on the second line, with its figures; the third value stands alone on its line; *per Tych., vtroque* stands indented on the line under *Borealis lanx in merid.*, with its figures. The values, printed without unit marks, are given as degrees and minutes.

[1505] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label stands alone on its line, *per Volub.* indented on the next with the figures. The value, printed without unit marks, is given as degrees and minutes.

[1506] "Reading" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

Reading	Value
	50° 13½′

1507

On 30 April [DIE 30 APRILIS.]

Reading	No.	Value
Declination of the middle [star] of the head of ♐ [Decl. med. cap. ♐]		22° 8′ south [Mer. 22 8]
Between the middle [star] of the head of ♐ and the mouth of Pegasus by the old sextant [Inter mediam capitis] [♐ & os Pegaſi per] [Sext. vet.]	I	50° 15′
	II	50° 13′
	III	50° 14′
	IIII	50° 13′
	V	50° 13′

1508

On 25 August P. M. [DIE 25 AUGUSTI P. M.]

Reading	Value
Declination of the left shoulder of ♐ [Declinatio finiſtri] [humeri ♐]	26° 35¾′ south [26 35¾ M.]
	26° 36′
Declination of the dart of ♐ [Declinatio iaculi ♐]	27° 12′ south [27 12 M.]
	27° 12½′
Of the preceding [star] of the head of ♐ [Anteced. capitis ♐]	21° 30′ south [21 30 M.]
	21° 29¾′
Of the middle [star] of the head of ♐ [Mediæ capitis ♐]	22° 11′ south [22 11 M.]
	22° 10½′
Of the following [star] of the head of ♐ [Sequentis capitis ♐]	21° 32′ south [21 32 M.]
	21° 31⅓′

1507 "Reading" and "Value" are this edition's heads; the page prints none. *Auſt.* stands directly before the figures and is given as "south". The label *Diſt. med. cap. ♐ / ab ore Pegaſi* runs over two lines, a value at the right of each, and is given whole on its first row; the third value stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

1508 "Reading", "No." and "Value" are this edition's heads; the page prints none. *Mer.* stands directly before the figures and is given as "south". The label *Inter mediam capitis / ♐ & os Pegaſi per / Sext. vet.* runs over three lines and is given whole on its first row; the numerals I, II, III, IIII, V stand before the five values, one on each line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Of the middle [star] above the right shoulder-blade of ♐ [Mediæ ſuper ſcapu-] [lam dextram ♐]	18° 29½′
	18° 30′
The following [star] above the shoulder-blade of ♐ [Sequens ſupra ſcapu-] [lam ♐]	16° 36⅚′ south [16 36⅚ M.]
	16° 37¼′
Declination of the southern [star] of the bow of ♐ [Declinatio Auſtr.] [arcus ♐]	25° 24′ south [25 24 M.]
	25° 24⅓′
Declination of that [star] which is at the right elbow in ♐ [Declin. eius quæ apud] [dext. cubitum eſt in ♐]	25° 36½′
	25° 36⅔′

1509

On 28 August [DIE 28 AUGUSTI.]

Reading	Value
Between the right shoulder of ♒ and the more easterly [star] of the head of ♐ [Inter dext. hum. ♒ &] [orientaliorem cap. ♐]	47° 39′
	47° 38½′
Between the right shoulder of ♒ and the middle [star] of the head of ♐ [Inter dext. hum. ♒ &] [med. cap. ♐]	48° 58½′
	48° 58′
	48° 59′
Distance between the shoulder of ♒ and the preceding [star] of the head of ♐ [Diſt. inter hum. ♒ &] [præced. cap. ♐]	50° 17¼′
	50° 17′
	50° 17⅓′

1510

On 29 August [DIE 29 AUGUSTI.]

1509 "Reading" and "Value" are this edition's heads; the page prints none. The first eight rows stand at the foot of the left column; the ten rows from *Sequentis capitis* ♐ stand at the head of the right column, with no date line above them. *M.*, a small capital set close after the figures, is given as "south". Each label has two values, the second on the line below the first; the labels over two lines carry one value at the right of each line and are given whole on their first rows. The values, printed without unit marks, are given as degrees and minutes.

1510 "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, a value at the right of each, and is given whole on its first row; the third value of the second and of the third label stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Between the bright shoulder of ♐ and the right shoulder of ♒ [Inter luc. hum. ♐ & dext. hum. ♒]	52° 35′

1511

Observations of the stars in Capricornus [OBSERUATIONES STELLARUM IN CAPRICORNO.]

On 25 August P. M. [DIE 25 AUGUSTI P. M.]

Reading	Value
The upper horn of ♑, declination [Superius cornu ♑ Decl.]	13° 42′ south [13 42 M.]
	13° 42′
The lower horn of ♑, declination [Inferius cornu ♑ declin.]	15° 58′
	15° 58½′

1512

On 28 August [DIE 28 AUGUSTI.]

Reading	Value
Between the upper horn of ♑ and the head of Ophiuchus [Inter ſuperius cornu ♑] [& caput Ophiuchi]	47° 36′
	47° 35½′
	47° 36′
Between the lower horn of ♑ and the head of Ophiuchus [Inter inferius cornu ♑] [& caput Ophiuchi]	49° 22′
	49° 22′

1513

On 29 August [DIE 29 AUGUSTI.]

1511 "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines, the figures at the right of the second. The value, printed without unit marks, is given as degrees and minutes.

1512 "Reading" and "Value" are this edition's heads; the page prints none. *M.*, a small capital set close after the figures, is given as "south". The second value of each label stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

1513 "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, a value at the right of each, and is given whole on its first row; the third value of the first label stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of the preceding [star] of the tail of ♈ [Alt. mer. præc. caudæ ♈]	by the new sextant [per Sext. nouum]	15° 41′
	by the least quadrant [per Q. minim.]	15° 39′
Meridian altitude of the following [star] of the tail by [Sequentis caudæ] [alt. mer. per]	the new sextant [Sext. nou.]	16° 12′
	the least quadrant [Q. minim.]	16° 11′

1514

On 22 November [DIE 22 NOUEMBRIS.]

Reading	Value
Between the right shoulder of ♒ and the upper horn of ♈ [Inter dext. hum. ♒] [& ſuperius cornu ♈]	29° 22¾′
	29° 22¾′
Between the right shoulder of ♒ and the lower horn of ♈ [Inter dext. hum. ♒] [& infer. cornu ♈]	29° 37′
	29° 37′
Between the Vulture and the upper horn of ♈ [Inter Vult. & ſuper.] [cornu ♈]	22° 21½′
	22° 22′
Between the Vulture and the lower horn of ♈ [Inter Vult. & inferius] [cornu ♈]	24° 43′
	24° 43¼′

1515

Observations of the stars in Aquarius [OBSERUATIONES STELLARUM IN AQUARIO.]

On 28 August [DIE 28 AUGUSTI.]

Reading	Value
Between the right shoulder of ♒ and the eastern [star] of the head of ♐ [Inter dext. hum. ♒ &] [orient. caput ♐]	47° 39′
	47° 38½′

[1514] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first two rows stand at the foot of the left column: the label stands alone on its line, *per Sext. nouum* and *per Q. minim.* indented on the two lines below it, each with its figures. The last two rows stand at the head of the right column, with no date line above them: *Sequentis caudæ* and *alt. mer. per* stand one under the other at the left, and one brace joins them to *Sext. nou.* and *Q. minim.*, each with its figures. The values, printed without unit marks, are given as degrees and minutes.

[1515] "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, a value at the right of each, and is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Between the right shoulder of ♒ and the middle [star] of the head of ♐ [Inter dext. hum. ♒ &] [med. cap. ♐]	48° 58½′
	48° 58′
	48° 59′
Between the right shoulder of ♒ and the preceding [star] of the head of ♐ [Inter dext. hum. ♒ &] [præced. cap. ♐]	50° 17¼′
	50° 17′
	50° 17⅓′
Between the knee of Antinous and the right shoulder of ♒ [Inter genu Antinoi &] [dextrum humerum ♒]	37° 42′
	37° 41½′
	37° 42′

1516

On 29 August, in the morning [DIE 29 AUGUSTI, MANE.]

Reading	Value
Between the bright shoulder of ♐ and the right shoulder of ♒ [Inter luc. humerum ♐ &] [dext. hum. ♒]	52° 35′
	52° 35′
Between the knee of Antinous and the right shoulder of ♒ [Inter genu Antinoi &] [dext. hum. ♒]	37° 42′
	37° 43′
	37° 42½′

1517

In the evening [Veſperi]

Reading	Instrument	Value
Meridian altitude of the bright [star] in the left hand of ♒ [Alt. merid. lucidæ in ſiniſt. manu ♒]	by the new sextant [per Sext. nou.]	23° 12′
	by the old sextant [per Sext. vet.]	23° 11½′

[1516] "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, a value at the right of each, and is given whole on its first row; the third value of the second, third and fourth labels stands alone on its line. In the first label the page prints *orient. caput* ♐, with *caput* in full and not in the genitive, where the next two labels print *cap.*; by the letter this is "the eastern head of ♐". It is given here as "the eastern [star] of the head of ♐", in line with the two labels that follow; the previous page prints *orientaliorem cap.* ♐ beside the same two figures under the same date. The values, printed without unit marks, are given as degrees and minutes.

[1517] "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, a value at the right of each, and is given whole on its first row; the third value of the second label stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the least quadrant [per Q. minim.]	23° 10½′

1518

On 15 November [DIE 15 NOUEMBRIS.]

Reading	Value
Between the left shoulder of ♒ and the tail of Cetus [Inter ſiniſt. humerum ♒] [& caudam Ceti]	48° 25½′
	48° 25⅔′
	48° 25⅓′

1519

On 16 November [DIE 16 NOUEMBRIS.]

Reading	Value
Between Aquila and the head of ♒ [Inter Aquilam &] [caput ♒]	27° 54¼′
	27° 55′
	27° 54′
Between the right shoulder of ♒ and the head of ♒ [Inter dext. humerum ♒] [& caput ♒]	7° 0′
	7° 1½′
	6° 59¾′

1520

Note. The mouth of Pegasus and the left shoulder of ♒, likewise the brighter [star] of Equuleus and the right shoulder: if two lines are drawn through them, as far as sight goes both pass through the head of ♒. Therefore where these intersect each other will be its place, but these [things are] not sufficiently exact, only in the minutes themselves.

1518 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Veſperi* stands centred on its own line, in capital and lower case, below the rows of 29 August, in the morning (after *37 42½*). The label stands alone on its line, across the column; the three instrument lines are indented under it, each with its figures. The values, printed without unit marks, are given as degrees and minutes.

1519 "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines, a value at the right of each, and is given whole on its first row; the third value stands alone on its line. The values, printed without unit marks, are given as degrees and minutes.

1520 "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, a value at the right of each, and is given whole on its first row; the third value of each label stands alone on its line. The values, printed without unit marks, are given as degrees and minutes; *7 0* is printed with the figure 0.

Reading	Value
Between the head of Pegasus and the head of ♒ [Inter caput Pegaſi] [& caput ♒]	8° 34′
	8° 36′

1521

On 17 November [DIE 17 NOUEMBRIS.]

Reading	Value
Between the left shoulder of ♒ and the Vulture [Inter ſiniſtrum hume-] [rum ♒ & Vulturem]	29° 0′
	29° 1′
	29° 0′
Between the left shoulder of ♒ and its head [Inter ſiniſtrum hume-] [rum ♒ & caput eius]	8° 9′
	8° 8′
	8° 7½′
	8° 7′
Between the right shoulder of ♒ and the head of ♒ [Inter dextrum humerum ♒] [& caput ♒]	7° 1½′
	7° 1¼′
Between the head of Pegasus and the head of ♒ [Inter caput Pegaſi] [& caput ♒]	8° 32′
	8° 32′

1522

On 21 November [DIE 21 NOUEMBRIS.]

Reading	Value
Between the bright [star] of the left hand of ♒ and the Vulture [Inter luc. ſiniſt. manus ♒] [& Vulturem]	23° 10½′ twice [bis]
Between the bright [star] of the left hand of ♒ and the right shoulder of ♒ [Inter lucid. ſiniſt. manus ♒] [& dext. humerum ♒]	21° 27′
	21° 27⅙′
Between the highest [star] in the urn of ♒ and the Vulture [Inter ſupremam in vrna ♒] [& Vulturem]	39° 12¼′
	39° 12⅔′
Between the right arm and the Vulture [Inter dext. brachium] [& Vulturem]	38° 58¾′

[1521] "Reading" and "Value" are this edition's heads; the page prints none. The note is set as prose across the left column, between the rows above and these two rows, with no figures in it. The label runs over two lines, a value at the right of each, and is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes. These are the last lines of the left column; the date line of 17 November stands at the head of the right column.

[1522] "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, a value at the right of each, and is given whole on its first row; the third value of the first label and the third and fourth values of the second stand alone on their lines. The values, printed without unit marks, are given as degrees and minutes; *29 0* is printed with the figure 0.

Reading	Value
	38° 59′
Declination of the bright [star] of the left hand of ♒ [Declinatio lucidæ ſiniſtræ] [manus ♒]	10° 54′ south [10 54] [Auſt.]

1523

On 22 November [DIE 22 NOUEMBRIS.]

Reading	Value
Between the highest [star] in the right hand of ♒ and the Vulture [Inter ſupremam in dextra manu ♒] [& Vulturem]	39° 13′
Between the right arm of ♒ and the Vulture [Inter dext. brachium ♒] [& Vult.]	38° 59½′
Between the far end of the wing of Pegasus and the highest [star] of the right hand of ♒ [Inter extremam alæ Pegaſi] [& ſuprem. dext. manus ♒]	29° 39′
	29° 39¼′

1524

The distance [is] less than correct, for it should be 30° 0′. [Diſt. iuſto minor, ſit enim 30 0.]

Reading	Value
Between the far end of the wing of Pegasus and the right arm of ♒ [Inter extremam alæ] [Pegaſi & dext.] [brachium ♒]	32° 10⅔′
	32° 11½′
	32° 11½′
Between the right shoulder of ♒ and the upper horn of ♉ [Inter dext. hum. ♒] [& ſuperius cornu ♉]	29° 22¾′
	29° 22¾′
Between the Vulture and the left shoulder of ♒ [Inter Vultur. & ſin. hum. ♒]	29° 0½′
Between the Vulture and the right shoulder of ♒ [Inter Vult. & dext. hum. ♒]	34° 54¼′
Between the Vulture and the preceding [star] of the middle [stars] in the right hand of ♒ [Inter Vulturem & præced. ex] [medijs in dextra manu ♒]	40° 22⅙′
Between the Vulture and the last [star] in the right hand [Inter Vulturem & poſtre-] [mam in dextra manu]	42° 0′
Between the tail of Cetus and the left shoulder of ♒ [Inter caudam Ceti &] [ſiniſt. humerum ♒]	48° 24′

[1523] "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines and is given whole on its first row. The first label and the last carry no figures on their first line; their figures stand at the right of the second. *bis* stands in smaller type close after *23 10½*. *Auſt.* stands alone on the line under *10 54*, at the right, and is given as "south". No sign is printed after *brachium* in this table. The values, printed without unit marks, are given as degrees and minutes.

[1524] "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines and is given whole on its first row. The first two labels carry no figures on their first line; their figures stand at the right of the second. The third label carries a value at the right of each line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
	48° 24¼′

1525

Reading	Value
Between the tail of Cetus and the right shoulder of ♒ [Inter caudam Ceti &] [dext. humerum ♒]	42° 33½′
	42° 33⅔′
Between the tail of Cetus and the right arm of ♒ [Inter caudam Ceti &] [dext. brachium ♒]	30° 14′
	30° 13½′
Between the tail of Cetus and the preceding [star] of the two middle [stars] in the right hand of ♒ [Inter caudam Ceti & præce-] [dentem ex medijs dua-] [bus in manu dextra ♒]	28° 55½′
	28° 55⅔′
	28° 55½′
Between the tail of Cetus and the following [star] of the two middle [stars] in the right hand of ♒ [Inter caudam Ceti & ſequen-] [tem ex duabus medijs] [in dextra manu ♒]	27° 20′
	27° 20⅙′
Between the tail of Cetus and the highest [star] of the right hand of ♒ [Inter caudam Ceti & ſupre-] [mam dextræ manus ♒]	30° 12½′
	30° 12′

1526

Reading	Azimuth, west [Azim. occ.]	Altitude [Alt.]
The highest [star] in the right hand of ♒ [Suprema in] [dextra manu] [♒]	45° 55′	24° 31¾′
	46° 57′	24° 7½′
	47° 34′	23° 52′
The right arm of ♒ [Brachium] [dextrum ♒]	47° 54′	20° 45′

1525 "Reading" and "Value" are this edition's heads; the page prints none. The line *Diſt. iuſto minor, ſit enim 30 0.* stands on one line at the left margin of the column, between the rows above it and these rows, the figure *0* with a point after it; *30 0*, printed without unit marks, is given as degrees and minutes. The first label runs over three lines, a value at the right of each; the labels over two lines are given whole on their first rows; the two labels *Inter Vulturem & præced. ex / medijs in dextra manu* ♒ and *Inter Vulturem & poſtre- / mam in dextra manu* carry no figures on their first line. No sign is printed after *manu* in the label of *42 0*. The values, printed without unit marks, are given as degrees and minutes; *29 0½* and *42 0* are printed with the figure 0.

1526 "Reading" and "Value" are this edition's heads; the page prints none. No date line and no title stands above these rows: the left column opens the page with them, under the running head. The first nine rows stand in the left column; the last two stand at the head of the right column, with no date line above them. The labels over two lines carry a value at the right of each line and are given whole on their first rows. The two labels over three lines carry no figures on their first line; their values stand at the right of the second and third lines, and the third value of *præce- / dentem ex medijs dua- / bus in manu dextra* ♒ stands alone on the line below. The values, printed without unit marks, are given as degrees and minutes.

Reading	Azimuth, west [Azim. occ.]	Altitude [Alt.]
	48° 30′	20° 17½′
	49° 5′	20° 12¾′

1527

Observations of the stars in Pisces [OBSERUATIONES STELLARUM IN PISCIBUS.]

On 22 November [DIE 22 NOUEMBRIS.]

Reading	Value
Between the mouth of Pegasus and the mouth of the Fish [Inter os Pegaſi &] [os Piſcis]	20° 40¾′
	20° 40¾′
Between the mouth of Pegasus and the jaw of ♓ [Inter os Pegaſi &] [mandibulam ♓]	22° 55½′
	22° 55¾′
Between the mouth of Pegasus and the preceding [star] in the belly of ♓ [Inter os Pegaſi &] [præced. in ventre ♓]	26° 57½′
	26° 57½′
Between the mouth of Pegasus and the following [star] in the belly of ♓ [Inter os Pegaſi &] [ſequent. in ventre ♓]	30° 22¾′
	30° 22¾′
Between the mouth of Pegasus and the preceding [star] in the back of ♓ [Inter os Pegaſi &] [præced. in dorſo ♓]	25° 56½′
	25° 56⅙′
Between the mouth of Pegasus and the following [star] in the back of ♓ [Inter os Pegaſi &] [ſequentem in dorſo ♓]	28° 55′
	28° 55⅙′
Between the mouth of Pegasus and the tail of ♓ [Inter os Pegaſi &] [caudam ♓]	33° 31′
	33° 31′
Between the mouth of Pegasus and the little star in the head of ♓ [Inter os Pegaſi &] [ſtellulam in capite ♓]	24° 11¼′
	24° 11¾′

1528

[1527]The heads *Azim. occ.* and *Alt.* are the page's, printed in smaller type over the two pairs of figures; "Reading" is this edition's. *Suprema in* stands at the left margin of the column; *dextra manu*, the sign ♒ alone on the third line, *Brachium* and *dextrum* ♒ stand one under the other at the same indent, and the sixth line carries figures only. The words are given here as two labels, each set against three lines of figures, *Brachium* (printed with a capital) opening the second. The values, printed without unit marks, are given as degrees and minutes.

[1528]"Reading" and "Value" are this edition's heads; the page prints none. The first ten rows stand in the left column under the date line; the six rows from *ſequentem in dorſo* ♓ stand at the head of the right column, with no date line above them. Each label runs over two lines, a value at the right of each, and is given whole on its first row. In the first label *Piſcis* is printed as a word; in the others the sign ♓ is printed. The values, printed without unit marks, are given as degrees and minutes.

On 31 December [DIE 31 DECEMBRIS.]

Reading	Remark	Value
Altitude of the northern tail of ♓ [Altitudo caudæ Borealis ♓]		47° 17⅙′
	with the new pinnule [nouo pinnacidio]	47° 17′

1529

Observations of the stars in the northern constellations outside the zodiac [OBSERUATIONES STELLARUM IN ASTERISMIS BOREALIBUS EXTRA ZODIACUM.]

On 6 January [DIE 6 JANUARIJ.]

Reading	Value
Maximum altitude of the pole star [Altit. ſtellæ Polaris maxima]	58° 50½′
When [it] was in azimuth, west, 0° 19′ [Quando erat in Azim. occ.] [0 19,]	58° 50⅙′
In azimuth 0° 27′ the altitude was [In Azimutho 0 27 fuit alt.]	58° 50′
0° 33′ [0 33]	58° 49⅚′

1530

Toward the north. [Verſus ſeptentrionem.]

Time	Reading	Remark	Value
	The knee of Cassiopeia, maximum altitude [Genu Caßiopeæ alt. max.]		87° 51⅙′
	Minimum altitude of the middle [star] of the tail of Ursa Major [Mediæ caudæ vrſæ maioris] [alt. min.]		23° 0¼′
$6^h\ 53^m\ 37^s$ [H. 6 53′ 37″]	The bright [star] of the two in the □ of Ursa Minor passed the meridian at minimum altitude [Lucida duarum in □ vrſæ] [min. tranſiuit merid. in alt. mi-] [nima]		41° 45′ 0″
	The eye of ♉ was then distant from the meridian, east [Diſtabat tunc oculus ♉] [a Mer. or.]		20° 21¾′

1529 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *nouo pinnacidio* stands on the second line, at the right, directly before its figures. *Borealis* is printed with a capital. The values, printed without unit marks, are given as degrees and minutes.

1530 "Reading" and "Value" are this edition's heads; the page prints none. The title above is set on two lines. *Quando erat in Azim. occ.* stands alone on its line; *0 19,* with its comma stands on the next line, directly before *58 50⅙. 0 27* stands within the words of its line, and *0 33* under it on the next line, with nothing else before the value. The azimuths and the altitudes, printed without unit marks, are given as degrees and minutes; *0 19*, *0 27* and *0 33* are printed with the figure 0.

Time	Reading	Remark	Value
$7^h\ 22^m\ 50^s$ [H. 7 22 50]	The lesser [star] in the □ of Ursa Minor passed the meridian at minimum altitude [Tranſiuit minor in □ vrſæ] [minoris meridianum in alt. mi-] [nima]		39° 12⅓′
	Declination of the same by the armillae [Eiusdem per Armillas] [declinatio]		73° 20′
		with the other pinnule [alt. pin.]	73° 20¼′

1531

Toward the south. [Verſus auſtrum.]

Time	Reading	Remark	Value
$6^h\ 44^m\ 35^s$ [H. 6 44′ 35″]	Meridian altitude of the head Algol [Capitis Algol] [alt. mer.]		73° 23⅔′
	The eye of ☿ was then distant, east [Diſtabat tunc oculus ☿ or.]		22° 38⅔′
	The difference of transit on the equator between the head Algol and the bright [star] in the □ of Ursa Minor is [Differentia tranſitus in æquatore inter] [caput Algol & lucidam in □ vrſæ] [min. eſt]		2° 17′
$6^h\ 58^m\ 20^s$ [H. 6 58 20]	The bright [star] of Perseus through the meridian [Luc. Perſ.] [per merid.]		82° 24½′
	Declination of the head Algol [Declin. capitis Algol]	with both [vtroq.]	39° 17½′
	The same declination repeated [Repetita declin. eadem]	with one [vno]	39° 17½′
		with the other [alt.]	39° 17¼′
	Declination of the bright [star] of Perseus [Declin. lucidæ Perſei]	with both [vtroq.]	48° 19′

1531 "Time", "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *Verſus ſeptentrionem.* stands centred on its own line. The first five rows stand in the left column; the last two stand at the head of the right column, with no date line above them. Each time is printed at the head of its label's first line, after *H.: 6 53′ 37″* with its marks, *7 22 50* without marks, given as hours, minutes and seconds. The labels over two or three lines carry their figures at the right of the last line and are given whole on their first rows; *Eiusdem per Armillas / declinatio* carries a value at the right of each of its two lines, *alt. pin.* standing directly before the second. □ is printed as a square sort. *41 45 0* is printed as three figures, the *0* to the right of the two figure positions of the column, and is given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes; *23 0¼* is printed with the figure 0.

1532

This declination agrees sufficiently well with the declination by the quadrant, for [it] showed precisely the same.

Reading	Remark	Value
The preceding [star] in the sole of Perseus by the Tychonic [quadrant] [Præced. in Planta Perſei per Tych.]		65° 0′
Altitude of the following [star] in the sole of Perseus by the Tychonic [quadrant] [Sequentis in Planta Perſei] [alt. per Tych.]		64° 40⅚′
	with the old pinnule [vet. pin.]	64° 41′
The foot of Erichthonius shared with the horn of ♉ [Erichtonij pes communis] [cum cornu ♉]		62° 16½′

1533

Time	Reading	No.	Value
11¼[h] [H11¼]	Distance between the bright [star] of Perseus and the brighter [star] in the □ of Ursa Minor, which passed the meridian almost at the same time, by the old sextant [Diſtantia inter lucidam Perſei] [& lucidiorem in □ vrſæ minoris,] [quæ ſimul fere] [merid. tranſierunt] [per Sext. vet.]	I	55° 50½′ twice [bis]
		II	55° 50½′
		III	55° 50¼′

1534

1532 "Time", "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *Verſus auſtrum.* stands centred on its own line. Each time is printed at the head of its label's first line, after *H.*: *6 44′ 35″* with its marks, *6 58 20* without marks, given as hours, minutes and seconds. The labels over two or three lines carry their figures at the right of the last line and are given whole on their first rows. *vtroq.* and *vno* stand directly before their figures; *alt.* stands alone on its line, under *vno*, directly before its figures. Here *alt.* is taken as *altero*, "with the other", in the pair with *vno*; elsewhere on the page *alt.* is "altitude", except in *alt. pin.*, "with the other pinnule". □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes; in *2 17* the *2* stands under the units figure of the degrees of the line above.

1533 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. No title and no date line stands above these rows on the page; the column opens with them. *Præced.* is abbreviated and shows no case; it is given here as a nominative. The first label fills its line and its figures stand alone on the next line. The second label runs over two lines, *Sequentis in Planta Perſei* with the first value and *alt. per Tych.* with *vet. pin.* and the second value, and is given whole on its first row. The third label runs over two lines, the value on the second. The values, printed without unit marks, are given as degrees and minutes; *65 0* is printed with the figure 0.

1534 "Time", "Reading", "No." and "Value" are this edition's heads; the page prints none. The time is printed at the head of the label's first line, after *H.*, as a single figure with a fraction, and is given as hours. The label runs over five lines and is given whole on its first row; the numerals *I*, *II*, *III* and the three values stand at the right of its third, fourth and fifth lines. *bis* is printed in smaller type directly after the first value. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

From this both the altitude of the pole and the certainty of the instruments will be able to be probed, as you know. [Hinc poterit rimari tam Poli altitudo, quam inſtrumentorum certitudo, vt ſcis.]

Reading	Remark	Value
Declination of the far end of the tail of Ursa Major [Declin. extremæ caudæ] [vrſæ mai.]		51° 23½′
	with the other pinnule [alt. pin.]	51° 23½′
Declination of the middle [star] of the tail of Ursa Major [Declin. mediæ caudæ] [vrſæ maior.]		57° 6¼′
	with the other [altero]	57° 6′

1535

Both stars were then distant from the pole toward the east. [Diſtabat tunc vtraque ſtella a Polo ad ortum.]

On 9 January, in the morning [DIE 9 JANUARIJ, MANE.]

Time	Reading	Value
$4\frac{1}{3}^{h}$ [H. 4⅓]	Minimum altitude of the pole star [Alt. Polaris Stellæ minima]	52° 58¾′

1536

[It] was somewhat obscured by certain thin clouds. [Erat raris quibusdam nubibus nonnihil offuſcata.]

Time	Reading	Instrument	Value
$4^{h}\ 26^{m}\ 40^{s}$ [H. 4 26′ 40″]	The bend of Cassiopeia in the meridian had minimum altitude [Flexura Caßiopeæ in me-] [ridiano habuit alt. minimam]	by the revolving [quadrant] [per Volub.]	24° 23⅔′
$4^{h}\ 56^{m}\ 18^{s}$ [H. 4 56 18]	The knee of Cassiopeia, minimum altitude [Genu Cassiopeæ alt. min.]	by the revolving [quadrant] [per Volub.]	23° 58½′

1535 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, a value at the right of each, and is given whole on its first row; *alt. pin.* and *altero* stand directly before the second values. By the letter *extremæ caudæ* and *mediæ caudæ* can also be read with the adjective on *caudæ* ("of the extreme tail", "of the middle tail"); they are given here as "the far end of the tail" and "the middle [star] of the tail", and the same column prints *extrema in cauda vrſæ maioris* lower down. The values, printed without unit marks, are given as degrees and minutes.

1536 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed at the head of the label's line, after *H.*, as a single figure with a fraction, and is given as hours; the value stands alone on the next line. The value, printed without unit marks, is given as degrees and minutes.

1537

In these [it] was very clear. [In his erat bene ſerenum.]

Time	Reading	Instrument	Re-mark	Value
	The calf of Boötes, which passes the meridian at the same time as the extreme [star] in the tail of Ursa Major, had altitude [Sura Bootis, quæ ſimul cum extrema] [in cauda vrſæ maioris meridia-] [num tranſit, habuit alt.]	by the revolving [quadrant] [per Volub.]		54° 36′
		by the Tychonic [quadrant] [per Tychon.]	with the old [vet.]	54° 36′
			with the new [nouo]	54° 35⅚′
	Arcturus in the meridian [Arcturus in merid.]	by the revolving [quadrant] [per Vol.]		55° 28$\frac{1}{12}$′
		by the Tychonic [quadrant] [per Tychon.,]	with both [vtroque]	55° 28′
	The left shoulder of Boötes [Iniſter hum. Bootis]	by the revolving [quadrant] [per Volub.]		66° 23′
	The right foot of Boötes in the meridian [Dexter pes Bootis in mer.]	by the revolving [quadrant] [per Vol.]		49° 40½′
6^{h} 50^{m} 7^{s} [6 50 7]	[The bright [star] in the □ of Ursa Major passed through the meridian at maximum altitude [Tranſiuit lucida in □ vrſæ] [maioris per Merid. in alt. max.]	by the revolving [quadrant] [per Volub.]		70° 5′

1537 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each time is printed at the head of its label's first line, after *H.*: *4 26′ 40″* with its marks, *4 56 18* without marks, given as hours, minutes and seconds. *per Volub.* stands each time on an indented line of its own, with the figures at its right. The page prints *Caßiopeæ* in the first label and *Cassiopeæ* in the second. The values, printed without unit marks, are given as degrees and minutes.

1538

After noon. [Poſt meridiem.]

When Cassiopeia was toward the west, at about $6\frac{1}{2}^{h}$, some of its stars were observed in declination by the armillae, because [it] was then distant from the pole toward the west, for the sake of testing the declination and the position of the instrument, in this way. [Cum Caßiopea eßet verſus occaſum circa H. 6½ obſeruabantur aliquot eius ſtellæ in declinatione per Armillas eo quod tunc diſtaret a polo verſus occaſum, experiundi declinationem & inſtrumenti ſitum gratia in hunc modum.]

Time	Reading	Remark	Value
	Declination of the bright [star] of the Chair [Lucidæ Cathedræ] [declinatio]	with one [vno]	54° 16′
		with the other [alt.]	54° 16⅓′
	Declination of the bend [Flexuræ declin.]	with one [vno]	58° 28′
		with the other [alt.]	58° 28¼′
	Meridian altitude of the right shoulder of Perseus by the revolving [quadrant] [Alt. merid. dext. humeri] [Perſei per Volub.]		85° 55′
	The head Algol, meridian altitude, by the revolving [quadrant] [Caput Algol alt. mer.per Vol.]		73° 23½′
$6^{h}\ 45^{m}\ 45^{s}$ [H. 6 45 45]	The bright [star] of ♈, west, the bright [star] in the □ of the Bear passed through the meridian at altitude [Lucida ♈ occ., tranſiuit lu-] [cida in □ vrſæ per merid. in alt.]		41° 44¾′
$6^{h}\ 50^{m}\ 5^{s}$ [H. 6 50 5]	The bright [star] of the side of Perseus passed through the meridian, having altitude [Tranſiuit lucida lateris Perſei] [per Merid. habens alt.]		82° 24⅝′
	The bright [star] of ♈ then had a removal [Habuit tunc luc. ♈] [remotionem]		17° 54¾′

1538 "Time", "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over three lines and carries no figures; *per Volub.* and *per Tychon.* stand under it on indented lines of their own, each with figures, *vet.* directly before the figures of the second, and *nouo* alone on the next line, under *vet.*, directly before its figures. *Arcturus in merid. per Vol.* is one line, with *per Vol.* at the end of the label and the figures after it; *per Tychon.,* with its comma stands on the next line, with *vtroque* directly before the figures. *per Volub.* and *per Vol.* in the last three rows stand on indented lines of their own under their labels. The one time is printed at the head of its label's first line, after *H.*, as *6 50 7* without marks, and is given as hours, minutes and seconds. □ is printed as a square sort. *28 1/12* is printed with a fraction of one twelfth. The values, printed without unit marks, are given as degrees and minutes.

1539

Note. These two stars pass the meridian almost at the same time, the interval on the equator being 1° 5′. From this both [that] of altitude and [that] of distances, and both the sextant and the quadrant, will be able to be confirmed, as you know. [Nota. Hæ duæ ſtellæ fere ſimul meridiem tranſeunt, interuallo in æquatore exiſtente 1° 5′. Hinc poterit tam altitudinis quam diſtantiarum & tam Sextans quam Quadrans comprobari, vt ſcis.][1540]

Time	Reading	Value
	Declination of the lesser [star] in the □ of Ursa Minor [Declin. min. in □ vrſæ min.]	73° 19¾′
7^{h} $14½^{m}$ [H. 7 14½]	Altitude of the other, following [star] in Ursa Minor [Alt. ſequentis alte-] [rius in vrſa minore]	39° 12¼′
10^{h} 16^{m} [H. 10 16]	Minimum altitude of the bright [star] of Lyra by the revolving [quadrant] [Lucidæ lyræ alt.] [min. per Volub.]	4° 29½′

1541

The declination of the bright [star] of Perseus was observed by the armillae toward the west, 48° 19′ with both pinnules, and this agrees sufficiently with the declination taken in the meridian and that which was taken toward the east in a similar position from the pole, which is an indication that the axis of the armillae corresponds sufficiently well to the meridian. [Obſeruabatur declinatio lucidæ Perſei per Armillas verſus occ. 48 19 vtroque pinn., idque ſatis conuenit cum declinatione in meridiano accepta & ea quæ verſus orientem in conſimili

[1539] "Time", "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *Poſt meridiem.* stands centred on its own line at the head of the right column, above the prose. *Lucidæ Cathedræ / declinatio* runs over two lines, a value at the right of each, and is given whole on its first row. *vno* and *alt.* stand directly before their figures, *alt.* each time under *vno*; the second *alt.* stands alone on its line. Here *alt.* is taken as *altero*, "with the other", in the pair with *vno*; elsewhere on the page *alt.* is "altitude", except in *alt. pin.*, "with the other pinnule". In the two rows of Perseus and Algol the instrument is printed within the label (*Perſei per Volub.*, and *alt. mer.per Vol.* with no space after *mer.*). Each time is printed at the head of its label's first line, after *H.*, as three figures without marks, given as hours, minutes and seconds. The first timed label runs over two lines and its figures stand alone on a third. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

[1540] *altitudinis* and *diſtantiarum* are genitives, and the page prints no noun for them to depend on; "[that]" stands for it, unnamed. The page prints *meridiem*.

[1541] "Time", "Reading" and "Value" are this edition's heads; the page prints none. In the first label the first *min.* is taken as *minoris*, "of the lesser [star]"; the abbreviation itself shows no ending, and with *alt.* on this page *min.* is "minimum". The times are printed at the head of their labels' first lines, after *H.*: *7 14½* and *10 16*, without marks, given as hours and minutes. The second and third labels run over two lines, the value on the second. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

a Polo ſitu capiebatur, quod indicium eſt axin Armillarum meridiano ſatis bene reſpondere.][1542]

Reading	Value
The head of Medusa had declination [Caput Meduſæ habuit] [declin.]	39° 17′ 39° 17½′

[1543]

This [is] less certain on account of ☾, yet middling. [Hæc minus certa propter ☾, mediocris tamen.]

Reading	Value
Between the bright [star] of Perseus and the bright [star] in the □ of Ursa Minor [Inter lucid. Perſei & luc. in □ vrſæ] [minoris]	55° 50½′ twice [bis]

[1544]

From this let the altitudes be verified. [Hinc verificentur altitudines.]

Reading	Remark	Value
Declination of the far end of the tail of Ursa Major [Declin. extremæ caudæ] [vrſæ maioris]		51° 23½′
	with the other pinnule [alt. pin.]	51° 23¾′
Declination of the middle [star] in the tail of the same [Declin. mediæ in] [cauda eiusdem]		57° 6′
	with the other pinnule [alt. pin.]	57° 6½′

[1545]

Both stars were then distant from the pole toward the east. [Diſtabat tunc vtraque ſtella a Polo ad ortum.]

[1542] *48 19* is printed without unit marks and is given as degrees and minutes.

[1543] "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines, a value at the right of each, and is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes.

[1544] "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines, the value on the second; *bis* is printed in smaller type directly after the value. □ is printed as a square sort. The value, printed without unit marks, is given as degrees and minutes.

[1545] "Reading", "Remark" and "Value" are this edition's heads; the page prints none. No title and no date line stands above the line "From this let the altitudes be verified." on the page; the column opens with it. Each label runs over two lines, a value at the right of each, and is given whole on its first row; *alt. pin.* stands directly before each second value. By the letter *extremæ caudæ* can also be read with the adjective on *caudæ* ("of the extreme tail"); it is given here as "the far end of the tail", and the same column prints *extremam caudæ* in its next label. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
Distance between the far end of the tail of Ursa Major and the calf of Boötes by the old sextant [Diſt. inter extremam caudæ] [vrſæ maioris & ſuram] [Bootis per Sext. vet.]	I	30° 52¾′
	II	30° 52¾′
	III	30° 52¾′

1546

From this the altitudes of the quadrant can be verified. [Hinc poßunt verificari altitudines quadrantis.]

Time	Reading	Instrument	Value
2^h 29⅙^m [H. 2 29⅙]	Maximum altitude of the first of the preceding [stars] in the □ of Ursa Major [Alt. maxima prioris antece-] [dentium in □ vrſæ maioris]	by the revolving [quadrant] [per Volub.]	87° 20½′
	Maximum altitude of the following [star] in the □ [Alt. max. ſequentis in □]		81° 58½′
	Declination of the first [star] in the □ of Ursa Major [Declin. prioris in □] [vrſæ maioris]		58° 33¾′
			58° 33½′
	Declination of the following [star] in the □ of the same, with both pinnules [Declin. ſequentis in □ eius-] [dem vtroque pinnac.]		63° 56½′
	Maximum altitude of the third [star] in the □ of Ursa Major [Tertiæ in □ vrſæ mai.] [alt. max.]		89° 56′
	Declination of the same [Declinatio eiusdem]		56° 3′
	Maximum altitude of the last [star] in the □ of Ursa Major [Vltimæ in □ vrſæ mai.] [alt. max.]		86° 35½′
	Declination of the same [Declinatio eiusdem]		59° 20½′
			59° 20⅓′
	The bright [star] of the Chair of Cassiopeia, minimum altitude [Luc. Cathedræ Caßiop.] [alt. min.]		22° 46⅔′
	Declination of the same [Declinatio eiusdem]		56° 56′
			56° 55½′
4^h 10^m 40^s [H. 4 10′ 40″]	Schedar, minimum altitude [Schedir] [alt. minima]		20° 10½′
	Declination of the same [Declin. eiusdem]		54° 19½′
			54° 19′
4^h 13^m 15^s [4 13 15]	Minimum altitude of the pole star [Stellæ Polaris alt. min.]		52° 58′ 55″
4^h 24^m 26^s [4 24 26]	Minimum altitude of the bend of Cassiopeia [Flexuræ Caßiop.] [alt. min.]		24° 22¼′
	Declination, with both pinnules [Declin. vtroque pin.]		58° 31½′
	Minimum altitude of the bright [star] of the foot of Cassiopeia [Lucidæ pedis Caßiop.] [alt. min.]		27° 29⅚′

[1546] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over three lines and is given whole on its first row; the numerals *I*, *II*, *III* stand on its three lines, each set close against its value. The values, printed without unit marks, are given as degrees and minutes.

1547

Toward the south [Verſus Auſtrum]

Reading	Value
Maximum altitude of the far end of the tail of Ursa Major [Extremæ caudæ vrſæ mai.] [alt. max.]	85° 30′
The calf of Boötes, which passes the meridian almost with that far end of the tail of Ursa Major, had altitude [Sura Bootis, quæ fere meri-] [dianum cum illa extre-] [ma caudæ vrſæ maioris] [tranſit, habuit alt.]	54° 35⅚′

1548

On 11 January, in the morning [DIE 11 JANUARIJ, MANE.]

Time	Reading	Remark	Value
$4^h\ 4^m\ 31^s$ [H. 4 4′ 31″]	Schedar of Cassiopeia, minimum altitude [Schedir Caßiop.] [alt. min.]		20° 10½′
$4^h\ 8^m\ 4^s$ [4 8 4]	Minimum altitude of the pole star [Stellæ Polaris] [alt. min.]		52° 58′ 55″
			52° 59′
$4^h\ 19^m\ 30^s$ [4 19 30]	Of the bend of Cassiopeia [Flexuræ Caßiopeæ]		24° 22¼′
$4^h\ 46^m\ 33^s$ [4 46 33]	The knee of Cassiopeia [Genu Caßiopeæ]		23° 58½′
$4^h\ 54^m\ 50^s$ [4 54 50]	Maximum altitude of the middle [star] in the tail of Ursa Major [Mediæ in cauda vrſæ] [mai. altit. maxima]		88° 49½′
$5^h\ 12^m\ 50^s$ [5 12 50]	Minimum altitude of the foot of Cassiopeia [Pedis Caß. alt. min.]		27° 30′
$5^h\ 19^m\ 9^s$ [5 19 9]	Maximum altitude of the far end of the tail of Ursa Major [Extremæ caudæ] [vrſæ mai. altit. maxima]		85° 29¾′

1547 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first nineteen rows stand in the left column; the last row stands at the head of the right column, with no date line above it. The times are printed at the head of their labels' first lines: *H. 2 29⅙*, two figures, the second with a fraction, given as hours and minutes; *H. 4 10′ 40″* with its marks; *4 13 15* and *4 24 26* without *H.* and without marks, given as hours, minutes and seconds. *per Volub.* stands on an indented line of its own under the first label, with the figures at its right. The labels over two lines carry their figures at the right of the second line and are given whole on their first rows; *Declin. prioris in* □ / *vrſæ maioris* carries a value at the right of each of its two lines; the other three rows with no label are values printed alone on their lines, under the value above. *Luc.* is abbreviated and shows no case; it is given here as a nominative. □ is printed as a square sort. *52 58 55* is printed as three figures, the *55* to the right of the two figure positions of the column, and is given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes.

1548 "Reading" and "Value" are this edition's heads; the page prints none. *Verſus Auſtrum* stands centred on its own line, without a point. The first label runs over two lines, the second over four, each with its figures at the right of its last line. By the letter *Extremæ caudæ* can also be read with the adjective on *caudæ* ("of the extreme tail"); it is given here as "the far end of the tail", and the next label prints *illa extrema caudæ*. The values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Remark	Value
$5^h\ 23^m\ 7^s$ [5 23 7]	Meridian altitude of the calf of Boötes [Suræ Bootis alt. mer.]		54° 36′
$5^h\ 45^m\ 29^s$ [5 45 29]	Arcturus in the meridian [Arcturus in merid.]		55° 28⅚′
	Declination of the bright [star] in the □ of the Bear above the pole [Declin. luc. in □ vrſæ] [ſupra polum]		75° 49½′
		with the other pinnule [alt. pin.]	75° 48½′
	Declination of the less bright [star] in the □ of the Bear [Declin. minus luc. in] [□ vrſæ]		73° 16′
		with the other pinnule [alt. pin.]	73° 16½′
	The same repeated [Eadem repetita]		73° 16½′
			73° 16′
	Repeated [declination] of the upper bright [star] in the □ [Repetita ſuperioris] [luc. in □]		75° 48⅓′
			75° 48¾′
$6^h\ 41^m\ 50^s$ [6 41 50]	The bright [star] in the □ of Ursa Minor [Luc. in □ vrſæ min.]		70° 4½′
$6^h\ 44^m\ 0^s$ [6 44 0]	The bright [star] of Perseus through the meridian below the pole [Perſei lucida per me-] [rid. infra Polum]		14° 13½′
	Maximum altitude of the lesser [star] in the □ of Ursa Minor [Alt. max. minoris in □ vrſæ] [minoris]		72° 35′
	Declination of the bright [star] of the Vulture toward the east [Declin. lucidæ Vulturis] [verſus ortum]		7° 51½′
			7° 51¾′

1549

The altitude of the Vulture was then 20°. [Fuit tunc Alt. Vult. 20 gr.]

Diagram. A line figure set at the left of the prose below, from its second line to its last. A circle. A straight line runs from the top of the circle down to its bottom, a little to the left of the middle of the figure. From a point on that line just under the top of the circle, a short horizontal line runs to the right and meets the circle. From the point where the horizontal line meets the circle,

1549 "Time", "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The times are printed at the head of their labels' first lines: the first as *H. 4 4′ 31″* with its marks, the other ten as three figures without *H.* and without marks, given as hours, minutes and seconds. The labels over two lines are given whole on their first rows. *Stellæ Polaris / alt. min.*, *Declin. luc. in □ vrſæ / ſupra polum*, *Declin. minus luc. in / □ vrſæ*, *Repetita ſuperioris / luc. in □* and *Declin. lucidæ Vulturis / verſus ortum* each carry a value at the right of both lines; *alt. pin.* stands directly before the second value of the second and third of these. The row with no label under "The same repeated" is a value printed alone on its line. The label *Flexuræ Caßiopeæ* is a genitive standing alone, and the next label prints *Genu. Luc.* before *in □ vrſæ min.* is abbreviated and shows no case; it is given here as a nominative. *ſuperioris* is given as "upper"; it can also be "the former", the bright [star] named above. □ is printed as a square sort. *52 58 55* is printed as three figures, the *55* to the right of the two figure positions of the column, and is given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes.

a second straight line runs down to the circle below, and a slanting line runs down to the left, to the first line, which it meets at about the mid-height of the circle.

- D (above the top of the first line, outside the circle): D
- A (left of the first line, inside the circle, beside the start of the horizontal line): A
- B (outside the circle at the upper right, beside the point where the horizontal line meets it): B
- C (left of the first line, inside the circle, beside the point where the slanting line meets it): C

The pole star was observed in a certain azimuth together with some star from which its distance from the meridian is known by degrees of the equator, such as the bright [star] of ♈. [Obſeruabatur polaris ſtella in certo Azimuto vna cum ſtella aliqua ex qua ipſius diſtantia a meridiano per gradus æquatoris cognoſcitur, vt lucida ♈.]

Since BC is known, 2° 55′ 50″, and the angle ACB [is] known by the difference of the transit of the bright [star] of ♈ from the transit of the pole star, known beforehand, but the angle at A [is] right, therefore AB and AC will be given; but what is lacking, AC is to be added to the observed altitude so that [it] may be true. Or by the table of sines the angles would be straight lines, in this way, as follows. [Quoniam BC eſt nota 2° 55′ 50″ et angulus ACB notus per differentiam tranſitus lucidæ ♈ a tranſitu polaris prius nota, angulus vero ad A rectus, ideo dabitur AB & AC, quod vero deficit, AC eſt addendum altitudini obſeruatæ vt ſit vera. Vel per tabulam ſinuum anguli eßent lineæ rectæ in hunc modum vt ſequitur.][1550]

See the quantity of the angle AB, take its sine, which [Vide anguli quantitatem AB, eius ſinum cape quæ][1551]

should correspond to the side DA, which should be the versed sine or sagitta. Afterward by the Rule of Three say.... [reſpondeat lateri DA qui ſit ſinus verſus vel ſagitta. Poſtea per Regulam detri dic....][1552]

Operation. Let the second sine of the angle of the distance of the pole star from the meridian on the equator, which is made by taking its complement and taking the sine of this, be subtracted from the whole sine 10000000, so that its sagitta or versed sine may be established. Afterward by the Rule of Three.

[1550] *anguli* can be a nominative plural, "the angles would be straight lines", as given here, or a genitive singular with *lineæ rectæ* as the subject, "the straight lines of the angle would be in this way, as follows"; the page does not settle it. The next line prints *anguli* as a genitive, in *anguli quantitatem*.

[1551] The page ends at *quæ*, in the middle of the sentence, with no point after it. The first line of the prose runs the full width of the page under the two columns; its other lines are set to a shorter measure beside the figure.

[1552] The sentence begins on the previous page, which ends at *quæ*; this page opens with *reſpondeat*, a small initial, at the left margin. *quæ* is feminine and does not agree with *ſinum*; the English "which" names no antecedent, and neither page settles one. The four points after *dic* are printed.

[Operatio. Anguli diſtantiæ polaris a meridiano in æquatore ſinum ſecundum qui ſit accipiendo eius complementum & huius ſinum capiendo ſubtrahatur a ſinu toto 10000000 vt conſtet ſagitta ipſius ſiue ſinus verſus. Poſtea per Regulam detri.][1553]

The whole sine [Sinus totus]	gives [facit]	what the versed sine or sagitta [quid ſinus verſus vel ſagitta]
10000000	2° 55′ 50″ [2 55 50]	etc. [&c]

[1554]

Note. All the preceding altitudes made by the revolving quadrant, both this year and the preceding, from that time at which [it] agrees well with the mural [quadrant] not so much in the higher as in the lower altitudes, are not sufficiently exact, therefore they [are] less to be relied on, but after these [it] was verified, with a cylinder applied to the upper [ones]. [Nota. Omnes præcedentes altitudines per Quadr. Volubilem factæ, tam hoc anno quam præcedente ab eo tempore, quo non tam in ſublimioribus, quam decliuioribus altitudinibus, cum murali bene conſentit, non ſunt ſatis exactæ, ideo illis minus fidendum, ſed poſt hæc verificabatur appoſito ſuperis cilindro.][1555]

On 14 January, in the morning [DIE 14 JANUARIJ, MANE.]

After the revolving quadrant had been verified. [Poſt verificatum Quadrantem volubilem.]

Time	Reading	Value
	The left shoulder of Boötes in the meridian [Siniſter humerus Bootis] [in mer.]	74° 14⅚′
	The right shoulder of Perseus toward the north [Dexter hum. Perſei verſ. ſept.]	17° 47′
	The bright [star] of the □ of Ursa Minor, maximum altitude [Luc. □ vrſæ min. alt. max.]	70° 5½′
	The bright [star] of the side of Perseus, minimum altitude [Luc. lateris Perſei alt. min.]	14° 17⅔′

[1553] *Anguli* is given here as a genitive singular with *ſinum* ("the second sine of the angle"); the verb of the sentence, *ſubtrahatur*, is singular. *polaris* is given as "the pole star"; by the letter it can also be an adjective with *diſtantiæ* ("of the polar distance"). The page prints the accusative *ſinum* with the passive *ſubtrahatur*. *10000000* is printed as the figure 1 and seven figures 0.

[1554] The three heads are the page's own words: the page sets two lines in three groups, *Sinus totus*, *facit* and *quid ſinus verſus vel ſagitta* on the first, and *10000000*, *2 55 50* and *&c* under them on the second, with no rule around or between them. *2 55 50* is printed as three figures without unit marks and is given as degrees, minutes and seconds. *&c* is printed without a point.

[1555] The page prints *ſupe- / ris*, a dative or ablative plural, with no noun beside it; "[ones]" stands for that noun, unnamed. It can be the altitudes named earlier in the sentence (*in ſublimioribus … altitudinibus*), "for the upper [altitudes]", or the upper parts of the instrument; the page does not settle it.

Time	Reading	Value
$7^{h}\ 26^{m}\ 37^{s}$ [H. 7 26′ 37″]	Spica, west, 33° 33′, altitude of the bright [star] of the Crown [Spica occ. 33 33,] [alt. lucidæ Coronæ]	62° 16⅙′
$7^{h}\ 31^{m}\ 0^{s}$ [7 31 0]	Spica, west, 34° 40½′, minimum altitude of the lesser [star] in the □ of Ursa Minor [Spica occ. 34 40½, alt.] [min. minoris in □ vrſæ] [min.]	72° 37¾′

1556

After the armillae had been better fixed in the pole. [Poſt Armillas in Polo melius fixatas.]

Reading	Remark	Value
The bright [star] of the □ of Ursa Minor at maximum altitude, declination by the armillae [Lucid. □ vrſæ min. in alt. max., decli-] [natio per Armillas]	with one [vno]	75° 48¾′
	with the other pinnule [alt. pinnac.]	75° 49′
Declination of the other, less bright [star], with both [Decl. alterius minus luc.,] [vtroq.]		73° 17½′
Declination of the bright [star] of the side of Perseus at minimum altitude [Decl. luc. lateris Perſei] [in min. alt.]	with one [vno]	48° 23′
	with the other [alt.]	48° 22⅝′

1557

[It] differs from the greatest declination by 3′. [Differt a maxima declinatione 3 min.]

1556 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second. *Luc.* is abbreviated and shows no case; it is given here as a nominative, and the sort □ follows it directly, with no *in*. The two times are printed at the head of their labels' first lines: *H. 7 26′ 37″* with its marks, *7 31 0* without *H.* and without marks, given as hours, minutes and seconds. *Spica occ. 33 33,* and *Spica occ. 34 40½,* stand within those lines, each with a comma after its figures; these figures, printed without unit marks, are given as degrees and minutes. The label of the last row runs over three lines, the value on the third; in it *alt.* is given as "altitude", the first *min.* as "minimum" and the last *min.* as "Lesser". □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes. The first *min.* of that label is confirmed on a native-resolution crop; on p. 234 a value of the same size, 72 35⅝, is printed as the maximum altitude (*alt. max.*) of the following, less bright [star] in the □ of Ursa Minor. The page does not say whether the two labels name the same star; both are given as printed, and no correction is made.

1557 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. Each label runs over two lines and is given whole on its first row. *Lucid.* is abbreviated and shows no case; it is given here as a nominative, and the sort □ follows it directly, with no *in*. *vno* stands directly before the first value of the first and third labels; *alt. pinnac.* stands alone on the next line, directly before its value; *vtroq.* stands at the head of the second line of its label, the value at the right. In the last label the page prints *alt.* twice on one line: *in min. alt.*, given as "at minimum altitude", and a second *alt.* directly before the value, under *vno*, given as "with the other". □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

On the same day, in the evening [EODEM DIE VESPERI.]

Reading	Value
The eye of ♉, east, 23° 59′, the right shoulder of Perseus, meridian altitude [Oculus ♉ or. 23 59, dext. humerus] [Perſei alt. mer.]	85° 55′
The lower [star] of the head of Medusa in the meridian [Inferior cap. Meduſæ in mer.]	71° 17′
The eye of ♉, east, 22° 59¾′, meridian altitude of the head of Medusa [Oculus ♉ or. 22 59¾, alt. mer.] [capitis Meduſæ]	73° 24⅙′

1558

Reading	Value	Remark
The eye of ♉, east, 20° 6¾′, the bright [star] of the □ of Ursa Minor passed through the meridian, having altitude by the revolving [quadrant] [Oculus ♉ or. 20 6¾ tranſiuit] [lucida □ vrſæ min. per mer.] [habens alt. per Volub.]	41° 46½′	doubtful [dubia]
The eye of ♉, east, 19° 0¾′, the bright [star] of the side of Perseus passed through the meridian at altitude by the revolving [quadrant] [Oculus ♉ or. 19 0¾ tranſiuit] [lucida lateris Perſei per] [merid. in alt. per Volub.]	82° 25¾′	doubtful [dubia]

1559

The difference of transit on the equator is therefore 1° 6′. And since these two stars pass the meridian almost at the same time, a test of the instruments can be made from the altitude and distance of both. [Eſt itaque differentia tranſitus in æquatore 1° 6′. Cumque hæ duæ ſtellæ meridianum fere ſimul tranſeant, poteſt ex vtriusque alt. & diſtantia fieri periculum inſtrumentorum.][1560]

[1558] "Reading" and "Value" are this edition's heads; the page prints none. The first and third labels run over two lines, the value on the second. *Oculus ♉ or. 23 59,* and *Oculus ♉ or. 22 59¾,* stand at the head of those labels, each with a comma after its figures; these figures, printed without unit marks, are given as degrees and minutes. In *Inferior cap. Meduſæ* the abbreviation *cap.* shows no case and is given here as a genitive, "of the head", with *Inferior* as "the lower [star]"; the third label prints *capitis Meduſæ.* The values, printed without unit marks, are given as degrees and minutes.

[1559] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. These rows stand at the head of the right column. Each label runs over three lines, the value at the right of the third; *dubia* stands each time alone on the next line, at the right edge of the column, without a point. *Oculus ♉ or. 20 6¾* and *Oculus ♉ or. 19 0¾* stand at the head of the labels, with no comma after the figures; these figures, printed without unit marks, are given as degrees and minutes. The sort □ follows *lucida* directly, with no *in.* □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

[1560] *alt.* is abbreviated and shows neither case nor number; it is given here as "altitude", in the singular, with *diſtantia.*

Reading	Value
The eye of ♉, east, 12° 52′, the other, less bright [star] in the meridian had minimum altitude [Oculus ♉ or. 12 52 altera minus lucida] [in merid. habuit alt. min.]	39° 14¼′
Declination of this less bright [star] [Declin. huius minus] [lucidæ]	73° 20′
	73° 20¼′
Of the brighter [star] in the □ of Ursa Minor [Lucidioris in □ vrſæ] [minoris]	75° 51′
	75° 51¼′

1561

Declination of the bright [star] of Perseus, with both, 48° 19′, when [it] was from the meridian toward the west, therefore the armillae are in good order. [Decl. lucidæ Perſej, vtroque 48 19 cum a meridie ad occaſum eßet, ergo Armillæ ſe bene habent.][1562]

Time	Reading	Value
$3^h\ 49^m\ 55^s$ [H. 3 49′ 55″]	Schedar of Cassiopeia, minimum altitude [Schedir Caßiopeæ] [alt. minima]	20° 13′
$3^h\ 55^m\ 45^s$ [3 55 45]	Minimum meridian altitude of the pole star [Stellæ Polaris] [alt. mer. min.]	52° 59⅚′
$4^h\ 5^m\ 5^s$ [4 5 5]	Minimum altitude of the bend of Cassiopeia [Flexuræ Caß.] [alt. min.]	24° 24½′
	The calf of Boötes in the meridian by the revolving [quadrant] [Sura Bootis in merid. per Vol.]	54° 37¾′
	Declination of the bright [star] in the □ of Ursa Minor [Declin. luc. in □ vrſæ] [minoris]	75° 49½′
		75° 49′
	Declination of the other, less bright [star] [Declin. alterius minus] [lucidæ]	73° 17½′
		73° 17¼′

1563

when [they] were above the pole. [cum eßent ſupra Polum.][1564]

[1561] "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second; *Oculus ♉ or. 12 52* stands at its head, with no comma after the figures, which are printed without unit marks and given as degrees and minutes. The second and third labels run over two lines, a value at the right of each line, and are given whole on their first rows. *Lucidioris in □ vrſæ / minoris* is a genitive standing alone. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

[1562] *48 19* stands at the end of the first of the three lines, in the figure positions of the column, with *vtroque* directly before it; it is printed without unit marks and is given as degrees and minutes. The page prints *Perſej* here.

[1563] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The times are printed at the head of their labels' first lines: *H. 3 49′ 55″* with its marks, *3 55 45* and *4 5 5* without *H.* and without marks, given as hours, minutes and seconds. The first three labels run over two lines, the value on the second. *per Vol.* stands at the end of its label's line, directly before the figures. The last two labels run over two lines, a value at the right of each line, and are given whole on their first rows. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

[1564] This line is set to the right of the column, with a point, under the four values above it.

Reading	Value	Remark
Maximum altitude of the bright [star] in the □ of Ursa Minor [Alt. max. luc. in □ vrſæ min.]	70° 5¾′	uncertain on account of clouds [incerta propter nubes.]

1565

Note. All these altitudes by the revolving [quadrant] are found greater than correct by 1¼′, which after 20 January, with a new cylinder applied, was rectified. [Nota. Omnes hæ altitudines per Volub. deprehenduntur iuſto maiores 1¼ M., quod poſt diem 20 Januarij, appoſito nouo Cilindro, eſt rectificatum.][1566]

On 15 January [DIE 15 JANUARIJ.]

Reading	Value
Minimum altitude of Lyra by the revolving [quadrant] [Alt. Lyræ min. per Volub.]	4° 33½′

1567

On 20 January [DIE 20 JANUARIJ.]

Reading	Value
Meridian altitude of the upper foot of Erichthonius [Superioris pedis Ericht.] [alt. mer.]	66° 31′
The brighter of the Kids in the meridian [Hædorum lucidior in merid.]	74° 39¾′
The distance was observed between the bright [star] of Perseus and the bright [star] in the □ of Ursa Minor, on account of the altitudes, [Obſeruabatur diſtantia inter lucidam] [Perſej & lucidam in □ vrſæ] [min. propter altitudines,]	55° 50½′
	55° 50¼′
among rather thin clouds [inter rariuſculas nubes]	55° 50¼′

1568

N. B. All the altitudes following after 20 January are more exact by the revolving [quadrant], on account of the rectified cylinder applied to it, the

[1565] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *incerta propter nubes.* stands alone on the next line, set to the right of the column. □ is printed as a square sort. The value, printed without unit marks, is given as degrees and minutes.

[1566] *1¼ M.* is given as minutes of arc.

[1567] "Reading" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes; its first figure, *4*, stands in the units position.

[1568] "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second. The sentence *Obſeruabatur … nubes* runs over four lines: the first carries no figures; the first value stands at the right of the second line, the second value at the right of the third line (*min. propter altitudines,*, with its comma), and the third value at the right of the fourth line (*inter rariuſculas nubes*). The words of the first three lines are given whole on the first row, and *inter rariuſculas nubes* on the row of the value printed on its line. □ is printed as a square sort. The page prints *Perſej* here. The values, printed without unit marks, are given as degrees and minutes.

mural [quadrant] nevertheless having been taken into counsel. [N. B. Omnes altitudes ſequentes poſt 20 Januarij diem ſunt exactiores per Volub. ob Cilindrum ej rectificatum appoſitum, adhibito tamen murali in conſilium.]

Reading	No.	Value
Between Capella and the lower head of ♊ [Inter Capellam &] [inferius caput ♊]	I	34° 19′
	II	34° 18½′
	III	34° 18½′

1569

On 26 January, in the morning [DIE 26 JANUARIJ, MANE.]

Time	Reading	Value
$2^{h}\ 26^{m}\ 47^{s}$ [2^{H} 26′ 47″]	[When the heart of ☌ was distant from the meridian, west, 30° 10⅙′, the bright [star] of the Chair of Cassiopeia passed the meridian at altitude [Quando cor ☌ abfuit a merid.] [occ. 30 10⅙, tranſiuit lucida Cathe-] [dræ Caßiop. mer. in alt.]	22° 48′
$2^{h}\ 48^{m}\ 55^{s}$ [2 48 55]	[The heart of ☌, west, 35° 46′, the eleventh [star] of Cassiopeia passed through the meridian at altitude [Cor ☌ occ. 35 46, tranſiuit vn-] [decima Caßiop. per mer. in alt.]	26° 33¾′
$2^{h}\ 53^{m}\ 25^{s}$ [2 53 25]	[The heart of ☌, west, 36° 58′, altitude of the head of Cassiopeia passing through the meridian [Cor ☌ occ. 36 58, alt. capitis Caß.] [per merid. tranſeuntis]	17° 33⅙′
$2^{h}\ 56^{m}\ 29^{s}$ [2 56 29]	[The heart of ☌, west, 37° 46′, when Schedar of Cassiopeia passed the meridian at altitude [Cor ☌ occ. 37 46, quando Sche-] [dir Caßiop. tranſiuit mer. in alt.]	20° 11′
$3^{h}\ 3^{m}\ 51^{s}$ [3 3 51]	[The heart of ☌, west, 39° 31½′, the pole star was in the meridian and had altitude [Cor ☌ occ. 39 31½, fuit ſtella Po-] [laris in merid. & habuit alt.]	52° 58$^{1}/_{12}$′

1570

Note. Something was wanting in the plumb line when the pole star was passing, which afterward, before the transit of Spica ♍, was corrected. [Nota. Aliquid in perpendiculo deſiderabatur cum ſtella polaris tranſiret, quod poſtea ante tranſitum Spicæ ♍ corrigebatur.]

1569 "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over two lines and is given whole on its first row; the numerals *I*, *II*, *III* stand directly before the three values, the third on a line of its own under the label. The values, printed without unit marks, are given as degrees and minutes.

1570 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The times are printed at the head of their labels' first lines: the first as *2ᴴ 26′ 47″*, with a small raised capital *H* after the hour and the marks ′ and ″, the other four as three figures without *H.* and without marks, given as hours, minutes and seconds. The figures printed after *occ.* in each label stand within the line, each with a comma after it; printed without unit marks, they are given as degrees and minutes. The first label runs over three lines, and its value follows *in alt.* on the third, to the left of the figure positions of the column; the second and fourth labels run over two lines and their values stand alone on a third; the third and fifth carry their values at the right of their second lines. *58$^{1}/_{12}$* is printed with a fraction of one twelfth. The values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
3^{h} 11^{m} 23^{s} [3 11 23]	The heart of ♑, west, 41° 25′, the bend of Cassiopeia passed the meridian at altitude [Cor ♑ occ. 41 25, Flexura Caß.] [tranſiuit merid. in alt.]	24° 23⅓′
3^{h} 57^{m} 53^{s} [3 57 53]	The heart of ♑, west, 48° 12½′, the knee of Cassiopeia through the meridian at minimum altitude [Cor ♑ occ. 48 12½, Genu Caßiop.] [per merid. in alt. min.]	23° 59¼′
4^{h} 3^{m} 37^{s} [4 3 37]	The heart of ♑, west, 54° 39½′, the bright foot of Cassiopeia through the meridian at minimum altitude [Cor ♑ occ. 54 39½, Luc. pes Caß.] [per merid. in alt. min.]	27° 30¾′
4^{h} 10^{m} 30^{s} [4 10 30]	The heart of ♑, west, 56° 24′, the far end of the tail of Ursa Major at maximum altitude [Cor ♑ occ. 56 24, Extrema cau-] [dæ vrſæ maior. in alt. max.]	85° 29⅔′
4^{h} 14^{m} 16^{s} [4 14 16]	The heart of ♑, west, 57° 20′, the calf of Boötes through the meridian at altitude by the revolving [quadrant] [Cor ♑ occ. 57 20, Sura Bootis] [per mer. in alt. per Volub.]	54° 36′

1571

Time	Reading	Instrument	Value	Re-mark
4^{h} 35^{m} 34^{s} [4 35 34]	The heart of ♑, west, 62° 47¾′, Arcturus passed through the meridian at altitude [Cor ♑ occ. 62 47¾, tranſiuit] [Arcturus per merid. in alt.]	by the revolving [quadrant] [per Volub.]	55° 28½′	
	Meridian altitude of the left knee of Boötes [Genu ſiniſtri Bootis alt. mer.]		49° 39½′	doubt-ful [du-bia]
	Meridian altitude of the lowest [star] of the left foot of Boötes [Infimæ ſin. pedis Bootis alt. mer.]		37° 48′	
5^{h} 19^{m} 40^{s} [5 19 40]	The head of Medusa, minimum altitude [Cap. Meduſæ alt. min.]		5° 21¾′	
	Minimum altitude of the bright [star] of the side of Perseus [Lucidæ lateris Perſej alt. min.]		14° 16′	
	The bright [star] of the staff of Boötes, meridian altitude [Luc. baculi Bootis alt. mer.]		68° 59½′	
	Declination of the bright [star] in the □ of Ursa Minor [Declin. lucidæ in □] [vrſæ min.]		75° 49½′	
			75° 49⅓′	

1571 "Time", "Reading" and "Value" are this edition's heads; the page prints none. These rows end the left column. Each time is printed at the head of its label's first line as three figures without *H.* and without marks, given as hours, minutes and seconds. The figures printed after *occ.* in each label stand within the line, each with a comma after it; printed without unit marks, they are given as degrees and minutes. Each label runs over two lines; the value of the fourth stands alone on a third line, the others at the right of the second. *Luc.* in *Luc. pes Caß.* is abbreviated and shows no case; it is given here as an adjective with *pes*, "the bright foot"; it can also be "the bright [star]", with *pes* beside it. *per Volub.* stands at the end of the last label's second line, directly before the figures. The values, printed without unit marks, are given as degrees and minutes. At the bend, the knee and the foot of Cassiopeia the times are printed 3 11 23, 3 57 53 and 4 3 37, which stand 46^{m} 30^{s} and then 5^{m} 44^{s} apart, while the figures after *Cor* ♑ *occ.* on the same lines, 41 25, 48 12½ and 54 39½, rise by 6° 47½′ and then 6° 27′; the *5* of *3 57 53* is confirmed on a native-resolution crop, and the figures are given as printed, with no correction.

Time	Reading	Instrument	Value	Remark
	Meridian altitude of the preceding [star] in the Crown [Præcedentis in Corona alt. mer.]		64° 20′	
	Declination of the other, less bright [star] in the □ of the Bear [Declin. alterius minus] [lucidæ in □ vrſæ]		73° 16′	
			73° 16½′	
5h 29m 57s [5 29′ 57″]	[Spica ♍, west, 27° 11′, the bright [star] in the □ of Ursa Minor through the meridian at maximum altitude [Spica ♍ occ. 27 11, Lucida] [in □ vrſæ min. per merid. in alt.] [max.]		70° 4′	
5h 55m 20s [55 20]	[Spica ♍, west, 33° 38½′, the bright [star] of the Crown through the meridian at altitude [Spica ♍ occ. 33 38½, Lucida] [Coronæ per merid. in alt.]		62° 15⅓′	
5h 58m 39s [58 39]	[Spica ♍, west, 34° 26′, the following, less bright [star] in the □ of Ursa Minor at maximum altitude [Spica ♍ occ. 34 26, Sequens] [minus lucida in □ vrſæ min. in] [alt. max.]		72° 35⅚′	

1572

Reading	Value
	72° 35′ 50″
	62° 15′ 20″
	134° 51′ 10″
[Corresponding distance] [[Reſp. diſtantia]]	45° 8′ 50″

1573

1572 "Time", "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. These rows stand at the head of the right column, with no date line above them; they follow the last row of the left column. The times are printed at the head of their labels' first lines: *H. 5 29′ 57″* with its marks, the other four as three figures without *H.* and without marks, given as hours, minutes and seconds. The figures printed after *occ.* in four labels stand within the line, each with a comma after it; printed without unit marks, they are given as degrees and minutes. *per Volub.* stands at the head of the third line of the first label, with the figures at its right. *dubia* stands alone on the line under its value, at the right edge of the column, without a point. *Genu ſiniſtri* is given here as a genitive, "of the left knee", the adjective with the noun; by the letter *Genu* can also be a nominative, "the knee of the left". *Cap.* and *Luc.* are abbreviated and show no case; they are given here as nominatives. The values of the third and ninth rows stand alone on the line under their labels. *Declin. lucidæ in □ / vrſæ min.* and *Declin. alterius minus / lucidæ in □ vrſæ* each carry a value at the right of both lines and are given whole on their first rows. The last three labels run over three, two and three lines, the value on the last. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

1573 "Reading" and "Value" are this edition's heads; the page prints none. The first three rows are three lines of three figures each, set in the middle of the column, with a horizontal rule between the second and the third. *Reſp. diſtantia* is printed enclosed in square brackets in the edition itself, and the English keeps that printed enclosure round "Corresponding distance"; its three figures stand under those of the line above. The values, printed as three figures without unit marks, are given as degrees, minutes and seconds.

The bright [star] of the Crown and the following, less bright [star] of Ursa Minor passed the meridian at the same time. So also the bright [star] of Perseus and the brighter [star] of the □ of Ursa Minor pass the meridian at the same time. [Lucida Coronæ & ſequens minus luc. vrſæ min. tranſierunt ſimul meridianum. Sic etiam lucida Perſei & lucidior □ vrſæ minoris meridiem ſimul tranſeunt.][1574]

On the same day, 26 January, in the evening [EODEM DIE 26 JAN., VESPERI.]

Time	Reading	Value	Remark
$5^h\ 40^m\ 25^s$ [H. 5 40′ 25″]	[The eye of ♉, east, 18° 49½′, the bright [star] of Perseus through the meridian at maximum altitude [Oculus ♉ or. 18 49½, Lucida] [Perſei per merid. in alt. max.]	82° 23½′	doubtful [dubia]
	Afterward the brighter [star] in the □ of Ursa Minor at minimum altitude [Poſtea lucidior in □ vrſæ min.] [in altit. min.]	41° 45½′	
	The maximum altitude of the same is [Alt. eiusdem max. eſt]	70° 4′	
	Therefore the true altitude of the pole [Ergo vera poli altitudo]	55° 54′ 45″	
$6^h\ 5^m$ [H. 6 5′]	The other, less bright [star] in the □ of Ursa Minor passed through the meridian, when the eye of ♉ was distant from the meridian, east, 12° 51′, at minimum altitude [Tranſiuit altera minus lucida] [in □ vrſæ min. per merid. cum] [abeßet oculus ♉ a meridie or.] [12 51, in alt. min.]	39° 13⅙′	
	Altitude of the fourth [star] of Draco below the pole [Quartæ Draconis alt. infra] [Polum]	26° 22′	

1575

Reading	Value
Between the bright [star] of Perseus and the bright [star] in the □ of Ursa Minor [Inter luc. Perſei &] [luc. in □ vrſæ] [minoris]	55° 50⅓′
	55° 50½′
	55° 50½′

[1574] The page prints *meridianum* in the first sentence and *meridiem* in the second. The sort □ follows *lucidior* directly, with no *in*.

[1575] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The two times are printed at the head of their labels' first lines, after *H.: 5 40′ 25″* with its marks, given as hours, minutes and seconds, and *6 5′* with the mark *′*, given as hours and minutes. *18 49½,* and *12 51,* stand within their lines, each with a comma after it; printed without unit marks, they are given as degrees and minutes. The value of the first row stands alone on a third line, and *dubia* alone on the line under it, at the right edge of the column, without a point. *in altit. min.* and *Polum* stand on the second lines of their labels, set to the right, directly before the figures. *Ergo vera poli altitudo* is one indented line; its value is printed as three figures, the third to the right of the two figure positions of the column, and is given as degrees, minutes and seconds. □ is printed as a square sort. The other values, printed without unit marks, are given as degrees and minutes.

1576

These observations were repeated three times so that they might be exactly established, since the observations of the quadrant can be examined, for these two stars pass the meridian almost at the same time. [Hæ obſeruationes ter repetebantur vt exacte conſtarent, ſiquidem poßunt examinari Quadrantis obſeruationes, nam hæ duæ ſtellæ meridianum fere ſimul tranſeunt.]

On 27 January [DIE 27 JANUARIJ.]

[At] 5^h $37\frac{5}{6}^m$ the eye of ♉, east, 18° 58¼′, the bright [star] of Perseus through the meridian at altitude 28° 24⅙′ or 5″. [H. 5 37⅚′ Oculus ♉ or. 18 58¼, Lucida Perſei per Mer. in alt. 28 24⅙ vel 5″.][1577]

The other [star], which is the bright [star] in Ursa Major, seemed to have minimum altitude 41° 46′, but [it] was a little beyond the meridian, and therefore the altitude was smaller, of which you can make an investigation from the azimuth. [Altera videbatur quæ eſt Lucida in Vrſa maiore habere Alt. min. 41 46, ſed erat paulo vltra Meridianum, ideoque minor erat altitudo, cuius potes ex Azimutho facere indagationem.][1578]

[At] 5^h $54\frac{1}{4}^m$ the eye of ♉ was east 14° 46¼′, azimuth of the brighter [star] mentioned before from the north toward the east 1° 45′, altitude 41° 48½′ [H. 5 54¼ Fuit oculus ♉ or. 14 46¼, Lucidioris prædictæ Azim. a Sept. ad ortum 1 45, Alt. 41 48½][1579]

[At] 6^h $2\frac{1}{3}^m$ the other, less bright [star] in the □ of the Bear passed through the meridian, and had altitude 39° 13¼′. The eye of ♉ was then distant from the

[1576] "Reading" and "Value" are this edition's heads; the page prints none. These rows stand at the head of the left column, with no date line above them on this page. The label runs over three lines, a value at the right of each line, and is given whole on its first row. *luc.* is abbreviated both times and shows no case. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

[1577] The time is printed as *H. 5 37⅚′*, with the mark ′ after the fraction. *18 58¼* and *28 24⅙*, printed without unit marks, are given as degrees and minutes; *5″* is printed with its mark. The figures *28 24⅙* follow *in alt.* directly within the line; the first pair is printed as the figure *2* followed by the figure *8*. On p. 236 the altitude of the bright [star] of Perseus is printed 82 24 10, twice; the *28* here is confirmed on a native-resolution crop, and both figures are given as printed, with no correction.

[1578] *41 46*, printed without unit marks, is given as degrees and minutes. *cuius* shows no gender; it is given here as "of which", and the grammar does not settle whether it answers to *altitudo* or to the whole statement before it. The page prints *in Vrſa maiore* here. The word *maiore* is confirmed on a native-resolution crop; on p. 236 a minimum altitude of 41 45 30 is printed for the bright [star] in the square of Ursa Minor. The page does not say whether the two name the same star; both are given as printed, and no correction is made.

[1579] The time is printed as *H. 5 54¼*, without marks, and is given as hours and minutes. *14 46¼*, *1 45* and *41 48½*, printed without unit marks, are given as degrees and minutes; *41 48½* stands at the right of its line, in the figure positions of the column. *Lucidioris prædictæ* is a genitive and is given here with *Azim.*; *Azim.* and *Alt.* are abbreviated and show no case.

meridian, east, 12° 49′. [H. 6 2⅓ Tranſiuit altera in □ Vrſæ minus lucida per Merid., habuitque Alt. 39 13¼. Diſtabat tunc Oculus ϒ a Merid. or. 12 49.][1580]

[At] 6^{h} $6\frac{5}{6}^{m}$ the bright [star] of Ursa Minor, azimuth 2° 44′. Altitude 41° 51¾′, the eye of ϒ was then from the meridian 11° 38⅙′. [6 6⅚ Luc. Vrſæ min. Az. 2 44. Alt. 41 51¾, fuit tunc Oculus ϒ a Mer. 11 38⅙.][1581]

Time	Reading	Value	Remark
8^{h} 10^{m} 43^{s} [8 10 43]	The bright [star] of ♈, west, 56° 28′, altitude of the bright shoulder of Erichthonius [Lucida ♈ occ. 56 28, Alt. luc.] [hum. Erichtonij]	78° 52⅔′	
	Altitude of the other, less bright shoulder of Erichthonius [Altit. alterius humeri Ericht. minus] [lucidi]	71° 10⅓′	
	Minimum altitude of the pole star [Stellæ Polaris alt. min.]	52° 58′ 53″	good [bona]
	Minimum altitude of the bend of Cassiopeia [Flexuræ Caßiopeæ alt. min.]	24° 23′ 45″	

1582

Reading	No.	Value
Distance between the bright [star] of the Crown and the following, less bright [star] in the □ of Ursa Minor [Diſt. inter Lucidam] [Coronæ & ſequentem] [in □ Vrſæ min.] [minus lucid.]	I	45° 8½′
	II	45° 8¾′
	III	45° 8½′
	IIII	45° 8⅓′

[1580] The time is printed as *H. 6 2⅓*, without marks, and is given as hours and minutes. *39 13¼* and *12 49*, printed without unit marks, are given as degrees and minutes. □ is printed as a square sort.

[1581] The time is printed as the two figures *6 6⅚*, without *H.* and without marks, and is given as hours and minutes. *Luc.* is abbreviated and shows no case; it is given here as a nominative, "the bright [star] …, azimuth"; it can also be a genitive, "azimuth of the bright [star]". *2 44*, *41 51¾* and *11 38⅙*, printed without unit marks, are given as degrees and minutes.

[1582] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints none. These rows stand at the head of the right column; no date line stands in that column. The time is printed at the head of the first line as the three figures *8 10 43*, without *H.* and without marks, and is given as hours, minutes and seconds. *56 28,* stands within that line, with a comma after it; printed without unit marks, it is given as degrees and minutes. The first two labels run over two lines, the value on the second. *luc. hum.* is abbreviated and shows no case; it is given here as "of the bright shoulder", the adjective with its noun (the next label prints *humeri … minus lucidi*); it can also be "of the bright [star] of the shoulder". The page prints *Erichtonij* and *Ericht. bona* stands alone on the line under its value, at the right edge of the column, without a point. The values of the first two rows, printed without unit marks, are given as degrees and minutes; those of the last two rows are printed as three figures and are given as degrees, minutes and seconds.

1583

These two stars pass the meridian almost at the same time. [Hæ duæ ſtellæ fere ſimul Merid. tranſeunt.]

Reading	Value
Minimum meridian altitude of the right shoulder of Perseus [Alt. mer. min. dext. hum.] [Perſei]	17° 45½′
Minimum altitude of the head of Medusa [Alt. min. Capitis Meduſæ]	5° 21½′
Spica ♍ from the meridian, west, 27° 23½′, minimum altitude of the bright [star] in the □ of Ursa Minor [Spica ♍ a Merid. occ. 27 23½, Lucidæ] [in □ Vrſæ min. Alt. min.]	70° 3′ 55″
And the right ascension of the midheaven was then [Eratque tunc Aſc. R. M. C.]	123° 8′
Minimum altitude of the bright [star] of the side of Perseus [Lucidæ lateris Perſei Alt.] [min.]	14° 16′
Spica ♍, west, 33° 36′, meridian altitude of the bright [star] of the Crown [Spica ♍ occ. 33 36, Lucidæ] [Coronæ alt. mer.]	62° 15¼′
Spica, west, 34° 45′, maximum altitude of the following [star] in the □ of the Bear [Spica occ. 34 45, ſequentis] [in □ Vrſæ alt. max.]	72° 36′
Minimum altitude of the pole star [Stellæ Polaris alt. min.]	52° 58′ 55″
Altitude of the pole [Alt. Poli]	55° 54′ 45″
Maximum altitude of the bright [star] of the □ of Ursa Minor [Lucidæ □ Vrſæ min. alt. max.]	70° 3′ 55″
The minimum altitude is [Alt. min. eſt]	41° 45′ 40″
Altitude of the pole [Alt. Poli]	55° 54′ 47″

1584

On 29 January, in the morning [DIE 29 JANUARIJ, MANE.]

[1583] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over four lines and is given whole on its first row; the numerals *I*, *II*, *III*, *IIII* stand directly before the four values, one on each line of the label. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

[1584] "Reading" and "Value" are this edition's heads; the page prints none. No time stands before any of these rows. *27 23½, 33 36,* and *34 45,* stand within their lines, each with a comma after it; printed without unit marks, they are given as degrees and minutes. The labels of the first, third, fifth, sixth and seventh rows run over two lines, the value on the second. *dext. hum.* is abbreviated and shows no case; it is given here as a genitive, "of the right shoulder". In the third row the page prints *Alt. min.* beside the figures *70 3 55*; the tenth row prints *alt. max.* beside the same figures. *Eratque tunc Aſc. R. M. C.* is one indented line, its figures *123 8* at the end of the line; *Aſc. R. M. C.* is given as "the right ascension of the midheaven". The page prints *Spica occ.* in the seventh row with no sign after *Spica*. The figures of the two rows *Alt. Poli* follow those words directly and stand to the left of the figure positions of the column; *41 45 40,* follows *eſt* directly, with a comma after it. In the tenth row the sort □ follows *Lucidæ* directly, with no *in*. □ is printed as a square sort. The values printed as three figures are given as degrees, minutes and seconds; the values printed as two figures are given as degrees and minutes. The minimum altitude after *Alt. min. eſt* is printed 41 45 40 (the *40* confirmed on a native-resolution crop), while p. 236 prints the minimum altitude of the bright [star] in the square of Ursa Minor as 41 45 30; both are given as printed, and no correction is made.

Reading	Instrument	Value
Minimum altitude of the pole star [Altitudo Stellæ Polaris minima]	by the revolving [quadrant] [per Volub.]	52° 59′
	by the new sextant [per Sext. nouum]	52° 59⅓′
Meridian altitude of the bend of Cassiopeia [Flexuræ Caßiopeæ Alt. merid.]	by the revolving [quadrant] [per Volub.]	24° 23⅔′
	by the new sextant [per Sext. nouum]	24° 23¾′
Arcturus in the meridian had altitude [Arcturus in Meridiano habuit Alt.]		55° 28⅓′

1585

Reading	No.	Value
Between the bright [star] of the Crown and the following, less bright [star] in the □ of Ursa Minor [Inter Lucidam Coronæ & ſequentem in □ vrſæ] [minoris minus lucidam]	I	45° 8⅔′
	II	45° 8⅔′
	III	45° 8⅔′

1586

H. M. S.	Spica ♍, west [Spica ♍ occ.]	Reading	Value
	27° 29′	The bright [star] in the □ of Ursa Minor, maximum altitude [Luc. in □ vrſæ min. alt. max.]	70° 3′ 55″
		The bright [star] of the side of Perseus, minimum altitude [Luc. lateris Perſei alt. min.]	14° 16½′
$5^h\ 54^m\ 34^s$ [5 54 34]	33° 36′	The bright [star] of the Crown [Lucida Coronæ]	62° 15⅙′
$5^h\ 59^m\ 20^s$ [5 59 20]	34° 45¾′	Maximum altitude of the following [star] in the □ of the Bear [Sequentis in □ vrſæ alt. max.]	72° 36′

[1585] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. This date line and the rows under it are set the full width of the page, below the two columns. *per Volub.* stands on the line of its label, after the label, and *per Sext. nouum* alone on the next line, under *per Volub.*, each with its value at the right. The values, printed without unit marks, are given as degrees and minutes.

[1586] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over two lines and is given whole on its first row; the numerals *I*, *II*, *III* stand directly before the three values, the third on a line of its own under the label. □ is printed as a square sort. The values, printed without unit marks, are given as degrees and minutes.

1587

Reading	Value
The bright [star] of the Crown [Luc. Coronæ]	62° 15′ 10″
The following [star] in the □ of the Bear [Sequens in □ vrſæ]	72° 36′ 0″
	134° 51′ 10″
	45° 8′ 50″

1588

This distance through the meridian is a little greater than that which was taken by the sextant, and that by 10″, whereas [it] ought rather to be smaller by as many. [Hæc diſtantia per meridianum paulo maior eſt ea quæ per Sextantem capiebatur, idque in 10″, cum potius totidem minor eße deberet.][1589]

Reading	Value
N. B. The minimum altitude of the pole star this year [N. B. Altitudo ſtellæ Polaris hoc anno minima]	52° 58′ 55″
If to this we shall add its distance from the pole, which is [Cui ſi addemus eius a Polo diſtantiam quæ eſt]	2° 55′ 50″
The altitude of the pole then [Altitudo Poli tunc]	55° 54′ 45″

1590

But since it can happen that its removal from the pole is now a little smaller, inasmuch as [it] scarcely exceeds 2° 55′ 45″, for [it] cannot be smaller, the exact altitude of the pole will be 55° 54′ 40″. [Verum quia fieri poteſt, vt remotio eius a Polo nunc ſit paulo minor, vtpote 2° 55′ 45″ vix tranſcendat, minor enim esse nequit, erit Poli exacta Altitudo 55° 54′ 40″.]

[1587] *H. M. S.* and *Spica* ♍ *occ.* are the page's heads, printed in smaller type on one line; "Reading" and "Value" are this edition's heads, and the page prints none over the labels or over the figures at the right. The first row carries no figures under *H. M. S.*; the second row carries none under either head. *Luc.* is abbreviated and shows no case; it is given here as a nominative both times. □ is printed as a square sort. The figures under *Spica* ♍ *occ.*, printed without unit marks, are given as degrees and minutes; the value of the first row is printed as three figures and is given as degrees, minutes and seconds; the other values are given as degrees and minutes.

[1588] "Reading" and "Value" are this edition's heads; the page prints none. These four lines stand under the labels of the table above; a horizontal rule stands between the second and the third, under the figures. □ is printed as a square sort. The values, printed as three figures without unit marks, are given as degrees, minutes and seconds.

[1589] These four lines of prose stand at the right of the page, beside the four lines of figures above. *10″* is printed with its mark. *cum … deberet* is given here as "whereas … ought"; *cum* with a subjunctive can also be "since".

[1590] "Reading" and "Value" are this edition's heads; the page prints none. The page is set the full width of the measure. The first value is printed with its marks, *52° 58′ 55″*; the other two are printed as three figures without unit marks and are given as degrees, minutes and seconds. A horizontal rule stands under the figures of the second line. *Cui* is given as "to this"; the second line is a conditional clause, and the page prints no verb in the third line.

Reading	Value
Maximum altitude of the bright [star] in the square of Ursa Minor [Lucidæ in quadrato vrſæ min. alt. maxima]	70° 3′ 55″
minimum [minima]	41° 45′ 30″
	28° 18′ 25″
	14° 9′ 12″
Hence results the altitude of the pole [Hinc prouenit Alt. Poli]	55° 54′ 42″
Maximum altitude of the other, less bright [star] in the □ of the Bear [Alteræ minus lucidæ in □ vrſæ alt. maxima]	72° 36′ 0″
minimum [minima]	39° 13′ 15″
	33° 22′ 45″
	16° 41′ 23″
Hence results the altitude of the pole [Hinc prouenit Alt. Poli]	55° 54′ 38″

1591

N. B. On the altitude of the pole. [N. B. De Poli altitudine.]

Reading	Value	Remark
The altitude of the pole this year is, from the pole star, by limiting the distance of both from the pole [Altitudo Poli hoc anno eſt ex Polari ſtella, limitando vtriusque] [diſt. a Polo]	55° 54′ 45″	by the revolving quadrant verified with a new cylinder (for all three) [per Q. Volub.] [nouo cylindro] [verificatum]
The altitude from the bright [star] of the □ of Ursa Minor is [Altit. e lucida □ vrſæ minoris eſt]	55° 54′ 42″	
But the altitude from the less bright [star] of the □ of the Bear is [Altit. vero e minus lucida □ vrſæ eſt]	55° 54′ 38″	

1592

For this reason we shall have acted nearest to the truth by establishing the altitude of the pole of this place exactly 55° 54′ 40″. [Quapropter veritati proxime egerimus conſtituendo poli altitudinem huius loci exacte 55° 54′ 40″.][1593]

But that the altitudes taken by the quadrant were precise is clear from this, [Altitudines vero per Quadrantem acceptas fuiße exquiſitas hinc patet,]

[1591] "Reading" and "Value" are this edition's heads; the page prints none. The first line prints *quadrato* as a word; the sixth prints the square sort □. *minima* stands each time alone, under *maxima* of the line above. A horizontal rule stands under the figures of each *minima* line; the two lines under each rule carry figures only. The values, printed as three figures without unit marks, are given as degrees, minutes and seconds.

[1592] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second. A brace at the right of the three values joins the three lines; *per Q. Volub.*, *nouo cylindro* and *verificatum* stand to the right of the brace, one on each line. *vtriusque* is given as "of both"; the page does not say which two things are meant. In the second and third lines the sort □ follows *lucida* directly, with no *in*. □ is printed as a square sort. The values, printed as three figures without unit marks, are given as degrees, minutes and seconds.

[1593] *egerimus* is given here as a future perfect, "we shall have acted"; by its form it can also be a perfect subjunctive, "we would act".

Reading	Value
that the bright [star] of Perseus had altitude [quod lucida Perſei habuerit alt.]	82° 24′ 10″
the bright [star] in the □ of Ursa Minor [lucida in □ vrſæ min.]	41° 45′ 30″
Sum of both [Summa vtriusque]	124° 9′ 40″
whose difference to the semicircle [cuius differentia ad ſemicirculum]	55° 50′ 20″

1594

Since therefore these two stars pass the meridian almost at the same time, so that the difference is in numbers smaller than the distance of the stars by not much, 10″, and since the distance by the sextant is 55° 50′ 30″, it is clear that it is in good order. [Cum itaque hæ duæ ſtellæ fere ſimul meridianum tranſeant, ita vt differentia numeris non multo 10″ ſit minor diſtantia ſtellarum, cumque diſtantia per Sextantem ſit 55° 50′ 30″, patet eum ſe bene habere.][1595]

On 30 January [DIE 30 JANUARIJ.]

For investigating the refraction of the stars from both meridian altitudes toward the south and the north after the exact verification of the quadrant. [Pro refractione ſtellarum indaganda ex vtraque altitudine meridiana verſus auſtrum et boream poſt exactam quadrantis verificationem.][1596]

Reading (left)	Value (left)	Reading (right)	Value (right)
		Maximum altitude of the right shoulder of Perseus [Dextri humeri Perſei Alt. maxima]	85° 54′ 20″
			34° 5′ 20″
Declination at minimum altitude [Decl. in min. alt.]	51° 50′ 50″	Declination, north [Decl. B.]	51° 49′ 0″
		Altitude of the pole [Alt. Poli]	55° 54′ 40″
at maximum altitude [in max. alt.]	51° 49′ 0″	Minimum altitude [Alt. minima]	17° 45′ 30″
			38° 9′ 10″

1594 "Reading" and "Value" are this edition's heads; the page prints none. The sentence that opens in the line above runs on through these four lines; the page prints no verb in the last three. A horizontal rule stands under the figures of the second line. *cuius* shows no gender; "whose" is given with the sum, the noun nearest before it, and the grammar does not settle it. □ is printed as a square sort. The values, printed as three figures without unit marks, are given as degrees, minutes and seconds.

1595 *differentia* and *diſtantia ſtellarum* show no case in print. *differentia* is given here as the subject and *diſtantia ſtellarum* as the term of comparison, "smaller than the distance of the stars"; the other reading makes *diſtantia ſtellarum* the subject, "the distance of the stars is smaller by a difference". *numeris* is given as "in numbers". *non multo 10″* is given as "by not much, 10″"; the page prints no word between *multo* and the figure. *eum* is masculine; *Sextantem*, in the clause before it, and *Quadrantem*, in the sentence that opens this passage (*Altitudines vero per Quadrantem acceptas …*), are both masculine, and the grammar does not settle which "it" answers to.

1596 *ex vtraque altitudine meridiana* is a singular, given as "from both meridian altitudes"; "from each meridian altitude" is the other English.

Reading (left)	Value (left)	Reading (right)	Value (right)
Refraction at altitude 17¾° [Refractio in alt. 17¾]	1′ 50″	Declination below the pole [Declin. infra Polum]	51° 50′ 50″
		Maximum altitude of the bright [star] of the side of Perseus [Lucidæ lateris Perſei Alt. maxima]	82° 24′ 10″
			34° 5′ 20″
Declination at maximum altitude [Decl. in max. alt.]	48° 18′ 50″		48° 18′ 50″
			55° 54′ 40″
at minimum altitude [in min. alt.]	48° 21′ 20″	Minimum altitude [Alt. minima]	14° 16′ 0″
			41° 38′ 40″
Refraction at altitude 14° 16′ [Refractio in alt. 14° 16′]	2′ 30″	Declination below the pole [Declin. infra Polum]	48° 21′ 20″

1597

Reading (left)	Value (left)	Reading (right)	Value (right)
		Maximum altitude of the head of Medusa [Capitis Meduſæ alt. maxima]	73° 22′ 50″
			34° 5′ 20″
Declination at maximum altitude [Decl. in max. alt.]	39° 17′ 30″		39° 17′ 30″
			55° 54′ 40″
at minimum altitude [in min. alt.]	39° 26′ 50″	Minimum altitude [Alt. minima]	5° 21′ 30″
			50° 33′ 10″
Therefore altitude 5⅓° gives refr. [Ergo alt. 5⅓° dat refr.]	9′ 20″	Declination below the pole [Declin. infra Polum]	39° 26′ 50″

1597 The four heads are this edition's; the page prints none. The page sets these lines in two parts on the same lines: at the left, labels with a set of figures in the middle of the measure; at the right, labels set directly before a set of figures near the right edge. Each row here is one printed line. The two lines *Dextri humeri Perſei Alt. maxima* and *Lucidæ lateris Perſei Alt. maxima* stand in the middle of the measure, between the two parts, with their figures in the right set; they are given here in the right part. Horizontal rules stand in the right part under the figures of the second, fifth, ninth and twelfth rows, and in the left part under the figures of the fifth and twelfth rows. *85° 54′ 20″* and the left *51° 50′ 50″* are printed with their marks, and *14° 16′* within its label with its marks; the other values are printed as three figures without unit marks and are given as degrees, minutes and seconds. *17¾* is printed within its label without a mark and is given as degrees. *1 50* and *2 30* are each printed as two figures without marks; they stand under the second and third figures of the set above them and are given by that position as minutes and seconds.

1598

Altitude [Altitudo]	Refraction [Refractio]
17° 45½′	1′ 50″
14° 16′	2′ 30″
5° 21½′	9′ 20″

1599

For the refraction of the altitude of the stars toward the north [1]. [Pro refractione altitudinis ſtellarum verſus boream [1].]

	Maximum meridian altitude [Altitudo maxima meridiana]	Minimum altitude below the pole [Altitudo infra polum minima]	
The right shoulder of Perseus [Dexter hum. Perſei]	85° 54′ 30″	17° 45′ 30″	
Altitude of the equator [Alt. æquat.]	34° 5′ 15″	55° 54′ 45″	Altitude of the pole [Alt. Poli]
True declination [Declin. vera]	51° 49′ 15″	38° 9′ 15″	
Declination below the pole [Declin. infra Polum]	51° 50′ 45″	90°	
Refraction at altitude 17¾° [Refractio in Alt. 17¾]	1′ 30″	51° 50′ 45″	Declination below the pole [Decl. infra Polum]
The bright [star] of the side of Perseus [Lucida lateris Perſei]	82° 24′ 0″	14° 16′ 0″	

[1598] The four heads are this edition's; the page prints none. These seven lines stand at the head of the page, with no date line above them on this page, and are set in the same two-part form as the lines that close the previous page: at the left, labels with a set of figures to the left of the middle of the measure; at the right, labels set directly before a set of figures near the right edge. Each row here is one printed line. The line *Capitis Meduſæ alt. maxima* stands in the middle of the measure, between the two parts, with its figures in the right set; it is given here in the right part. Horizontal rules stand in the right part under the figures of the second and fifth rows, and in the left part under the figures of the fifth row. *5⅓°* is printed within its label with its degree mark; the other values are printed as three figures without unit marks and are given as degrees, minutes and seconds. *9 20* is printed as two figures without marks; they stand under the second and third figures of the set above them and are given by that position as minutes and seconds. *alt.* in *Ergo alt. 5⅓° dat refr.* is abbreviated and shows no case; it is given here as the subject of *dat*, "altitude … gives"; it can also be an ablative, "[at] altitude 5⅓° [it] gives".

[1599] The two heads are the page's. This small table stands in a ruled frame in the middle of the measure. The first row is printed with its marks, *17° 45½′* and *1′ 50″*; the other two rows are printed without marks, their figures under those of the first row, and are given by that position as degrees and minutes in the first column and as minutes and seconds in the second.

	Maximum meridian altitude [Altitudo maxima meridiana]	Minimum altitude below the pole [Altitudo infra polum minima]	
True declination [Declin. vera]	48° 18′ 45″	41° 38′ 45″	
Refraction at altitude 14¼° [Refractio in Alt. 14¼]	2′ 30″	48° 21′ 15″	Declination below the pole [Decl. infra Polum]
The head of Medusa [Caput Meduſæ]	73° 23′	5° 21′ 30″	
Declination above the pole [Decl. ſupra Polum]	39° 17′ 45″	50° 33′ 15″	
Refract. at altitude 5⅓° [Refract. in Alt. 5⅓]	9′ 0″	39° 26′ 45″	Declination below the pole [Decl. infra Polum]
The bright [star] of Lyra [Lyræ lucida]	72° 33′	4° 33′	
Declination above the pole [Decl. ſupra Polum]	38° 27′ 45″	51° 21′ 45″	
Refract. at altitude 4½° [Refract. in alt. 4½]	10′ 30″	38° 38′ 15″	Declination below the pole [Decl. infra Polum]

1600

Altitude [Altitudo]	Refract. of altitude [Refract. Altitud.]
17° 45½′ [17^{G}45½^{M}]	1′ 30″ [1^{M}30″]
14° 16′	2′ 30″
5° 21½′	9′ 0″
4° 33′	10′ 30″ *good, repeated [bona,] [repetita]*

1600 The two heads are the page's; the first and the fourth head cells are empty on the page. This table stands in a ruled frame the full width of the measure, its four columns divided by vertical rules; horizontal rules the full width of the table stand after the fifth, eighth and eleventh rows and divide the rows into four groups. The labels of the fourth column stand at the right of the figures of the third column, on the lines given here. Short horizontal rules stand under the figures of the second and fourth rows in both figure columns. The first row is printed with its marks in both figure columns, and *1′ 30″* with its marks; the other values printed as three figures without marks are given as degrees, minutes and seconds. *2 30*, *9 0* and *10 30*, each printed as two figures without marks, stand under the second and third figures of the values above them and are given by that position as minutes and seconds. *73 23*, *72 33* and *4 33*, each printed as two figures without marks, stand under the first and second figures of the values around them and are given by that position as degrees and minutes. *90* is printed alone, under the first figures of its column, and is given as degrees. *17¾*, *14¼*, *5⅓* and *4½* are printed within their labels without a mark and are given as degrees. *æquat.* is abbreviated and shows no ending; it is given here as a noun in the genitive, "of the equator"; it can also be an adjective, "equatorial altitude".

1601

Note. [They] fall short of the solar refraction by about 4′ everywhere. [Nota. Deficiunt a ſolari refractione quaſi 4 minuta vbique.][1602]

From the minimum altitude of the tail of Cygnus in the year 1591, 9° 50¾′, and its true declination I found the refraction at altitude 10° nearly of about 3¼′. But doubtful. [Ex altitudine minima Caudæ Cygni Anno 1591 p. 9 50¾ et declinatione eius vera inueni refractionem in altitudine 10ᴳ ferme quaſi 3¼ minutorum. Sed dubia.][1603]

[1] Vienna codex 10688, 18, fol. 1r. [[1] Cod. Vindob. 10688, 18, fol. 1ʳ.]

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Instrument	Value
Meridian altitude, the left elbow of Auriga [Alt. Mer. ſiniſt. Cubitus Aurigæ]	by the revolving quadrant [per Q. Volub.]	77° 11½′
The following [star] of the Kids in the meridian [Hædorum ſequens in Mer.]	by the revolving [quadrant] [per Volub.]	74° 38′
Capella	by the revolving quadrant [per Q. Volub.]	79° 33¼′
The upper foot of Erichthonius [Superior pes Erichton.]	by the Tychonic [quadrant] [per Tych.]	66° 30⅔′

[1601] The two heads are the page's. This small table stands in a ruled frame at the left of the measure, under the large table. The first row is printed with a raised *G* after the degrees and a raised *M* after the minutes, and *30″* with its mark; the other rows are printed without marks, their figures under those of the first row, and are given by that position as degrees and minutes in the first column and as minutes and seconds in the second. *bona,* follows *10 30* directly on the last line, and *repetita* stands alone on the next line under it; both are in italic. *bona* and *repetita* are feminine singular or neuter plural by form, and the page prints no noun with them. *Altitud.* is abbreviated and shows no case; it is given here as a genitive, "of altitude"; it can also be read as a second head word standing beside *Refract.*

[1602] These two lines stand in italic at the right of the measure, beside the small table above. *minuta* is taken here as an accusative of measure, the subject left in the verb, "[they] fall short of the solar refraction by approximately 4′"; it can also be the subject of *Deficiunt*, "approximately 4′ are lacking, measured against the solar refraction". In either reading the solar refraction is the standard the values fall short of. The grammar does not settle between them.

[1603] These three lines stand in italic, the full width of the measure, under the small table. *p. 9 50¾* is printed with *p.* before two figures without unit marks, a wider space between the two figures; *p.* is taken here as *partium* and the figures are given as degrees and minutes; *p.* can also be read as *pagina*, "page 9", which would leave *50¾* as the only figure of the altitude. *10ᴳ* is printed with a raised *G* and is given as 10°. *ferme* stands between *10ᴳ* and *quaſi 3¼ minutorum*, and the page does not show which of the two it qualifies; the English keeps it between them. *eius* is given as "its"; the grammar does not settle whether it answers to the tail or to Cygnus. *dubia* is feminine singular or neuter plural by form, and the page prints no noun with it.

1604

On 23 February [DIE 23 FEBRUARIJ.]

Reading	Value
Minimum altitude of the head of Cassiopeia [Capitis Caßiop. Alt. min.]	17° 33′
When the heart of ♌ was distant from the meridian, west, 37° 57¼′, Schedar was in the meridian and had altitude [Quando cor ♌ diſtabat a Merid. occ.] [37 57¼, fuit Schedir in Merid. &] [habuit Alt.]	20° 11⅓′
Minimum altitude of the pole star [Stellæ Polaris Alt. min.]	52° 59′
The heart of ♌, west, 41° 41′, the bend in the meridian [Cor ♌ occ. 41 41, Flexura in Merid.]	24° 23½′
The heart of ♌, west, 48° 24½′, the knee of Cassiopeia, meridian altitude [Cor ♌ occ. 48 24½, Genu Caßiop.] [Alt. mer.]	23° 59½′
Distance between the bright [star] of the Crown and Arcturus [Diſt. inter Luc. Coronæ] [& Arcturum]	19° 26⅓′
	19° 26⅓′
Hence the difference of right ascension [Hinc Differ. Aſc. R.]	20° 6′ 3″
Between the bright [star] of the Crown and the head of Ophiuchus [Inter Lucidam Coronæ] [& Caput Ophiuchi]	31° 30¼′
	31° 30¼′
Hence the difference of right ascension [Hinc differ. Aſc. R.]	29° 37′ 45″
Between Lyra and the head of Ophiuchus [Inter Lyram & caput] [Ophiuchi]	29° 33′
	29° 32¾′
Hence the difference of right ascension [Hinc Differ. Aſc. R.]	16° 47′ 13″
Between Lyra and the tail of Cygnus [Inter Lyram & caudam] [Cygni]	23° 52′
	23° 52′
Between the bright [star] of the Vulture and the far end of the right wing of Cygnus [Inter Luc. Vult. & extrem.] [dext. alæ Cygni]	28° 47′
	28° 47′
Between the bright [star] of the Vulture and the beak of Cygnus [Inter Luc. Vulturis &] [Roſtrum Cygni]	19° 40½′
	19° 40½′
Declination of the far end of the wing of Cygnus [Declin. extremæ alæ Cygni]	28° 33′
The same repeated [Eadem repetita]	28° 33′
Declination of the beak of Cygnus [Declinatio Roſtri Cygni]	27° 9′
	27° 9′
Declination of the bright [star] of Lyra [Declin. Lucidæ Lyræ]	38° 25′

1604 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The page is set in two columns divided by a vertical rule; this date line and everything down to the line *Neſcio an hæc ſe recte habeant.* stand in the left column. *per Q. Volub.*, *per Volub.* and *per Tych.* stand indented on the line under their labels, with the value at the right; *Capella per Q. Volub.* stands on one line. *Cubitus* is printed in the nominative after *Alt. Mer.*, and the English keeps it so; *finiſt.* is abbreviated and is given with *Cubitus*. The page prints *Erichton.* The values, printed without unit marks, are given as degrees and minutes.

1605

Let this be repeated [Hæc repetatur][1606]

On 2 March [DIE 2 MARTIJ.]

Reading	No.	Value
Declination of the far end of the wing of Cygnus [Declin. extremæ alæ Cygni]		28° 34⅚′
Repeated [Repetita]		28° 35′
Declination of the beak of Cygnus [Declinatio Roſtri Cygni]	I	27° 8¾′
	II	27° 8½′

1607

On 5 March [DIE 5 MARTIJ.]

Reading	Value
Declination of the bright [star] of Lyra [Declinatio Lucidæ Lyræ]	38° 27′
Between the head of Ophiuchus and the head of Cygnus [Inter caput Ophiuchi] [& caput Cygni]	33° 42½′
	33° 43′

1608

[1605]"Reading" and "Value" are this edition's heads; the page prints none. *37 57¼,, 41 41,* and *48 24½,* stand within their lines, each with a comma after it; printed without unit marks, they are given as degrees and minutes. The second label runs over three lines, the value on the third; *24 23½* stands alone on the line under *Cor ♌ occ. 41 41, Flexura in Merid.*; the fifth label runs over two lines, the value on the second. Six labels — *Diſt. inter Luc. Coronæ / & Arcturum* and the five that open with *Inter* — run over two lines with a value at the right of each line; each is given whole on its first row, its second value on the row under it. *27 9* stands at the right of *Declinatio Roſtri Cygni* and again alone on the next line. The three values after *Hinc Differ. Aſc. R.* are printed as three figures and are given as degrees, minutes and seconds; the other values, printed as two figures without unit marks, are given as degrees and minutes. The page prints no verb after *Hinc.* The page prints no *Alt.* in the line *Flexura in Merid. extrem.* is abbreviated and shows no ending; it is given here as "the far end", with *dext.* taken with *alæ*, "of the right wing"; it can also be "the extreme [star] of the right wing". *extremæ*, printed in full, agrees with *alæ* and is given as "of the far end of the wing"; "of the extreme [star] of the wing" is also possible.

[1606]These two words stand at the right of the column, on the line under *Declin. Lucidæ Lyræ 38 25*, without a point. *Hæc* is a feminine singular, with the singular verb; the page prints no noun with it.

[1607]"Reading", "No." and "Value" are this edition's heads; the page prints none. *Repetita* is set to the right, directly before its value. The numerals *I* and *II* stand directly before the last two values, the second on a line of its own. The values, printed without unit marks, are given as degrees and minutes.

[1608]"Reading" and "Value" are this edition's heads; the page prints none. The second label runs over two lines with a value at the right of each line. The values, printed without unit marks, are given as degrees and minutes.

I do not know whether these are right. [Neſcio an hæc ſe recte habeant.][1609]

On 5 April, in the morning [DIE 5 APRILIS, MANE.]

Reading	No.	Value
Declination of the little star in the head of Equuleus [Declin. ſtellulæ] [in cap. Equiculi]		3° 37′
		3° 36¾′
Distance between the mouth of Equuleus and the Vulture [Diſt. inter os Equiculi] [& Vulturem]	I	20° 45′
	II	20° 43′
	III	20° 44′
	IIII	20° 44½′
	V	20° 45′
Between the Vulture and the far end of the left wing of Cygnus [Inter Vulturem &] [extrem. ſiniſt. alæ Cygni]		28° 45½′
		28° 46′
Between the head of Ophiuchus and the beak of Cygnus [Inter caput Ophiuchi &] [roſtrum Cygni]		31° 5′
		31° 4′
Declination of the beak of Cygnus [Declin. roſtri Cygni]		27° 9′ north [27 9 B.]
Declination of the far end of the right wing of Cygnus [Declin. extr. dext. alæ Cygni]		28° 34½′
Declination of the bright [star] of Lyra [Declin. Lucidæ Lyræ]		38° 26′
Declination of the tail of Cygnus [Declin. caudæ Cygni]		43° 51½′
Declination of the bright [star] of the Vulture [Declin. Lucidæ Vulturis]		7° 52½′

1610

[1609] This line stands indented at the foot of the left column, under the rows of 5 March. *hæc* is a neuter plural, with the plural verb, "these"; the page does not say which figures are meant. *Neſcio an* is given as "I do not know whether"; in classical usage the phrase can also lean toward affirming, "perhaps these are right".

[1610] "Reading", "No." and "Value" are this edition's heads; the page prints none. This date line and everything after it on the page stand in the right column. The first label runs over two lines with a value at the right of each line. The numerals *I* to *V* stand directly before the five values of the second label, one on each line; the label occupies the first two of those lines. In the third and fourth labels the first line carries no value, the second line carries the first value, and the second value stands alone on a third line. *B.* after *27 9* is given as "north". The values, printed without unit marks, are given as degrees and minutes. *extrem.* and *extr.* are abbreviated and show no ending; they are given here as "the far end", with *finiſt.* and *dext.* taken with *alæ*; "the extreme [star] of the left wing" and "of the extreme [star] of the right wing" are also possible. The left column prints *extrem. dext. alæ Cygni* in the label of the distance from the bright [star] of the Vulture, with the values 28° 47′; this column prints *extrem. finiſt. alæ Cygni* in the label of the distance from the Vulture, with the values 28° 45½′ and 28° 46′. Each is given as printed.

for the position of the instrument. [pro ſitu inſtrumenti.][1611]

On 6 April [DIE 6 APRILIS.]

By the subterranean armillae [Per Armillas ſubterr.]	Value
Declination of the head of Equuleus [Decl. capitis Equiculi]	3° 39½′ north [3 39½ B.]
Declination of the following [star] in the mouth of Equuleus [Decl. ſeq. in ore Equiculi]	8° 34′
Repeated [Repetita]	8° 33¾′

1612

By the revolving quadrant [Per Q. Volubilem]	Value
Meridian altitude of the head of Ophiuchus [Cap. Ophiuchi Alt. Mer.]	47° 2½′
The upper [star] in the right shoulder of Ophiuchus [Super. in dext. hum.] [Ophiuchi]	38° 55½′
The more southern [star] in the same shoulder of Ophiuchus [Auſtralior in eodem] [hum. Oph.]	37° 3′

1613

By the armillae [Per Armillas]	Value
Declination of the tail of Cygnus [Declinatio Caudæ Cygni]	43° 51′
Declination of the bright [star] of Lyra [Declinatio Lucidæ Lyræ]	38° 26′

1614

On 10 April, in the morning [DIE 10 APRILIS, MANE.]

[1611] This line stands centred in the column under the five declination rows above, in lower case, with a point. The page does not show which rows it qualifies. *pro* is given as "for"; "according to" is the other sense.

[1612] The first head is the page's: *Per Armillas ſubterr.* stands centred in the column on a line of its own above these three rows. "Value" is this edition's head. *B.* after *3 39½* is given as "north". The values, printed without unit marks, are given as degrees and minutes.

[1613] The first head is the page's: *Per Q. Volubilem* stands centred in the column on a line of its own above these rows. "Value" is this edition's head. The second and third labels run over two lines, the value on the second. *Cap.* is abbreviated and shows no case; it is given here as a genitive, "of the head"; it can also be a nominative, "The head of Ophiuchus, meridian altitude". The page prints no *Alt.* in the second and third labels. The values, printed without unit marks, are given as degrees and minutes.

[1614] The first head is the page's: *Per Armillas* stands centred in the column on a line of its own above these two rows. "Value" is this edition's head. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
Declination of the preceding [star] in the breast of Pegasus [Declin. præced.] [in pectore Pegaſi]		21° 25¼′
Declination of the following [star] in the breast of Pegasus [Decl. ſequent.] [in pectore Pegaſi]		22° 30′
Distance between the following [star] in the breast of Pegasus and Aquila [Diſt. inter ſeq. in pectore] [Pegaſi & Aquilam]		45° 30¾′ three times [45 30¾ ter]
Between the preceding [star] of the breast of Pegasus and Aquila [Inter præced. pectoris] [Pegaſi & Aquilam]		44° 28′
Between the head of Cygnus and the head of Ophiuchus [Inter caput Cygni &] [caput Ophiuchi]	I	33° 47′
	II	33° 45′
	III	33° 46′
	IIII	33° 44½′
	V	33° 45′

1615

Reading	Value
Declination of the head of Cygnus [Declin. cap. Cygni]	29° 17′
Repeated [Repetita]	29° 16′

1616

On 11 April, in the morning [DIE 11 APRILIS, MANE.]

Reading	No.	Value
Between the preceding [star] of the breast of Pegasus and the Vulture [Inter præcedentem] [pectoris Pegaſi] [& Vulturem]	I	44° 29½′
	II	44° 30′
	III	44° 31′
	IIII	44° 31⅔′
	V	44° 30¼′
Declination of the same [star] in the breast [Decl. eiusdem in pectore]	I	21° 27′
	II	21° 29′

[1615] "Reading", "No." and "Value" are this edition's heads; the page prints none. The first four labels run over two lines, the value on the second. *ter* stands in smaller type directly after *45 30¾*. The numerals *I* to *V* stand directly before the five values of the last label, one on each line; the label occupies the first two of those lines. The page prints *Aquilam* in this block and *Vulturem* / *Vulturis* elsewhere in the column; each is given as printed. The values, printed without unit marks, are given as degrees and minutes.

[1616] "Reading" and "Value" are this edition's heads; the page prints none. The page is set in two columns divided by a vertical rule; these two rows open the left column, with no date line above them; the last date line before them, in the right column of the previous page, is *DIE 10 APRILIS, MANE. Repetita* is set to the right, directly before its value. *cap.* is abbreviated and is given as "of the head". The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
	III	21° 27′
Between the head of Ophiuchus and the tail of Cygnus [Inter caput Ophiuchi] [& caudam Cygni]		good [bonæ]
		51° 12¼′ twice [51 12¼ bis]

1617

On 28 April, in the morning [DIE 28 APRILIS, MANE.]

Reading	No.	Value
Between both stars in the breast of Pegasus [Inter vtramque ſtellam in] [pectore Pegaſi]	I	1° 15¼′
	II	1° 16′
	III	1° 15½′
	IIII	1° 15⅔′
Between the preceding [star] in the mouth of Equuleus and Aquila [Inter præced. in. ore Equiculi] [& Aquilam]		19° 43′
		19° 43¼′
Between the following [star] in the mouth of Equuleus and Aquila [Inter ſequentem in] [ore Equiculi] [& Aquilam]	I	20° 44′
	II	20° 43′
	III	20° 44¾′
	IIII	20° 44′
	V	20° 43½′
	VI	20° 43′
Declination of the preceding [star] in the mouth of Equuleus [Decl. præced.] [in ore Equiculi]		8° 33⅓′
Declination of the following [star] in the mouth of Equuleus [Decl. ſequent.] [in ore Equiculi]		8° 27′
Between the head of Equuleus and the Vulture [Inter caput Equic. & Vult.]		21° 27′
		21° 27½′
Declination of the head of Equuleus [Decl. cap. Equiculi]		north 3° 36⅔′ [B. 3 36⅔]

[1617] "Reading", "No." and "Value" are this edition's heads; the page prints none. The numerals *I* to *V* and *I* to *III* stand directly before the values, one on each line; the first label occupies the first three of its lines, the second label the first of its lines. *eiusdem* is a genitive singular with no noun printed; it is given as "of the same [star]"; the page does not name the star, and *in pectore* does not name whose breast. The last label runs over two lines: *bonæ* stands at the end of the first line, in the position of the values, and the value on the second line, followed by *bis* in smaller type. *bonæ* is a feminine plural adjective and the page prints no noun with it; it is given on the line where it stands. The values, printed without unit marks, are given as degrees and minutes.

1618

On 30 April, in the morning [DIE 30 APRILIS, MANE.]

Reading	Value
Between the head of Cygnus and the head of Ophiuchus [Inter caput Cygni &] [caput Ophiuchi]	33° 42¾′ twice [33 42¾ bis]
Between the preceding [star] in the mouth of Equuleus and the Vulture [Inter præced. in ore Equiculi] [& Vulturem]	19° 43′
Between the following [star] in the mouth of Equuleus and the Vulture [Inter ſeq. in ore Equiculi] [& Vulturem]	20° 42½′
	20° 43′
Between the head of Equuleus and the Vulture [Inter cap. Equic. & Vult.]	21° 26′ twice [21 26 bis]
Declination of the head of Equuleus [Decl. cap. Equiculi]	north 3° 37′ [B. 3 37]
Declination of the preceding [star] in the mouth of Equuleus [Decl. præc. in ore Equic.]	north 8° 34′ [B. 8 34]
the following [star] in the mouth of Equuleus [ſeq. in ore Equic.]	8° 26¾′
Declination of the head of Cygnus [Decl. capitis Cygni]	29° 15½′

1619

On 25 August [DIE 25 AUGUSTI.]

Time	Reading	Instrument	Value
$8^h\ 26^m$	The preceding [star] of the left shoulder of Aquila, altitude [Præced. ſiniſt. humeri] [Aquilæ, Alt.]	by the revolving [quadrant] [per Volub.]	43° 47⅚′
$8^h\ 30^m$	Meridian altitude of the bright [star] of the Vulture [Luc. Vult. Alt. mer.]	by the revolving [quadrant] [per Volub.]	41° 58⅙′
	The neck of Aquila in the meridian [Collum Aquilæ in Mer.]	by the revolving [quadrant] [per Vol.]	39° 33⅓′

1618 "Reading", "No." and "Value" are this edition's heads; the page prints none. The numerals *I* to *IIII* and *I* to *VI* stand directly before the values, one on each line; the first label occupies the first two of its lines, the third label the first three. *vtramque ſtellam* is given as "both stars": one distance is taken between the two. The page prints *in.* with a point in the second label. The second label runs over two lines, the first value on the second line and the second value alone on a third; the fourth and fifth labels run over two lines, the value on the second. *B.* before *3 36⅔* is given as "north". The values, printed without unit marks, are given as degrees and minutes.

1619 "Reading" and "Value" are this edition's heads; the page prints none. The first three labels run over two lines, the value on the second; the third label has a second value alone on a third line. *bis* stands in smaller type directly after *33 42¾* and after *21 26*. *B.* before a value is given as "north". *ſeq. in ore Equic.* stands indented under the line *Decl. præc. in ore Equic. B. 8 34*, in lower case; the page prints no *Decl.* on it. *cap.* is abbreviated and is given as "of the head". The values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Instrument	Value
	Declination of the right elbow of Antinous [Decl. dextri cubiti Antinoi]		north 2° 22½′ [B. 2 22½]
	Declination of the side of Antinous, south [Decl. lateris Antinoi Mer.]		2° 5′
	Repeated [Repetita]		2° 5½′
	Declination of the unformed [star] around Aquila [Decl. informis circa Aquilam]		north 0° 2¼′ [B. 0 2¼]
			0° 2′
	Declination of the knee of Antinous, south [Genu Antinoi Decl. M.]		7° 49½′
			7° 49¼′
	Declination of the first [star] of Antinous [Primæ Antinoi Decl.]		north 3° 55′ [B. 3 55]
			3° 55¼′
	Declination of the head of Cygnus [Decl. capitis Cygni]		29° 15⅔′
	Declination of the bright [star] of Lyra [Decl. Lucidæ Lyræ]		38° 27′
	Declination of the preceding [star] in the mouth of Equuleus [Decl. præc. in ore Equiculi]		8° 23¼′
			8° 23′
	The following [star] in the mouth of Equuleus [Seq. in ore Equiculi]		north 8° 25′ [B. 8 25]
			8° 25⅙′
	The preceding [star] in the head of Equuleus [Præced. in cap. Equiculi]		3° 37′
			3° 37½′
	Of the following [star] in the head [Sequentis in capite]		5° 7′
			5° 7¼′

1620

1620 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. This date line and everything after it on the page stand in the right column. The first time is printed *8ᴴ26′ 20″*, the second *8 30 15* without marks; both stand at the left margin at the head of their lines and are given as hours, minutes and seconds. The first three labels run over two lines: in the first, *Aquilæ, Alt. per Volub.* stands on the second line with the value; in the second and third, *per Volub.* and *per Vol.* stand indented on the second line with the value. *Decl. informis circa Aquilam* stands on a line of its own, with *B. 0 2¼* and *0 2* on the two lines under it. *B.* before a value is given as "north"; *Mer.* at the end of the label *Decl. lateris Antinoi Mer.* and *M.* at the end of *Genu Antinoi Decl. M.* are given as "south", in the label where they stand. *informis* is given as "the unformed [star]", a star standing outside the figure of a constellation. *Genu* shows no case ending; it is given as "of the knee". *Sequentis* is a genitive with no governing word printed; it is given as "Of the following [star]", and the page does not say whose head is meant. *Repetita* is set to the right, directly before its value. *Mer.* in *Collum Aquilæ in Mer.* is given as "the meridian". The values, printed without unit marks, are given as degrees and minutes.

On 28 August [DIE 28 AUGUSTI.]

Reading	Value
Between the 1st [star] of the wing of Pegasus and the side of Antinous [Inter 1 Alæ Peg. &] [latus Antinoi]	53° 57′
	53° 57⅓′
Between the knee of Antinous and the head of Ophiuchus [Inter Genu Antinoi &] [caput Ophiuchi]	36° 5¾′
	36° 5½′

1621

On 29 August [DIE 29 AUGUSTI.]

Reading	Instrument	Value
Between the knee of Antinous and the head of Ophiuchus [Inter Genu Antin. &] [cap. Ophiu.]		36° 6′
		36° 5¾′
Meridian altitude of the preceding [star] of the mouth of Equuleus [Præced. Oris Equiculi Alt. mer.]	by the new sextant [p. Sext. nou.]	42° 38′
	by the old sextant [p. Sext. vet.]	42° 37⅔′
Meridian altitude of the preceding [star] of the head of Equuleus [Præced. cap. Equiculi Alt. mer.]	by the new sextant [per Sex. nou.]	37° 43′
	by the old sextant [per Sext. vet.]	37° 43½′
	by the least quadrant [per Q. minim.]	37° 43′
The following [star] of the head of Equuleus in the meridian [Sequens cap. Equic. in Merid.]	by the new sextant [per Sext. nou.]	39° 13′
	by the old sextant [per Sext. vet.]	39° 12⅓′
	by the least quadrant [per Q. minim.]	39° 13½′
The mouth of Pegasus in the meridian [Os Pegaſi in Merid.]	by the new sextant [per Sext. nou.]	42° 9′
	by the old sextant [per Sext. vet.]	42° 8½′
	by the lesser quadrant [per Q. min.]	42° 8′

1621 "Reading" and "Value" are this edition's heads; the page prints none. The date line stands close under the line *5 7¼* above it, with no blank space. Both labels run over two lines with a value at the right of each line. The page prints the figure *1* after *Inter*; it is given as "the 1st [star]". The values, printed without unit marks, are given as degrees and minutes.

1622

By the southern armillae [Per Armillas Auſtrales]	No.	Value
Difference of right ascension of the knee of Antinous and the far end of the wing of Pegasus [Diff. Aſc. R. Genu Antinoi] [& extr. alæ Pegaſi]	I	69° 23½′
	II	69° 23′
	III	69° 23½′
Difference of ascension of the unformed [star] around Aquila and of the far end of the wing of Pegasus [Diff. Aſc. informis circa] [Aquilam & extremæ] [alæ Pegaſi]	I	64° 59′
	II	65° 0′
	III	65° 0½′
	IIII	65° 0′
Declination of the knee of Antinous, south [Declin. Genu Antinoi Mer.]		7° 49½′ twice [7 49½ bis]
Declination of that unformed [star] around Aquila [Decl. informis illius circa] [Aquil.]		9° 10′
repeated [repetita]		south 9° 10′ [M. 9 10]

1623

[1622] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first label runs over two lines with a value at the right of each line. The other four labels stand on lines of their own; the instrument lines stand indented under them, each with its value. *Oris* is printed with a capital; *cap.* is abbreviated and is given as "of the head". The page prints *Sex.* once and *Sext.* elsewhere, *p.* on two lines and *per* elsewhere, *minim.* on two lines and *min.* on the last, in the same place after the two sextants; *minim.* is given as "least" and *min.* as "lesser", but *min.* can also abbreviate *minimum*, and the page does not show whether the last line names the quadrant given as *minim.* above it. The values, printed without unit marks, are given as degrees and minutes.

[1623] The first head is the page's: *Per Armillas Auſtrales* stands centred at the head of the left column, on a line of its own above these rows; the page does not show how far it reaches. "No." and "Value" are this edition's heads. The page is set in two columns divided by a vertical rule. No date line stands above these rows; the last date line before them, on the previous page, is *DIE 29 AUGUSTI.* The numerals *I* to *III* and *I* to *IIII* stand directly before the values, one on each line; the first label occupies the first two of its lines, the second label the first three. *extr.* is abbreviated and shows no ending; it is given as "the far end", taken with *alæ*; "the extreme [star] of the wing" is also possible; *extremæ*, printed in full, is given as "of the far end". *Genu* shows no case ending; it is given as "of the knee". *Diff. Aſc.* without *R.* is given as "Difference of ascension". *bis* stands in smaller type after *7 49½. Mer.* at the end of *Declin. Genu Antinoi Mer.* is given as "south", in the label where it stands. The last label runs over two lines: *Decl. informis illius circa* with *9 10* at the right, and *Aquil.* on the next line followed by *repetita*, with *M. 9 10* at the right; *repetita* is given on the row of the second value, and *M.* before *9 10* as "south". *illius* is given as "that". The previous page, under 25 August, prints *Decl. informis circa Aquilam* with *B. 0 2¼* and *0 2*; this label, with *illius*, prints *9 10* and *M. 9 10*. The page does not say whether *illius* refers to that star, and nothing on either page reconciles the two declinations; both are given as printed. *informis* is given as "the unformed [star]", a star standing outside the figure of a constellation. The values, printed without unit marks, are given as degrees and minutes.

On 1 October [DIE 1 OCTOBRIS.]

Reading	Instrument	Value	Remark
Altitude of the bright [star] of the Vulture [Alt. Lucidæ Vulturis]	by the mural [quadrant] [per Mur.]	41° 57½′	old [vet.]
		41° 57¼′	new [nou.]
	by the revolving [quadrant] [per Volub.]	41° 58′	
	by the old sextant [per Sext. vet.]	41° 58′	
	by the lesser quadrant [per Q. Min.]	41° 57′	

1624

On 2 October [DIE 2 OCTOBRIS.]

Reading	Instrument	Value
Meridian altitude of the bright [star] of the Vulture [Alt. Luc. Vult. Merid.]	by the Tychonic [quadrant] [per Tych.]	41° 57¼′
	by the new sextant [per Sext. nou.]	41° 57½′
	by the old sextant [per Sext. vet.]	41° 57½′

1625

On 11 November [DIE 11 NOUEMBRIS.]

By the new trigonal sextant [Per Sextantem nouum Trig.]	No.	Instrument	Value
Between the Vulture and the left knee of Pegasus [Inter Vult. &] [ſin. genu Pegaſi]	I		36° 21′
	II		36° 20′
	III		36° 21⅓′
	IIII		36° 21′
Between the head of Andromeda and the left knee of Pegasus [Inter cap. Andromedæ &] [ſin. genu Pegaſi]	I		27° 12½′

1624 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The label stands on a line of its own; the instrument lines stand indented under it, each with its value. *vet.* and *nou.* stand in smaller type directly after the first two values; the page prints no noun with them. The values, printed without unit marks, are given as degrees and minutes.

1625 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label stands on a line of its own; the instrument lines stand indented under it, each with its value. The values, printed without unit marks, are given as degrees and minutes.

By the new trigonal sextant [Per Sextantem nouum Trig.]	No.	Instrument	Value
	II		27° 12′
	III		27° 12′
Meridian altitude of the leg of the left foot of Pegasus [Cruris ſin. pedis Peg.] [Alt. mer.]		by the Tychonic [quadrant] [per Tych.]	57° 54½′
Between the head of Andromeda and the left leg of Pegasus [Inter cap. Andr. &] [ſin. crus Peg.]			31° 57′
			31° 56¾′
			31° 57½′
Between the bright [star] of the Vulture and the left leg of Pegasus [Inter luc. Vult. & ſin. crus Peg.]			31° 51′ three times [31 51 ter]
Between the Vulture and the left knee of Pegasus [Inter Vult. & ſin. genu Peg.]			36° 20¼′
			twice, good [bis, bona]
Between the 7th [star] of Pegasus, or the following [star] in the neck, and the bright [star] of the Vulture [Inter 7 Pegaſi vel ſequentem] [in collo & lucidam] [Vulturis]			43° 20⅙′
			43° 19¾′
			43° 20½′
			43° 20½′

1626

Reading	Value
Between the far end of the wing of Pegasus and the following [star] in the neck [Inter extremam alæ] [Pegaſi & ſequentem] [in collo]	21° 12′
	21° 12½′
	21° 12½′
	21° 13′
	21° 12½′
Declination of the left leg of Pegasus [Decl. ſiniſtri cruris Pegaſi]	23° 49½′ north [23 49½ B.]

[1626]The first head is the page's: *Per Sextantem nouum Trig.* stands centred in the column on a line of its own above these rows; the page does not show how far it reaches, and one row below it names its own instrument, *per Tych.* "No.", "Instrument" and "Value" are this edition's heads. The numerals *I* to *IIII* and *I* to *III* stand directly before the values, one on each line; the first two labels occupy the first two of their lines. *Cruris ſin. pedis Peg.* stands on a line of its own, with *Alt. mer. per Tych.* and the value indented on the next line. *ſin.* is abbreviated and stands before *pedis*; it is given with *pedis*, "the leg of the left foot"; it can also be taken with *Cruris*, "of the left leg, of the foot of Pegasus". The fourth label runs over two lines with a value at the right of each line, and a third value alone on a third line. *ter* stands in smaller type after *31 51*. *bis, bona* stands alone at the right of the column in smaller type, on the line under *36 20¼*; *bona* has no noun printed with it. The last label runs over three lines, one value at the right of each, and a fourth value alone on a fourth line. The page prints the figure *7* after *Inter*; it is given as "the 7th [star]". *vel* is given as "or". The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Declination of the left knee of Pegasus [Decl. ſiniſtri genu Peg.]	23° 22¾′
	23° 23′
Declination of the following [star] in the neck of Pegasus [Decl. ſequ. in collo Peg.]	10° 6′
	10° 5′

1627

On 12 November, in the evening [DIE 12 NOUEMBRIS, VESPERI.]

Reading	Instrument	Value
The left knee of Pegasus [Sin. genu Pegaſi]	by the Tychonic [quadrant] [per Tych.]	57° 29′
Between the bright [star] of ♈ and Scheat [Inter Luc. ♈ & Scheat]		41° 19′
		41° 18½′
Between the highest [star] in the hand of Ophiuchus and the Vulture [Inter ſuprem. in manu] [Ophiuchi & Vulturem]		49° 16′
Between the right shoulder of Ophiuchus and the Vulture [Inter dext. hum. Ophiu.] [& Vult.]		31° 47′
Between the left shoulder of Ophiuchus and the Vulture [Inter ſin. hum. Ophiu.] [& Vult.]		42° 34′
Declination of the left shoulder of Ophiuchus [Declin. ſin. hum. Ophiu.]		31° 47′

1628

On 15 November [DIE 15 NOUEMBRIS.]

[1627] "Reading" and "Value" are this edition's heads; the page prints none. These rows open the right column, with no date line above them; the last date line before them is *DIE 11 NOUEMBRIS.* in the left column; the centred line *Per Sextantem nouum Trig.* stands under that date line, and the page does not show whether it reaches these rows. The first label runs over three lines, one value at the right of each, and two further values alone on the next two lines. *B.* after *23 49½* is given as "north". *extremam*, like *extremæ* in the left column (which agrees with *alæ*) and the abbreviated *extr.*, is given as "the far end of the wing", *extrema* with a genitive as elsewhere in this edition; *extremam* does not agree with *alæ*, and "the extreme [star] of the wing", a star whose noun is understood (as *ſequentem* after it), is the other construal. The values, printed without unit marks, are given as degrees and minutes.

[1628] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Sin. genu Pegaſi per Tych. 57 29* stands on one line; the page prints no *Alt.* in it. The second label has a second value alone on the next line. The third, fourth and fifth labels run over two lines, the value on the second. *ſuprem.* is abbreviated and is given as "the highest [star]". The page prints the same figures, *31 47*, for the distance of the right shoulder of Ophiuchus from the Vulture and for the declination of the left shoulder of Ophiuchus; each is given as printed. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Instrument	Value
Between the preceding [star] in the left shoulder of Aquila and the mouth of Pegasus [Inter præced. in ſiniſt.] [humero Aquilæ &] [os Pegaſi]	I		29° 5¼′
	II		29° 5⅓′
	III		29° 5′
Between the same [star] in Aquila and the head of Ophiuchus [Inter eandem in Aq. &] [caput Oph.]			32° 11¼′
			32° 11½′
Declination of the preceding [star] in the left shoulder of Aquila [Declin. præced. in ſiniſt. humero] [Aquilæ]		by the southern armillae [per Armillas Auſt.,], with both [vtroque]	9° 43′ north [9 43 B.]
Between Lyra and the bright [star] of the shoulder of Cepheus [Inter Lyram & Luc. hum.] [Cephei]		by the sextant [per Sext.]	33° 59½′ twice [33 59½ bis]
Between the bright [star] of the shoulder of Cepheus and the tail of Cygnus [Inter luc. hum. Cephei &] [Caud. Cyg.]		by the sextant [per Sext.]	18° 5′ twice [18 5 bis]
Between the bright [star] of the shoulder of Cepheus and Scheat of Pegasus [Inter Luc. hum. Cephei] [& Scheat Pegaſi]			25° 36′ twice [25 36 bis]
Between the bright [star] of the shoulder of Cepheus and the bright [star] of Perseus [Inter Luc. hum. Cephei] [& Luc. Perſei]			47° 50¾′ twice [47 50¾ bis]

1629

On 16 November [DIE 16 NOUEMBRIS.]

Reading	Instrument	Value	Remark
Between the mouth of Pegasus and the 4th [star] of Antinous [Inter os Pegaſi & 4 Antinoi]		33° 34′	
	by the old sextant [per Sext. vet.,]	33° 36′	[it] was not sufficiently clear [non erat] [ſatis ſerenum]
		33° 34′	
Between the following [star] of the head of Equuleus and the Vulture [Inter ſeq. cap. Equiculi&Vult.]		22° 58½′	

[1629] "Reading", "No.", "Instrument" and "Value" are this edition's heads; the page prints none. The numerals *I* to *III* stand directly before the first three values, one on each line; the label occupies those three lines. The second label runs over two lines with a value at the right of each. The declination label runs over two lines, *per Armillas Auſt.,* ending the second with a comma; *vtroque 9 43 B.* stands to the right on a third line, *vtroque* directly before the figures; bare *vtroque* is given as "with both", no noun supplied. *B.* after *9 43* is given as "north". The last four labels run over two lines, the value on the second, and *per Sext.* stands at the end of the second line of the first two. *eandem* is feminine singular and is given as "the same [star]"; *Aq.* is given as "Aquila". *bis* stands in smaller type after each of the last four values. The values, printed without unit marks, are given as degrees and minutes.

1630

On 17 November [DIE 17 NOUEMBRIS.]

Reading	Value
Between the mouth of Pegasus and the 4th [star] of Antinous [Inter Os Pegaſi &] [4 Antinoi]	33° 36′ 33° 37½′ 33° 38′

1631

Reading	Value
Between the left shoulder of ♒ and the 4th [star] of Antinous [Inter ſin. hum. ♒ &] [4 Antinoi]	29° 0′ 29° 1′ 29° 0′

1632

On 18 November, in the evening [DIE 18 NOUEMBRIS, VESPERI.]

Reading	Value
Between the Vulture and the bright [star] of the left shoulder of Ophiuchus [Inter Vult. & Luc. ſin.] [hum. Oph.]	42° 34′ twice [42 34 bis]
Between the same shoulder and the bright [star] of the Crown [Inter eundem hum. &] [Luc. Coronæ]	26° 12′ 26° 12¼′

1630 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The first label stands on one line with its value; *per Sext. vet., non erat* stands indented on the next line with the second value, and *ſatis ſerenum* indented on the line after it with the third value; the remark *non erat ſatis ſerenum* runs over those two lines and is given whole on the first of them. The page does not say which of the three values the instrument and the remark belong to beyond the lines they stand on. The page prints the figure *4* before *Antinoi*; it is given as "the 4th [star]". The values, printed without unit marks, are given as degrees and minutes.

1631 "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines with a value at the right of each, and a third value alone on a third line. *Os* is printed with a capital here and *os* in lower case under 16 November. The values, printed without unit marks, are given as degrees and minutes.

1632 "Reading" and "Value" are this edition's heads; the page prints none. The page is set in two columns divided by a vertical rule. These rows open the left column, with no date line above them; the last date line before them, on the previous page, is *DIE 17 NOUEMBRIS.* The label runs over two lines with a value at the right of each, and a third value alone on a third line. The page prints the sign ♒ and the figure *4* before *Antinoi*; the figure is given as "the 4th [star]". The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Declination of the bright [star] in the left shoulder of Ophiuchus [Decl. Luc. in ſin.] [hum. Oph.]	north 10° 11½′ [B. 10 11½]
	10° 13′
Between the right shoulder of Ophiuchus and the bright [star] of the Crown [Inter dextrum humerum] [Ophiuchi & Lucidam] [Coronæ]	37° 55′
	37° 55½′
	37° 54⅔′
Between the right shoulder of Ophiuchus and the Vulture [Inter dext. hum. Oph. & Vult.]	31° 47½′ twice [31 47½ bis]
Between the Vulture and the left shoulder of Hercules [Inter Vult. & ſin. hum.] [Herculis]	40° 17⅔′
	40° 18′
Declination of the left shoulder of Hercules [Declinatio ſiniſtri humeri] [Herculis]	25° 28′ north
	25° 26½′ [Bor. 25 26½]
Between the side of Antinous and the mouth of Pegasus [Inter latus Antinoi] [& Os Pegaſi]	33° 37′
	33° 37¼′
Between the 1st [star] of the wing of Pegasus and the side of Antinous [Inter 1 alæ Peg.] [& latus Antinoi]	53° 57½′
	53° 58′
Between the Vulture and the preceding [star] in the mouth of Equuleus [Inter Vult. & præced.] [in ore Equiculi]	19° 44½′
	19° 44¾′
Between the Vulture and the following [star] in the mouth of Equuleus [Inter Vult. & ſequent.] [in ore Equiculi]	20° 43½′
	20° 44⅙′
Between the Vulture and the preceding [star] in the head of Equuleus [Inter Vult. & præc.] [in cap. Equic.]	21° 26⅙′
	21° 26½′
Between the Vulture and the following [star] of the head of Equuleus [Inter Vult. & ſeq.] [cap. Equic.]	22° 58¾′
	22° 59′
Between the 2nd [star] in the left hand of Boötes and the bright [star] in the □ of Ursa Minor [Inter 2 in ſiniſt. manu Bootis] [& Luc. in □ Vrſæ min.]	23° 2½′
	23° 2½′
	23° 3′
Between the 3rd [star] of the left hand of Boötes and the bright [star] of the □ of the same Bear [Inter 3 ſiniſt. manus Bootis &] [Luc. □ Vrſæ eiuſdem]	22° 24′
	22° 24⅙′
Between the 1st [star] of the left hand of Boötes and the bright [star] in the □ of Ursa Minor [Inter 1 ſiniſt. manus Bootis] [& Luc. in □ Vrſæ min.]	22° 40′
	22° 40¼′
Between Lyra and the preceding [star] in the left hand of Boötes [Inter Lyram & præc.] [in ſin. manu Bootis]	46° 25¾′
	46° 26′
Between Lyra and the middle [star] of the left hand of Boötes [Inter Lyram & mediam] [ſiniſtræ manus] [Bootis]	46° 4¾′
	46° 5¼′

Reading	Value
	46° 5¼′
Between Lyra and the 3rd [star] of the left hand of Boötes [Inter Lyram & 3 ſiniſtræ] [manus Bootis]	44° 34¾′
	44° 35¾′
	44° 34¾′
Between the tail of Cygnus and the bright [star] of the □ of Ursa Minor [Inter Caudam Cygni &] [Luc. □ Vrſæ min.]	46° 15′ twice [46 15 bis]
Between Lyra and the bright [star] of the □ of Ursa Minor [Inter Lyram &] [Luc. □ vrſ. min.]	43° 57⅓′
	43° 58′
	43° 58′

1633

1634

On 20 November [DIE 20 NOUEMBRIS.]

Reading	Value
Between the highest [star] of the rhombus of Delphinus and Lyra [Inter ſupremam rhombi] [Delphini & Lyram]	36° 15½′
	36° 16′
Between Lyra and the more western of the two middle [stars] in the rhombus [Inter Lyram & occidentali-] [orem ex duabus medijs] [in rhombo]	35° 16′ twice [35 16 bis]
Between Lyra and the following [star] of the middle [stars] in the rhombus [Inter Lyram & ſeq. ex medijs] [in rhombo]	36° 30¾′
	36° 30½′
Between Lyra and the lowest [star] in the rhombus [Inter Lyram & infim.] [in rhombo]	35° 52⅚′ twice [35 52⅚ bis]

1633 "Reading" and "Value" are this edition's heads; the page prints none. Each label but one runs over two or three lines; *Inter dext. hum. Oph. & Vult.* stands on one line with its value. Where a label's first line carries a value, the label is given whole on the first row and each further value on a row of its own; the labels *Inter Vult. & Luc. ſin. / hum. Oph.* and *Inter Caudam Cygni & / Luc. □ Vrſæ min.* carry their value on their second line only; *23 3*, *44 34¾* and *43 58* (the second time) stand alone on a line of their own under the lines before them. *bis* stands in smaller type after *42 34*, *31 47½* and *46 15*. *B.* before *10 11½* and *Bor.* before *25 26½* are given as "north", on the row where each is printed. *eundem* agrees with *hum.* and is given as "the same shoulder"; the page does not name the shoulder again in that label. *mediam* does not agree with *manus* and is given as a star, "the middle [star]". The page prints the figures *1*, *2* and *3* before the star names in five labels; each is given as an ordinal, "the 1st [star]" and so on. *Luc. □ Vrſæ eiuſdem* and *Luc. □ Vrſæ min. / Luc. □ vrſ. min.* print no *in* before the □, and are given "of the □"; where *in* is printed, "in the □". The sign □ is kept as printed. The values, printed without unit marks, are given as degrees and minutes.

1634 The declination of the bright [star] in the left shoulder of Ophiuchus is printed here *B. 10 11½* and *10 13*, and on the next page *10 9 B.* and *10 8*; the previous page, under 12 November, prints *Declin. ſin. hum. Ophiu.* with *31 47*. The degree figures differ by 21; each is given as printed, and nothing on these pages reconciles them.

Reading	Value
Between the lowest [star] of Delphinus nearest to the tail and Lyra [Inter inf. Delph. caudæ] [prox. & Lyr.]	37° 43¼′ twice [37 43¼ bis]
Between the following [star] in the rhombus and the mouth of Pegasus [Inter ſeq. in rhombo &] [os Pegaſi]	15° 21′ twice [15 21 bis]
Between the more western of the two middle [stars] in the rhombus and the mouth of Pegasus [Inter occidentaliorem ex] [duabus medijs in] [rhombo & os Pegaſi]	16° 49¾′
	16° 49½′
Between the following [star] of the two middle [stars] in the rhombus of Delphinus and the mouth of Pegasus [Inter ſeq. ex duabus medijs] [in rhombo Delphini &] [Os Pegaſi]	15° 39⅙′ twice [15 39⅙ bis]
Between the lowest [star] of the rhombus and the mouth of Pegasus [Inter infimam rhombi &] [Os Pegaſi]	16° 55¾′
	16° 56′
Between the tail of Delphinus and the mouth of Pegasus [Inter caudam Delph. &] [Os Pegaſi]	17° 30′
	17° 29¾′
Declination of the upper [star] in the rhombus of Delphinus [Decl.ſuper.in rhombo Delph.]	14° 43′
Declination of the preceding [star] of the middle [stars] in the rhombus [Decl. præced. ex medijs in] [rhombo]	14° 33′
The following [star] of the middle [stars] in the rhombus [Sequ. ex medijs in rhombo]	13° 39½′
Declination of the lowest [star] in the rhombus [Infimæ in rhombo declin.]	13° 14′
Declination of the bright [star] of the tail of Delphinus [Caudæ Delphinis Lucidæ] [Decl.]	10° 3¼′

1635

[1635] "Reading" and "Value" are this edition's heads; the page prints none. The date line opens the right column. Labels that run over two or three lines are given whole on their first row; where the first line of a label carries no value, the value stands on its last line; *16 49¾* stands on the second line of its label and *16 49½* on the third. *bis* stands in smaller type after *35 16*, *35 52⅚*, *37 43¼*, *15 21* and *15 39⅙*. *occidentali-* is divided at the line end and continues *orem* on the next line. *ſeq.*, *infim.*, *ſuper.*, *præced.* and *Sequ.* are abbreviated and each is given as a star: "the following [star]", "the lowest [star]", "the upper [star]", "the preceding [star]". *inf.* is abbreviated and is given as "the lowest [star]", as *infim.*, *infimam* and *Infimæ* are printed in full in the same column; it can also be read "the lower". *caudæ prox.* is given as "nearest to the tail", with *prox.* naming the star; *caudæ* can also be taken with *Delph.*, "the lowest [star] of the tail of Delphinus, the nearest". The line *Sequ. ex medijs in rhombo* prints no *Decl.*; it stands between two declination lines, and the English supplies no noun. *Decl.ſuper.in rhombo Delph.* is closely set, without spaces after the points. *Delphinis* is printed here and *Delphini* in two labels above; both are given "of Delphinus". *rhombi* / *rhombo* is given as "the rhombus" wherever it is printed. The values, printed without unit marks, are given as degrees and minutes.

By the southern armillae, and therefore less certain. [Per Armillas Auſtrales, ideoque minus certæ.][1636]

Reading	Value
Between the apex of △ and the head of Andromeda [Inter apicem △ &] [caput Androm.]	22° 45⅔′
	22° 45⅓′
Between the highest [star] of △ and the head of Andromeda [Inter ſuprem. △ &] [caput Androm.]	26° 13′
	26° 13¼′
Between the more southern of the following [stars] in △ and the head of Andromeda [Inter Auſtraliorem ex ſeq. in] [△ & caput Andromedæ]	27° 47′
	27° 46½′
Between Lyra and the northern [star] in Sagitta [Inter Lyram &] [Borealem in Telo]	26° 10′
	26° 10⅙′
Between Lyra and the middle [star] of Sagitta [Inter Lyram &] [mediam Teli]	25° 22′
	25° 21¾′
Between the mouth of Pegasus and the more northern [star] in Sagitta [Inter Os Pegaſi &] [Borealiorem in Telo]	27° 12′
	27° 12¼′
Between the mouth of Pegasus and the middle [star] in Sagitta [Inter Os Pegaſi &] [mediam in Telo]	29° 34′
	29° 34⅙′
Declination of the northern [star] in Sagitta [Declin. Borealis in] [Telo], with one [vno]	18° 28¾′
with the other [alt.]	18° 30′

1637

Reading	Value
Declination of the middle [star] in Sagitta [Declin. mediæ in Telo]	17° 41′
Between the far end of the right wing of Cygnus and the mouth of Pegasus [Inter extr. dext. alæ Cyg. &] [Os Pegaſi]	52° 31′ twice [52 31 bis]
Between the penultimate [star] of the right wing of Cygnus and the mouth of Pegasus [Inter penult. dext. alæ Cygni] [& Os Pegaſi]	50° 0½′ twice [50 0½ bis]

[1636] This line of running text stands across the right column after the declination of the bright [star] of the tail of Delphinus, with a blank space above it and a smaller space below it, and before the rows that follow; its first line is indented, and *mi-* is divided at the line end. The page does not show whether it refers to the rows above it or to those below it. *certæ* is feminine plural and the page prints no noun with it; the English supplies none.

[1637] "Reading" and "Value" are this edition's heads; the page prints none. No date line stands between these rows and *DIE 20 NOUEMBRIS.* above them. Each label runs over two lines with a value at the right of each. The last label runs over two lines: *Declin. Borealis in* with *vno 18 28¾* at the right, and *Telo* with *alt. 18 30* at the right; *vno* and *alt.* stand directly before the figures; bare *vno* is given as "with one" and *alt.* as "with the other", no noun supplied. *ſeq.* is abbreviated and is given as "the following [stars]", taken with *ex*. *ſuprem.* is abbreviated and is given as "the highest [star]". *Borealem*, *Borealiorem*, *mediam* and *Auſtraliorem* are given as stars. *Telo* / *Teli* is given as "Sagitta", the Latin name of the constellation. The sign △ is kept as printed. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Between the middle [star] of the left wing of Cygnus and the mouth of Pegasus [Inter med. ſin. alæ Cygni &] [Os Pegaſi]	27° 30′ twice [27 30 bis]
Between the far end of the right wing of Cygnus and Scheat [Inter extr. dext. alæ Cygni] [& Scheat]	48° 8¾′
	48° 8⅝′
Between the penultimate [star] of the right wing of Cygnus and Scheat [Inter penult. dextræ alæ] [Cygni & Scheat]	46° 0½′
	46° 0¾′
Between the middle [star] of the left wing of Cygnus and Scheat [Inter med. ſin. alæ Cygn. &] [Scheat]	29° 56½′
	29° 56′

1638

On 21 November [DIE 21 NOUEMBRIS.]

Reading	Value
Between the highest [star] in the rhombus of Delphinus and Lyra [Inter ſupremam in rhombo] [Delphini & Lyram]	36° 15½′
Between the western [star] of the middle [stars] in the rhombus and Lyra [Inter Occid. ex med. in] [rhombo & Lyram]	36° 15¾′
Between the following [star] of the middle [stars] in the rhombus and Lyra [Inter ſeq. ex med. in rhombo] [& Lyr.]	36° 30½′
Between the lowest [star] in the rhombus and Lyra [Inter infimam in rhombo] [& Lyram]	35° 52⅔′
Between the lowest [star] of the tail of Delphinus and Lyra [Inter infimam caudæ] [Delph. & Lyr.]	37° 43′
Between the highest [star] in the rhombus and the mouth of Pegasus [Inter ſuprem. in rhombo] [& Os Peg.]	15° 20¾′
Between the western [star] of the two middle [stars] in the rhombus and the mouth of Pegasus [Inter Occ. ex duabus medijs] [in rhombo & Os Pegaſi]	16° 50′
Between the eastern [star] of the 2 middle [stars] in the rhombus and the mouth of Pegasus [Inter Or. ex 2 medijs in] [rhombo & Os Peg.]	15° 41½′
	15° 41¼′
Between the lowest [star] in the rhombus and the mouth of Pegasus [Inter inf. in rhombo] [& Os Peg.]	16° 56½′

[1638] "Reading" and "Value" are this edition's heads; the page prints none. The page is set in two columns divided by a vertical rule. These rows open the left column, with no date line above them; the last date line before them, on the previous page, is *DIE 20 NOUEMBRIS.* The first label stands on one line with its value. The next three labels run over two lines, the value on the second, and *bis* stands in smaller type after each value; the last three run over two lines with a value at the right of each. *extr.*, *penult.* and *med.* are abbreviated and show no ending; each stands where the accusative object of *Inter* must stand, and no other word in the label can be that object, so each is given as a star, "the far end", "the penultimate [star]", "the middle [star]". *mediæ* in the first label agrees with no noun printed and is given as "the middle [star]". *Cyg.*, *Cygni* and *Cygn.* are each given as "Cygnus". The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Between the tail of Delphinus and the mouth of Pegasus [Inter caudam Delph.] [& Os Peg.]	17° 30′
Between the upper [star] in Sagitta and the mouth of Pegasus [Inter ſuperior. in Telo] [& Os Peg.]	27° 12½′
Between the middle [star] in Sagitta and the mouth of Pegasus [Inter med. in Telo] [& Os Peg.]	29° 34′
Between the northern [star] in Sagitta and Lyra [Inter Boreal. in Telo] [& Lyram]	26° 9¼′ twice [26 9¼ bis]
Between the middle [star] in Sagitta and Lyra [Inter med. in Telo] [& Lyram]	25° 21¾′
Between the western shoulder of Hercules and the Vulture [Inter Occ. hum. Herculis] [& Vulturem]	49° 42′
	49° 41⅚′
Between the left shoulder of Hercules and the Vulture [Inter ſin. hum. Herc.] [& Vult.]	40° 17½′
	40° 18′
Between the Vulture and the arm of the left shoulder of Hercules [Inter Vult. & brach. ſiniſtri] [humeri Herculis]	34° 48¾′ twice [34 48¾ bis]

1639

1640

Reading	Value
Between the following [star] in the body of Lyra and the mouth of Pegasus [Inter ſeq. in corpore Lyræ] [& Os Pegaſi]	44° 20′ twice [44 20 bis]
Between the mouth of Pegasus and the preceding [star] in the body of Lyra [Inter Os Pegaſi & præced.] [in corpore Lyræ]	46° 17′
	46° 17¼′
Between the far end of the right wing of Cygnus and Scheat [Inter extrem. dext.] [alæ Cygni & Scheat]	48° 8′

1639 "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines. Where the first line carries no value, the value stands on the second; the labels *Inter Or. ex 2 medijs in / rhombo & Os Peg.*, *Inter Occ. hum. Herculis / & Vulturem* and *Inter ſin. hum. Herc. / & Vult.* carry a value at the right of each line. *bis* stands in smaller type after *26 9¼* and *34 48¾*. *Occid.*, *Occ.*, *Or.*, *ſeq.*, *ſuprem.*, *inf.*, *ſuperior.*, *med.* and *Boreal.* are abbreviated; where each stands after *Inter* with no noun of its own it is given as a star ("the western [star]", "the eastern [star]" and so on); *Occ.* before *hum.* is given with that noun, "the western shoulder". *inf.* is given as "the lowest [star]", as *infimam in rhombo* is printed in full in the same table; it can also be read "the lower". The page prints the figure *2* before *medijs*; it is given as "the 2 middle [stars]". *brach.* is abbreviated and shows no ending; it is given as "the arm", with *ſiniſtri humeri* "of the left shoulder"; *ſiniſtri* can also be taken with an understood *brachii*, "of the left arm, of the shoulder". The values, printed without unit marks, are given as degrees and minutes.

1640 The distance between Lyra and the western [star] of the middle [stars] in the rhombus is printed *36 15¾* here; under 20 November the previous page prints the distance between Lyra and the more western of the two middle [stars] in the rhombus as *35 16 bis*. The degree figures differ by one; each is given as printed, and the page does not say whether the two labels name the same star.

Reading	Value
Between the penultimate [star] of the right wing of Cygnus and Scheat [Inter penult. dext.] [alæ Cygni & Scheat]	46° 0¾′
Between the middle [star] of the left wing of Cygnus and Scheat [Inter med. ſin. alæ Cyg.] [& Scheat]	29° 56¼′
Between the far end of the right wing of Cygnus and the mouth of Pegasus [Inter extr. dext. alæ Cyg.] [& Os Peg.]	52° 30¾′
Between the penultimate [star] of the right wing of Cygnus and the mouth of Pegasus [Inter penult. dext. alæ Cyg.] [& Os Peg.]	50° 0⅓′
Between the middle [star] of the left wing of Cygnus and the mouth of Pegasus [Inter med. ſin. alæ Cyg.] [& Os Peg.]	27° 30⅔′
Between Scheat and the highest [star] in the right foot of Cygnus [Inter Scheat & ſupr.] [in dextro pede Cygni]	37° 54¾′ twice [37 54¾ bis]
Between Scheat and the unformed [star] of the right foot of Cygnus [Inter Scheat & informem] [dextri pedis Cygni]	37° 59′
	37° 58¾′

1641

Declinations by the southern armillae, min. [Declinationes per Armillas Auſtra] [les min.][1642]

Reading	Value
Declination of the highest [star] in the rhombus of Delphinus [Decl. ſupremæ] [in rhombo Delph.]	14° 41½′
The western [star] of the two middle [stars] of the rhombus [Occid. ex med.] [duab. rhombi]	14° 30′
Declination of the following [star] of the middle [stars] in the rhombus [Decl. ſequent. ex med.] [in rhombo]	13° 39′
Declination of the lowest [star] in the rhombus [Decl. infimæ in rhombo]	13° 13½′
Of the bright [star] near the tail of Delphinus [Lucidæ apud caudam] [Delphini]	9° 58½′
Declination of the northern [star] in Sagitta [Decl. Borealis in Telo]	18° 25′
The following or middle [star] in Sagitta [Sequ. ſeu med. in Telo]	17° 34½′
Declination of the left shoulder of Hercules [Decl. ſiniſt. hum. Herculis]	25° 25′
Of the left arm of Hercules [Siniſt. brachij Herculis]	28° 0½′

[1641] "Reading" and "Value" are this edition's heads; the page prints none. These rows open the right column, with no date line above them; the last date line before them is *DIE 21 NOUEMBRIS.* in the left column. Each label runs over two lines, the value on the second, except the second and the last, which carry a value at the right of each line. *bis* stands in smaller type after *44 20* and *37 54¾*. *ſeq.*, *præced.*, *extrem.*, *extr.*, *penult.*, *med.* and *ſupr.* are abbreviated; each stands as the object of *Inter*, in the accusative, and is given as a star; *ſupr.* is given as "the highest [star]" and can also be read "the upper". *informem* is given as "the unformed [star]", a star standing outside the figure of a constellation. The values, printed without unit marks, are given as degrees and minutes.

[1642] This line of running text stands across the right column after the distances above, with its first line indented; *Auſtra* ends the first line with no hyphen and *les min.* completes the word on the next. *min.* is abbreviated and the page prints no word after it; it is left abbreviated. The previous page, after the same instrument, prints *ideoque minus certæ.* The page does not show how far this line reaches among the rows below it, which include two distances.

Reading	Value
The following [star] of the two lower [stars] in the body of Lyra [Sequent. ex duab. infer.] [in corpore Lyræ]	32° 10½′
The preceding, less bright [star] in the body of Lyra [Præced. minus Luc.] [in corp. Lyr.]	32° 55½′
Of the middle of the left wing of Cygnus [Mediæ ſiniſtræ alæ Cygni]	32° 26¼′
Of the far end of the right wing of Cygnus [Extremæ alæ dextræ Cygni]	52° 39′
The penultimate [star] of the right wing of Cygnus [Penult. dext. alæ Cygni]	50° 52′
Distance between the right shoulder of Ophiuchus and the Vulture [Diſt. inter dext. hum.] [Oph. & Vult.]	31° 47′
Between the left shoulder of Ophiuchus and the Vulture [Inter ſin. hum. Oph.] [& Vult.]	42° 34′
Declination of the bright [star] of the left shoulder of Ophiuchus, repeated [Decl. Luc. ſin. hum.] [Ophiuchi repetita]	10° 9′ north [10 9 B.] 10° 8′

1643

N.B. The stars were at a low altitude. [N. B. Stellæ erant in decliui Altitudine.][1644]

On 22 November [DIE 22 NOUEMBRIS.]

Declinations by the southern armillae. [Declinationes per Armillas Auſtrales.]

Reading	Value
Of the upper [star] in the rhombus of Delphinus [Superioris in rhombo Delph.]	14° 39½′
The preceding [star] of the middle [stars] in the rhombus [Præced. ex med. in rhombo]	14° 29⅓′
The following [star] of the middle [stars] in the rhombus [Seq. ex medijs in rhombo]	13° 36¼′
Of the lowest [star] in the rhombus of Delphinus [Infimæ in rhombo Delph.]	13° 12′
Of the bright [star] of the tail of Delphinus [Lucidæ caudæ Delphini]	9° 52′
Of the upper [star] in Sagitta [Superioris in Telo]	18° 23⅔′
Of the middle [star] in Sagitta [Mediæ in Telo]	17° 36′
The preceding [star] of the lower [stars] in the body of Lyra [Præced. infer.] [in corpore Lyræ]	32° 10′

[1643] "Reading" and "Value" are this edition's heads; the page prints none. Labels that run over two lines carry their value on the second, except the last, which carries a value at the right of each line: *Decl. Luc. ſin. hum.* with *10 9 B.*, and *Ophiuchi repetita* with *10 8*; that label is given whole on its first row, and *repetita* stands on the second line, with *10 8*. Nine label lines print no *Decl.*: *Occid. ex med. duab. rhombi*, *Lucidæ apud caudam Delphini*, *Sequ. ſeu med. in Telo*, *Siniſt. brachij Herculis*, *Sequent. ex duab. infer. in corpore Lyræ*, *Præced. minus Luc. in corp. Lyr.*, *Mediæ ſiniſtræ alæ Cygni*, *Extremæ alæ dextræ Cygni* and *Penult. dext. alæ Cygni*; those set in the genitive are given with "Of", the others as the page names them, and the English supplies no noun. *Mediæ* and *Extremæ* agree with *alæ* and are given with it, "the middle of the left wing", "the far end of the right wing"; each can also be read as a star, "of the middle [star]", "of the extreme [star]". *Occid.*, *ſequent.*, *Sequ.*, *Sequent.*, *Præced.* and *Penult.* are abbreviated and are given as stars. *ſeu* is given as "or". *B.* after *10 9* is given as "north". The point after *Diſt* is faint. The values, printed without unit marks, are given as degrees and minutes.

[1644] This line of running text ends the right column, its first line indented; *Alti-* is divided at the line end. It does not name the rows it refers to.

Reading	Value
The following [star] of the lower [stars] in the body of Lyra [Sequent. inferiorum] [in corp. Lyr.]	32° 55⅔′
Of the middle of the left wing of Cygnus [Mediæ ſiniſtræ alæ Cygni]	32° 27½′
Of the far end of the right wing of Cygnus [Extremæ dext. alæ Cygni]	52° 37½′
Of the following [star] of the same wing [Sequentis eiusdem alæ]	50° 54′
Of the upper [star] in the left foot of Cygnus [Superioris in ſiniſtro] [pede Cygni]	46° 33′
Of the following [star] in the same foot [Sequentis in eodem pede]	45° 32¾′

1645

On 24 November [DIE 24 NOUEMBRIS.]

Reading	Value
Between the preceding [star] of the two lower [stars] in the body of Lyra and the mouth of Pegasus [Inter præced. ex duabus] [infer. in corpore Lyræ] [& Os Pegaſi]	46° 17′
Between the following [star] of the two and the mouth of Pegasus [Inter ſeq. duarum] [& Os Pegaſi]	44° 20′
Between the upper [star] in the right foot of Cygnus and Scheat [Inter ſuperiorem in dextro] [pede Cygni & Scheat]	37° 54¾′
Between the lower [star] in the right foot and Scheat [Inter inferiorem in dextro] [pede & Scheat]	37° 59′
Declination of the upper [star] in the rhombus of Delphinus [Decl. ſuperior.] [in rhombo Delph.]	14° 44¾′
Of the preceding middle [star] of the two in the rhombus [Mediæ duarum] [in rhombo præc.]	14° 35′
Of the following [star] of the two of the rhombus [Sequentis duarum rhombi]	13° 43′

[1645] "Reading" and "Value" are this edition's heads; the page prints none. The page is set in two columns divided by a vertical rule; these rows stand in the left column under the date line and the line *Declinationes per Armillas Auſtrales*., which is given as its own line; the page does not show how far that line reaches. No label in these rows prints *Decl*.; those set in the genitive are given with "Of", the others as the page names them, and the English supplies no noun. *Præced*., *Seq.* and *Sequent.* are abbreviated and are given as stars. *medijs* is plural and is given as "the middle [stars]"; *med.* is given the same way. *infer.* is abbreviated and shows no ending; it is given as "of the lower [stars]", following *inferiorum*, printed in full in the next label; it can also be read with *Præced.* as one star, "the preceding lower [star]". *Mediæ* and *Extremæ* agree with *alæ* and are given with it, "the middle of the left wing", "the far end of the right wing"; each can also be read as a star, "of the middle [star]", "of the extreme [star]". *Mediæ in Telo* stands with no noun it could agree with and is given as a star. *Sequentis eiusdem alæ* is given as "of the following [star] of the same wing"; *Sequentis* could also be taken with *alæ*. Two labels run over two lines, the value on the second; each is given whole on its row. The values, printed without unit marks, are given as degrees and minutes.

1646

On 28 December [DIE 28 DECEMBRIS.]

Reading	Value
Minimum altitude of the first [star] of the tail of Ursa Major [Alt. min. primæ caudæ] [vrſæ mai.]	24° 8′
Declination of the same by the greater armillae [Decl. eiusdem per Armillas] [mai.]	58° 14½′
	58° 14′
Maximum altitude of the Knee of Cassiopeia [Alt. max. Genu Caßiopeæ]	87° 50½′
Declination of the same by the armillae [Decl. eiusdem per Armillas]	58° 2′
	58° 1½′
Declination of the middle [star] in the tail of Ursa Major [Decl. med. in cauda] [vrſæ mai.]	57° 6½′
	57° 7′
Minimum altitude of the same [Eiusdem Alt. min.]	23° 1½′

1647

Reading	Instrument	Value	Remark
Declination of the extreme [star] in the tail of the Bear [Decl. extremæ] [in cauda vrſæ]		51° 26½′	
Meridian altitude of the foot of Cassiopeia [Alt. merid. pedis Caßiop.]		84° 18¼′	
Declination of the foot of Cassiopeia [Decl. pedis Caßiopeæ]	by the armillae [per Armill.]	61° 34½′	with one pinnule [vno pin.]
		61° 34¼′	with the other [alt.]
Declination of the bright [star] in the girdle of Cepheus [Decl. Luc. in cingulo Cephei]		68° 45′	
		68° 45½′	
Declination of the right shoulder of Cepheus [Decl. dext. humeri Cephei]		60° 53′	

1646 "Reading" and "Value" are this edition's heads; the page prints none. Each label but the last runs over two or three lines, the value on the last; each is given whole on its row. *præced.*, *ſeq.* and *ſuperior.* are abbreviated; after *Inter* and after *Decl.* each is given as a star. *infer.* after *ex duabus* is given as "the two lower [stars]". *Mediæ duarum in rhombo præc.*: *præc.* is abbreviated and shows no ending; it is given with *Mediæ*, "the preceding middle [star]"; *Mediæ* can also be read as plural, "the middle [stars]", with *præc.* naming the preceding of them. The last two labels print no *Decl.*; they are given with "Of", and the English supplies no noun. The page names no instrument for these rows. The values, printed without unit marks, are given as degrees and minutes.

1647 "Reading" and "Value" are this edition's heads; the page prints none. These rows end the left column. *primæ* agrees in case with *caudæ* and could be taken with it; it is given as a star, "the first [star]", as the same page prints *Primæ in cauda Vrſæ maior.* The label *Decl. eiusdem per Armillas* carries *58 14½*; *mai.* stands alone on the next line, indented, with *58 14*; the label is given whole on the first row, and *mai.* is given as "greater", as the next page prints *per Armillas maiores*. *Decl. med. in cauda / vrſæ mai.* carries a value at the right of each line and is given whole on the first row. *med.* is abbreviated and is given as a star. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
		60° 52¾′	
Declination of the tail of Cygnus [Decl. caudæ Cygni]		43° 51′	
		43° 50⅔′	

1648

For the position of the instrument, when they were from the meridian toward the west. [Pro ſitu inſtrumenti cum a merid.] [ad occ. eßent.][1649]

On 29 December, in the morning [DIE 29 DECEMBRIS, MANE.]

[It] was not clear enough. [Non erat ſatis ſerenum.]

Reading	Instrument or quantity	Value	Remark
Minimum altitude of the pole star [Alt. ſtellæ Polaris min.]		52° 59⅔′	
	by the revolving [quadrant] [per Vol.]	52° 59¾′	
Of the first [star] in the tail of Ursa Major [Primæ in cauda Vrſæ maior.]	maximum altitude [Alt. max.]	87° 41⅚′	
Declination of the same at maximum altitude [Decl. eiusdem in max. Alt.]		58° 11′	
		58° 10½′	
Maximum altitude of the middle [star] in the tail of the Bear [Alt. max. med. in cauda vrſæ]		88° 49′	
Declination of the same by the armillae [Decl. eiusdem per Armillas]		57° 5′	
Maximum altitude of the far end of the tail of the Bear [Alt. max. extremæ caudæ] [vrſæ]		85° 28′	
Declination of the same [Decl. eiusdem]	by the armillae [per Armillas]	51° 23′	with one [vno]
		51° 22¾′	with the other [alt.]
Declination of the bend of Cassiopeia [Decl. Flexuræ Caßiopeæ]		58° 30′	
		58° 29¼′	
Declination of the foot of Cassiopeia [Decl. pedis Caßiopeæ]		61° 37′	

[1648] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. These rows open the right column, with no date line above them; the last date line before them is *DIE 28 DECEMBRIS.* in the left column. *extremæ* stands before *in cauda* with no noun it could agree with and is given as a star. *vrſæ* in the first label and *vrſæ* here carry no *mai.*; each is given as "the Bear". *Decl. pedis Caßiopeæ* stands on a line of its own; *per Armill.* stands on the next line, indented, and *vno pin.* after a wide space directly before *61 34½*; *alt.* stands directly before *61 34¼*. The six value lines from *68 45* to *43 50⅔* are joined by a brace at the right; nothing is printed to the right of it. The values, printed without unit marks, are given as degrees and minutes.

[1649] This line of running text stands below the braced rows, its first line indented. The page does not show whether it refers to the braced rows only or to more of the rows above; *eßent* is plural and names no subject.

1650

when they were near the meridian at minimum altitude; for because of the clouds they could not be observed at the meridian altitude. [cum prope Merid. in min. Alt. eßent,] [propter nubes enim in Alt. merid. obſeruari non potuerant.][1651]

Reading	Value	Remark
Declination of the bright [star] near the girdle of Cepheus [Decl. Lucidæ apud] [cing. Cephei]	68° 47′	
	68° 46½′	
Declination of the right shoulder of Cepheus [Decl. dext. hum. Cephei]	60° 53′	with both [vtroque]
Declination of the tail of Cygnus [Declin. caudæ Cygni]	43° 51′	with both [vtroque]

1652

This [star] was not visible enough. [hæc non erat ſatis conſpicua.][1653]

Because the declination of the shoulder of Cepheus observed toward the east from the pole agrees almost with that observed toward the west, and at the same time the declination of the tail of Cygnus was found the same at this morning time as it was at the evening [time], [it] shows that the armillae are correctly set to the meridian. [Quia Declinatio humeri Cephei ad Ortum a Polo obſeruata conſentit propemodum cum ea ad Occaſum obſeruata, & ſimul declinatio caudæ Cygni eadem inuenta eſt hoc matutino tempore quæ veſpertino fuit, Armillas ad Merid. recte collocatas eße indicat.][1654]

[1650] "Reading", "Instrument or quantity", "Value" and "Remark" are this edition's heads; the page prints none. The second column carries the lines printed indented under a label: *per Vol.* and *Alt. max.* each stand on such a line with their value. *Decl. eiusdem / per Armillas* carries a value at the right of each line, *vno* directly before *51 23* and *alt.* directly before *51 22¾*; the label is given whole on the first row, with *per Armillas*, printed on the second line, in the second column. *Primæ* is given as a star, "the first [star]". *med.* is abbreviated and is given as a star. *extremæ* agrees with *caudæ* and is given with it, "the far end of the tail"; it can also be read as a star, "of the extreme [star] of the tail". *vrſæ* in these two labels carries no *mai.* and is given as "the Bear". *Flexuræ* is given as "the bend" (glossary). The three value lines *58 30*, *58 29¼* and *61 37* are joined by a brace at the right; nothing is printed to the right of it. The values, printed without unit marks, are given as degrees and minutes.

[1651] This line of running text stands flush left below the braced rows and begins in lower case, *cum*; the page does not show whether it refers to the three braced rows only.

[1652] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The first label carries a value at the right of each of its two lines and is given whole on the first row. Between its second line and the next label stands the line *hæc non erat ſatis conſpicua.*, indented; it is given below this table. *Decl. dext. hum. Cephei* stands on a line of its own, with *vtroque 60 53* on the next, set to the right. The values, printed without unit marks, are given as degrees and minutes.

[1653] This line stands under the two values of the bright [star] near the girdle of Cepheus, before the next label.

[1654] This paragraph ends the right column. The lower part of the page is blank.

On the same day, in the evening [Eodem Die Veſperi]

Reading	Value
Maximum altitude of the pole star [Alt. Stellæ Polaris max.]	58° 49′ 40″
Maximum [Max.]	58° 49′ 40″
Minimum [Min.]	52° 59′ 40″
	5° 50′ 0″
	2° 55′ 0″
Altitude of the pole [Alt. Poli]	55° 54′ 40″

1655

Reading	Value	Remark
Minimum altitude of the first [star] in the tail of Ursa Major [Alt. min. primæ in cauda] [vrſæ mai.]	24° 7⅝′	
Declination of the same by the armillae [Decl. eiusdem per Armillas]	58° 14½′	
	58° 15′	
Declination of the middle [star] in the tail of Ursa Major [Decl. med. in cauda] [vrſæ mai.]	57° 7′	
	57° 6½′	
Maximum altitude of the Knee of Cassiopeia [Alt. max. Genu Caßiop.]	87° 50′	
Declination of the same by the armillae [Decl. eiusdem per Armillas]	58° 2′	
	58° 3′	with the other pinnule [alt. pinnac.]
Maximum altitude of the foot of Cassiopeia [Pedis Caßiop. Alt. max.]	84° 18¾′	
Declination of the same by the armillae [Decl. eiusdem per Armillas]	61° 35′	
	61° 34½′	
Declination of the far end of the tail of Ursa Major [Extremæ caudæ vrſæ] [mai. Decl.]	51° 26½′	
	51° 26¼′	
Minimum altitude of the same [Eiusdem Alt. minima]	17° 18′	uncertain because of the clouds [incerta propter nubes]
The bright [star] of the Chair of Cassiopeia, declination [Luc. Cathedræ Caßiop.] [Decl.]	56° 53′	
	56° 52¾′	
Schedar of Cassiopeia, declination [Schedir Caßiop. Decl.]	54° 16′	
	54° 16½′	

[1655] "Reading" and "Value" are this edition's heads; the page prints none. The page is set in two columns divided by a vertical rule, in an upper and a lower block separated by a full-width title; these rows open the left column of the upper block, under the line *Eodem Die Veſperi*. Each value is printed as three figures without unit marks and is given as degrees, minutes and seconds. The figures of the first line stand further right than the others; *Max.*, *Min.* and *Alt. Poli* are indented. A rule is printed under the figures of the *Min.* line; the two lines below it carry figures only. The page names no operation.

Reading	Value	Remark
Declination of the bend of Cassiopeia [Flexuræ Caßiop. Decl.]	58° 27½′	with both [vtroque]

1656

by the armillae, when they were above the zenith. [per Armillas cum eßent ſupra verticem.][1657]

For stars to be used in weighing Mästlin's figures. [Pro Stellis adhibendis ad Mæſtlini] [numeros expendendos.][1658]

Reading	Value
In the left arm of Cepheus, from the head of ♈ [In ſiniſtro brachio Cephei] [a capite ♈]	52° 43½′ 52° 43¼′ 52° 43⅔′

1659

Set the distance at 43½′. [Pone diſt. 43½][1660]

Reading	Value
The bright [star] of ♈ and the girdle of Andromeda [Lucida ♈ & Cing. Androm.]	17° 23¼′ 17° 24′ 17° 24′

[1656] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *primæ* is given as a star, "the first [star]". *med.* is abbreviated and is given as a star. *alt. pinnac.* stands directly before *58 3*, *vtroque* directly before *58 27½*. *incerta propter nubes* stands on a line of its own under *17 18*, set to the right; it is given on the row of that value. Labels in the genitive with *Decl.* or *Alt.* printed after them are given as "Declination of …", "Maximum altitude of …"; *Luc.* and *Schedir* are not genitives and are given as the page names them, with "declination" after. *Extremæ* agrees with *caudæ* and is given with it, "the far end of the tail"; it can also be read as a star, "of the extreme [star] of the tail". Labels printed over two lines with a value at the right of each are given whole on the first row; *Flexuræ Caßiop. Decl.* stands on a line of its own with *vtroque 58 27½* on the next. The value lines from *56 53* to *58 27½* are joined by a brace at the right; nothing is printed to the right of it. The values, printed without unit marks, are given as degrees and minutes.

[1657] This line of running text stands below the braced rows and begins in lower case; the page does not show whether it refers to the braced rows only.

[1658] These two lines stand centred in the column, after a blank space.

[1659] "Reading" and "Value" are this edition's heads; the page prints none. The label carries a value at the right of each of its two lines and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

[1660] The page prints only *43½* here, without unit marks; it is given as minutes, the degrees *52* of the three values above not being repeated.

1661

Therefore use the distance 17° 24′ exactly. [Vtere itaque diſt. 17 24 exacte]

Reading	Value
From the eye of ♉ to the girdle of Andromeda [Ab oculo ♉ ad Cing. Androm.]	49° 26½′
	49° 26¼′
	49° 26⅓′

1662

Use the distance 26⅓′. [Vtere diſt. 26⅓][1663]

Reading	Value
Declination of the shoulder-blade of Andromeda by the greater armillae, for the sake of a test because of the nearness of the horizon [Declin. ſcapulæ Androm.] [per Armillas maiores,] [experimenti cauſa ob] [vicinitatem Horizontis.]	28° 41½′
	28° 41½′
	28° 41′

1664

The true declination is 28° 38′. [Vera declinatio eſt 28 38.]

Reading	Value
The bright [star] of ♈ had declination [Lucida ♈ habuit declin.]	21° 32½′

Therefore the refraction in declination, 4′, is to be subtracted. [Eſt ergo refractio in declinatione 4] [Minut. auferenda.]

Reading	Value	Re-mark
Between the girdle of Andromeda and the right shoulder of Cepheus [Inter Cing. Androm.] [& dextrum] [humerum Cephei]	44° 13′	
	44° 13⅙′	

[1661] "Reading" and "Value" are this edition's heads; the page prints none. These rows open the right column of the upper block, with no date line above them; the last date line before them is *Eodem Die Veſperi* in the left column. The values, printed without unit marks, are given as degrees and minutes.

[1662] "Reading" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes; *17 24* in the line above is given the same way.

[1663] The page prints only *26⅓* here, without unit marks; it is given as minutes, the degrees *49* of the three values above not being repeated.

[1664] "Reading" and "Value" are this edition's heads; the page prints none. The label runs over four lines and carries a value at the right of each of the first three; it is given whole on the first row. Its last line, *vicinitatem Horizontis.*, goes on with the sentence given below. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Re-mark
	44° 13′	good [bona]
Between the calf of Cassiopeia, which is in the middle of the foot, and the left arm of Cepheus [Inter Suram Caßiop. quæ eſt] [in medio pedis & ſin.] [brach. Cephei]	19° 14¾′	
	19° 14¾′	good [bonæ]
Between the same calf and the other [star], the bright right shoulder of Cepheus [Inter eandem Suram & alt. hum. dext.] [lucidum Cephei]	29° 40⅙′ twice [29 40⅙ bis]	

1665

And from this the stars in the shoulders of Cepheus, which Mästlin used for the new star and the comet of the year 77, can be restored.[1] [Atque hinc poterint reſtitui stellæ in humeris Cephei, quibus vſus eſt Mæſtlinus in noua ſtella & cometa anni 77.[1]] [recte: poterunt][1666]

Reading	Value
Distance between the heart of ♌ and the more northern [star] in the left hind foot of Ursa Major [Inter Cor ♌ & borealiorem in] [ſiniſtro poſteriore pede] [vrſæ maioris diſt.]	31° 0′
	31° 0′
	31° 0′
The same, in the foot of the Bear, which is the 20th in number, from the lower head of ♊ [Eadem in pede Vrſæ quæ est] [20ma numero, ab inf. ca-] [pite ♊]	33° 53′
	33° 53⅙′
	33° 53⅙′

[1665] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The first label carries a value at the right of each of its three lines, the second a value on each of its last two lines, the third its value on the second line; each is given whole on its first row. *bona* and *bonæ* stand in smaller type at the right edge of the column, each on a line of its own under the last value of its label; each is given on the row of that value. *bona* is singular and *bonæ* plural; neither names its noun. *Sura* is given as "the calf" (glossary). *alt.* is abbreviated and shows no ending; it stands after *&* where the second object of *Inter* must stand, and is given as "the other [star]", with *hum. dext. lucidum* "the bright right shoulder" standing beside it; *alt.* can also be read "the higher". *hum.* is abbreviated too and shows no ending; read as a genitive, *alt. hum. dext. lucidum* gives "the other bright [star] of the right shoulder". *ſin. brach.* is given as "the left arm". *bis* stands in smaller type after *29 40⅙*. The values, printed without unit marks, are given as degrees and minutes.

[1666] The page prints *poterint*; the future *poterunt*, as *poterit* in the paragraph below, is given. *in* before *noua ſtella* is given as "for".

1667

From this that star in the foot of Ursa Major, which Mästlin used for the new star of the year 72, can be verified.[2] [Hinc poterit ſtella illa in pede Vrſæ maioris verificari, qua vsus eſt Mæſtlinus in noua ſtella anni 72.[2]][1668]

For investigating the stars of Cassiopeia exactly[3] [PRO STELLIS CASSIOPEÆ EXACTE PERUESTIGANDIS[3].]

On 17 February [DIE 17 FEBRUARIJ.]

In the evening, at about 7^h, the stars of Cassiopeia were observed from the bright [star] of ♈ in this way. [Veſperi circa H. 7 obſeruabantur ſtellæ Caßiopeæ a Lucida ♈ hoc modo.]

I. To examine the instrument, 35° 32⅙′ was taken between the bright [star] of ♈ and Aldebaran; therefore the sextant was in proper order. [I. Pro examine inſtrumenti capiebatur inter Luc. ♈ & aldeboram 35° 32⅙′, ergo recte ſe Sextans habuit.][1669]

Reading	Value
The bright [star] of ♈ and Schedar [Lucida ♈ & Schedir]	36° 38¼′ twice [36° 38¼′ bis]
The bright [star] of ♈ and the bend [Lucid. ♈ & Flexura]	39° 11′ twice [39 11 bis]

1670

[1] Cf. vol. IV, p. 218, and vol. III, p. 65. [Cf. T. IV p. 218 & T. III p. 65.]

[2] Cf. vol. III, p. 65. [Cf. T. III p. 65.]

[3] We have already given the following observations in vol. X, p. 274 and p. 277 ff., from the Historia Coelestis. For it was not clear to us then that these observations, put by Curtius [Albert Curtz] into the year 1583 without any

[1667] "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over three lines with a value at the right of each and is given whole on its first row. *diſt.* stands at the end of the first label and is given at its head. *Eadem* is feminine and names no noun, and the page prints no second star before *in pede*; *quæ* can refer to *Eadem*. *20ma* is printed with the letters *ma* raised. *ab inf. capite II* is given as "from the lower head of ♊", *inf.* as "lower"; *capite* is divided *ca-* / *pite* across the line end. The page prints two roman capitals *II* here, not the sign ♊ (confirmed on a native-resolution crop: two separate *I* sorts with their own serifs, unlike the ♊ printed in *inferius* ♊ on p. 246); the sign is given by the construction *ab inferiore capite*, which names the lower of the two heads of ♊, and the printed *II* is kept in the bracket. The values, printed without unit marks, are given as degrees and minutes.

[1668] This paragraph ends the right column of the upper block.

[1669] The page is set again in two columns divided by a vertical rule below the title. This sentence begins at the foot of the left column, *capieba-* divided at the line end, and is completed at the head of the right column, *tur inter Luc.* ♈ …; it is given whole here. *H. 7*, printed without further marks, is given as an hour. *35° 32⅙′* is printed with its marks.

[1670] "Reading" and "Value" are this edition's heads; the page prints none. The first value is printed with a degree mark and a minute mark; the second, printed without unit marks, is given as degrees and minutes. *bis* stands after each value. These rows end the right column of the lower block.

reason, were in fact made in the year 1587, as is plainly evident from codex V. [Sequentes obſeruationes dedimus jam in Tom. X p. 274 et p. 277 ſeqq. ex Hiſtoria Cœleſti. Neque enim nobis tum conſtabat has obſeruationes, a Curtio ſine ulla ratione in annum 1583 conjectas, re vera anno 1587 factas eße, ut e codice V manifeſto patet.]

Reading	Value	Remark
The bright [star] of ♈ and the bright [star] of the Chair [Luc. ♈ & Luc. Cathedræ]	41° 20¾′	twice [bis]
The bright [star] of ♈ and the left elbow of Cassiopeia [Luc. ♈ & ſin. cubitus Caß.]	33° 19⅝′	
	33° 20¼′	

1671

Set [it] at 33° 20′. [Pone 33 20]

Reading	Value
The bright [star] of ♈ and the eleventh [star] of Cassiopeia [Luc. ♈ & vndec. Caß.]	42° 28′
	42° 28′
Use the distance [Vtere diſtantia]	42° 28¼′
	42° 28⅓′

1672

Reading	No.	Value
Between the bright [star] of ♈ and the side of Perseus [Inter luc. ♈ & latus] [Perſei]	I	30° 22¼′
	II	30° 22⅓′
	III	30° 22½′

1673

You can use the distance 30° 22½′ if perhaps the head of ♈ produced some refraction. But the altitude of the bright [star] of ♈ at about the last observation

[1671] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. These rows open the left column with no date line above them; they continue the distances measured from the bright [star] of ♈ under the date line *DIE 17 FEBRUARIJ.* on the preceding page, whose last row is *Lucid. ♈ & Flexura 39 11 bis. bis* stands directly after its value. The values, printed without unit marks, are given as degrees and minutes.

[1672] "Reading" and "Value" are this edition's heads; the page prints none. *vndec.* is given as "the eleventh [star]", as the page prints *XI*^{a} *Caßiopeæ* in the right column. *Vtere diſtantia* stands in the label position with *42 28¼* on its line and *42 28⅓* on the next; the page does not show whether *42 28⅓* belongs to the distance to be used or to the observations above. The values, printed without unit marks, are given as degrees and minutes.

[1673] "Reading", "No." and "Value" are this edition's heads; the page prints none. The roman numerals stand as printed, in a position of their own before the figures. The label runs over two lines, a value at the right of each, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

was 26°; therefore [it] introduced no perceptible refraction. [Potes vti diſtantia 30° 22½′ ſi forte aliquam refractionem fecit Caput ♈. Fuit autem Altitudo Luc. ♈ circa vltimam obſeruationem 26 Part. ideo nullam ſenſibilem ingerebat refractionem.]

Reading	No.	Value	Remark
The bright [star] of ♈ and the head of Cassiopeia [Luc. ♈ & Caput Caßiop.]		34° 46¾′	
Use, more safely, 34° 47½′ [Vtere tutius 34 47½]	II	34° 48′	
	III	34° 48′	
	IIII	34° 47½′	
The bright [star] of ♈ and the girdle of Cassiopeia [Luc. ♈ & cingulum Caß.]		37° 12′	twice [bis]
The eye of ♉ and the knee of Cassiopeia [Oculus ♉ & Genu Caß.]		55° 23½	three times [ter]
The bright [star] of ♈ and the knee of Cassiopeia [Luc. ♈ & Genu Caß.]		37° 27′	twice [bis]
		37° 26½	once [ſemel]
Between Aldebaran and the bright [star] of Perseus [Inter Aldeb. &] [lucid. Perſei]	I	36° 18½′	
	II	36° 19′	
Set this distance, 36° 19′, and you will err imperceptibly [Pone hanc diſt. 36 19] [& inſenſibiliter] [aberrabis]	III	36° 19⅓′	
	IV	36° 19¼′	

1674

On the following evening the stars of Cassiopeia were observed again, and first the sextant was tested on the bright [star] of ♈ and Aldebaran, and it gave their distance, 35° 32¼′. Therefore the sextant was in good order. [Sequenti Veſperi rurſus obſeruabantur Stellæ Caßiopeæ & primo experiebatur Sextans in luc. ♈ & Aldeb. dabatque eorum diſt. 35 32¼. Ergo Sextans bene ſe habuit.][1675]

Reading	No.	Value	Remark
Between the bright [star] of ♈ and the bright [star] of Perseus [Inter luc. ♈ & luc. Perſei]	I	30° 22¾′	twice [bis]
Altitude of the bright [star] of ♈ 35° [Alt. luc. ♈ 35 Gr.]	II	30° 22⅚′	

[1674] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. The first row carries no numeral; the next three carry *II*, *III*, *IIII* as printed. *Vtere tutius 34 47½* stands in the label position on the line of *II 34 48*, indented, and is given on that row; *Pone hanc diſt. 36 19* stands in the label position on the line of *III 36 19⅓*, and *& inſenſibiliter / aberrabis* continue it on the next two lines; the sentence is given whole on the row of *III*. The numeral before *36 19¼* is printed *IV*, the one before *34 47½ IIII*. *bis*, *ter* and *ſemel* stand directly after their values. The label *Inter Aldeb. & / lucid. Perſei* runs over two lines, a value at the right of each, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes, the figures within the labels the same way.

[1675] *35 32¼*, printed without unit marks, is given as degrees and minutes.

1676

You can use the truer distance 30° 23′, for refraction caused what [it] gave yesterday evening, ½′ less, because [it] was lower. [Potes vti diſtantia veriori 30 23, nam quod heri veſperi dabat dimidio ſcrupulo minus effecit refractio, quia erat decliuior.][1677]

Reading	No.	Value	Remark
The bright [star] of ♈ and the calf of Cassiopeia [Lucida ♈ & Sura Caß.]	I	40° 13⅔′	
	II	40° 13⅔′	as before [vt prius]
The bright [star] of ♈ and the sole of the foot of Cassiopeia [Luc. ♈ & Planta Pedis Caß.]		44° 2¼′	
Set 44° 2⅙′ here [Pone hic 44 2⅙]	II	44° 3′	
	III	44° 2⅓′	
The bright [star] of ♈ and the right elbow of Cassiopeia, the nearest [star] above the chair [Luc. ♈ & cubitus dext. Caß.] [ſupra ſellam proxima]		39° 56½′	
		39° 56⅚′	

1678

Set [it] at 39° 56¾′ or 39° 57′. [Pone 39 56¾ vel 39 57]

Afterwards, noticing a certain small star in the head of Cassiopeia, near the other, toward the bright [star] of the Chair — [a star] which it pleased [us] to call the hair of Cassiopeia, or the back of the head, for it is not in the catalogue of the ancients. [Poſtea animaduertens paruam quandam ſtellam in capite Caßiopeæ juxta alteram, verſum lucidam cathedræ quam crines Caßiopeæ appellare libuit, vel occiput, non enim eſt in veterum catalogo.][1679]

Reading	Value
The bright [star] of ♈ from the hair or back of the head of Cassiopeia [Luc. ♈ a crinibus vel occi-] [pite Caßiop.]	35° 45½′

[1676] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. luc.* ♈ *35 Gr.* stands in the label position on the line of *II 30 22⅚*; *Gr.* is given as degrees. The values, printed without unit marks, are given as degrees and minutes.

[1677] *30 23*, printed without unit marks, is given as degrees and minutes; *dimidio ſcrupulo* ("by half a minute") is given as ½′. The page names no subject for *dabat* or for *erat*.

[1678] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. *vt prius* stands in smaller type directly after *13⅔*. The row of *44 2¼* carries no numeral; *Pone hic 44 2⅙* stands in the label position, indented, on the line of *II 44 3*, and is given on that row. The last label runs over two lines, a value at the right of each, and is given whole on the first row; *proxima* is feminine and names no noun (*cubitus* is masculine); it is given as "the nearest [star]". The values, printed without unit marks, are given as degrees and minutes, the figures within the label the same way.

[1679] This sentence begins at the foot of the left column (*Poſtea … juxta*) and is completed at the head of the right column (*alteram, … catalogo.*); it is given whole here. The participle *animaduertens* has no main verb of its own in the sentence; it is given as printed. *cathedræ* is printed in lower case. *verſum* is printed so.

Reading	Value
	35° 46½′

1680

Set [it] at 35° 46′. [Pone 35 46]

We also observed three stars in the upper part of the chair, which [they] did not record, from the bright [star] of ♈; of these the first is in the right arm, and its distance from the bright [star] of ♈ [is]: [Obſeruauimus & tres ſtellas in ſuperiore parte ſellæ, quas non annotarunt, a luc. ♈ quarum prima eſt in dextro brachio eiusque diſt. a lucida ♈]

Value
41° 31⅔′
41° 32⅙′

1681

Set the distance at 41° 32′. [Pone diſt. 41 32]

Reading	Value
The 2nd, or middle, from the bright [star] of ♈ [2ª ſeu media a lucida ♈]	43° 3′
	43° 3′

Set the distance at 43° 3′. [Pone diſt. 43 3]

Reading	Value
The 3rd from the bright [star] of ♈ [3ª a lucida ♈]	44° 44′
	44° 43⅙′

1682

Set the distance at 44° 43½′. [Pone diſt. 44 43½]

Reading	Star	Value	Re-mark
The bright [star] of ♈ and [the stars] of the footstool in the seat [Luc. ♈ & ſcabelli pedis in ſede]	the first [prima]	45° 10½′	twice [bis]

1680 "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines, *occi-* / *pite* divided at the line end, a value at the right of each; it is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

1681 "Value" is this edition's head; the page prints none. The first value stands at the end of the paragraph's last line, *cida* ♈; the second on the line below. *&* after *Obſeruauimus* is given as "also". The values, printed without unit marks, are given as degrees and minutes.

1682 "Reading" and "Value" in the two tables above are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

Reading	Star	Value	Re-mark
	the middle [media]	47° 23′	
		47° 23½′	
	the last [vltima]	48° 53¾′	
		48° 54′	

1683

N.B. These stars are numbered so that the first on the bench or seat of the chair is the one which is nearest the sole of the foot. [N. B. Hæ ſtellæ ita numerantur, vt prima in ſcamno ſeu ſede ſellæ ſit ea quæ eſt plantæ pedis proxima.][1684]

Reading	Value
The eye of ♉ and the bright [star] of Perseus [Oculus ♉ & luc. Perſei]	36° 19⅙′
	36° 19′

1685

You can use the distance 36° 19⅙′ without perceptible error. [Potes absque ſenſibili errore vti diſtantia 36 19⅙]

Reading	Value	Remark
Between the bright [star] of Perseus and the heel of the foot of ♊ [Inter lucid. Perſei &] [calcem pedis ♊]	44° 14¼′	once [ſemel]

1686

On 21 February [DIE 21 FEBRUARIJ.]

Some stars of Cassiopeia were found from the bright [star] of ♈. First the sextant was tested from the bright [star] of ♈ to the eye of ♉, and the distance 35° 32⅙′ was found. [Reperiebantur quædam Stellæ Caßiopeæ a lucida ♈.

[1683] "Reading", "Star", "Value" and "Remark" are this edition's heads; the page prints none. The label stands on a line of its own; *prima*, *media* and *vltima* stand to the right on the lines below, each directly before its value, and are given in the second column. *ſcabelli pedis* ("stool of the foot") is given as "footstool". The values, printed without unit marks, are given as degrees and minutes.

[1684] This note is printed in smaller type at the left of the column, beside the rows from *prima* to *48 54*.

[1685] "Reading" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1686] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The label runs over two lines, the value on the second. *ſemel* stands alone on the line below the value, at the right edge of the column. *36 19⅙* in the line above and the value here, printed without unit marks, are given as degrees and minutes.

Experimentabatur primo Sextans a lucida ♈ in oculum ♉, & inueniebatur diſtantia 35 32⅙]

Reading	Value	Remark
Between the bright [star] of ♈ and the bright [star] of the Chair [Inter lucidam ♈ & lucidam] [Cathedræ]	41° 20¾′	twice [bis]
Between the bright [star] of ♈ and Schedar of Cassiopeia [Inter luc. ♈ & Schedir] [Caßiopeæ]	36° 38⅓′	
	36° 38¼′	
Between the bright [star] of ♈ and the bend [Inter lucidam ♈ & Flexuram]	39° 10½′	twice [bis]
	39° 10⅔′	

1687

But since 39° 11′ twice is also given in the preceding [observations], you can use the distance 39° 10¾′ without perceptible error. [Quia vero in antecedentibus ponitur 39° 11′bis etiam, potes absque ſenſibili errore vti diſtantia 39 10¾][1688]

Reading	Value
The bright [star] of ♈ and the 11th [star] of Cassiopeia [Lucida ♈ & XI[a] Caßiopeæ]	42° 29½′
	42° 29¾′

1689

At about these times the altitude of the bright [star] of ♈ was 28°. [Fuit circa hæc tempora alt. luc. ♈ 28 Grad.]

Reading	Value	Remark
The bright [star] of ♈ and the 11th [star] of Cassiopeia [Lucida ♈ & XI[a] Caßiopeæ]	42° 29′	good; use this [bona, vtere hac.]

1690

[1687] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second; the second label runs over two lines, a value at the right of each; each is given whole on its first row. *35 32⅙* in the paragraph above and these values, printed without unit marks, are given as degrees and minutes.

[1688] *39° 11′* is printed with a degree mark and a minute mark; *39 10¾*, printed without unit marks, is given as degrees and minutes.

[1689] "Reading" and "Value" are this edition's heads; the page prints none. These rows end the right column; the lower part of the page is blank. The values, printed without unit marks, are given as degrees and minutes.

[1690] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *bona, vtere hac.* stands on the line below the value, indented; *bona* and *hac* are feminine and name no noun. The value, printed without unit marks, is given as degrees and minutes; *Grad.* in the line above is given as degrees.

Reading	No.	Value
The bright [star] of ♈ and the [star] intermediate between the foundation of the seat and the 11th, which is very small [Lucida ♈ & intermedia ſedis funda-] [mento & XImæ quæ eſt parua ad-] [modum]	I	45° 6¾′
	II	45° 6′
	III	45° 6⅔′

1691

Set [it] at 45° 6½′. [Pone 45 6½]

Reading	No.	Value
The bright [star] of ♈ and the 2nd nearest to the knee, which is of the sixth magnitude [Lucida ♈ & IIda proxima ad Genu quæ] [eſt ſextæ magnitud.]	I	36° 15¾′
	II	36° 15′
	III	36° 14½′

1692

Set [it] at 36° 15′. [Pone 36 15]

Reading	No.	Value	Remark
Between the bright [star] of ♈ and that [star] which is the 9th for Thaddaeus, namely the one intermediate between that which [is] in the arm and that which [is] in the knee, and [it] is very small, of the sixth magnitude [Inter luc. ♈ & eam quæ eſt 9ª Thaddeo] [quæ videlicet eſt intermedia illi] [quæ in brachio & quæ in genu,] [eſtque admodum parua Sextæ] [magnitudinis]		35° 44′	doubtful [dubia]
	II	35° 45¾′	
	III	35° 46′	
	IV	35° 46¼′	

1693

Set 35° 46′ here. [Pone hic 35 46]

[1691] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over three lines, the value on the third, and is given whole on the first row. *intermedia* governs *fundamento* and *XImæ*, both in the dative, and is given as "intermediate between". *XImæ* is printed with the letters *mæ* raised. The values, printed without unit marks, are given as degrees and minutes.

[1692] "Reading", "No." and "Value" are this edition's heads; the page prints none. *IIda* is printed with the letters *da* raised. The label runs over two lines, the value on the second, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

[1693] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. The label runs over five lines, the value on the fifth, and is given whole on the first row. No numeral is printed before *35 44*; the next rows carry *II*, *III*, *IV* as printed. *dubia* stands in smaller type directly after *35 44*. *9ª Thaddeo* ("the 9th for Thaddaeus") is given word for word; the page does not say in what list the star is ninth. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
The bright [star] of ♈ and the little [star] in the left elbow [Lucida ♈ & paruula in ſi-] [niſtro cubito]	33° 38⅔′
	33° 37′
	33° 38′

1694

Set the distance 33° 38′ here. [Pone hic diſt. 33 38]

In these last observations the altitude of the bright star of the head of ♈ was nearly 21°. [Fuit in his vltimis obſeruationibus altitudo lucidæ Stellæ capitis ♈ 21 Gr. prope.]

Reading	No.	Value
Between the side of Perseus and the heel of ♊ [Inter latus Perſei &] [calcem ♊]	I	44° 14′
	II	44° 13⅚′
	III	44° 14′

1695

Set 44° 14′, imperceptibly. [Pone inſenbiliter 44 14] [recte: inſenſibiliter][1696]

Reading	Value	Remark
Between the bright [star] of Perseus and the lower [head] of ♊ [Inter lucidam Perſei &] [inferius ♊]	53° 23′	twice [bis]
	53° 22⅚′	good [bona]

1697

These are better than those which were taken on the other evening. This [one] must be repeated tomorrow, and the one which is between the lower [head] of ♊ and Aldebaran, and likewise between Aldebaran and the heel of

[1694] "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines, *ſi-* / *niſtro* divided at the line end, a value at the right of each; it is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

[1695] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over two lines, a value at the right of each, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

[1696] The page prints *inſenbiliter*; *inſenſibiliter* ("imperceptibly") is given. No verb of erring stands with it here; the preceding page prints *& inſenſibiliter aberrabis* ("and you will err imperceptibly") in the same kind of line.

[1697] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *inferius* is neuter and its noun is not printed here; "[head]" follows *inferius caput* ♊, printed in the right column of this page. The label runs over two lines, a value at the right of each, and is given whole on the first row. *bis* stands after the first value; *bona* stands in smaller type directly after the second. The values, printed without unit marks, are given as degrees and minutes.

II. [Hæ ſunt meliores quam illæ quæ altero veſperi accipiebantur. Oportet hanc cras repetere & eam quæ eſt inter inferius II & Aldeboram, item inter Aldeboram & calcem II][1698]

Capella [CAPELLA.]

Reading	No.	Value
Between Capella and the bright [star] of ♈ [Inter Capellam &] [lucidam ♈]		44° 6⅔′
	II	44° 6¾′
	III	44° 6⅚′

1699

The last [one] was among thinner clouds. But you can use the distance 44° 6¾′. [Vltima erat inter tenuiores nubes. Potes autem vti diſt. 44 6¾][1700]

Reading	No.	Value
Between Capella and Aldebaran [Inter Capellem & Aldeb.] [recte: Capellam]	I	30° 42′
	II	30° 42′
	III	30° 41¾′
	IV	30° 42′
	V	30° 41⅚′
Capella and the lower head of II [?] [Capella & inferius caput [[II/?]]]	I	34° 19 1/12′
	II	34° 19⅙′

1701

Reading	Value	Remark
On the following evening the distance of Capella and the bright [star] of ♈ [was] repeated [Sequenti veſperi repetita] [diſt. Capellæ & lucidæ ♈]	44° 6⅔′	twice [bis]

[1698] *Hæ*, *illæ*, *hanc* and *eam* are feminine and name no noun. *Oportet … repetere* ("it is necessary to repeat") is given as "must be repeated".

[1699] "Reading", "No." and "Value" are this edition's heads; the page prints none. No numeral is printed before *44 6⅔*; the next rows carry *II* and *III*. The label runs over two lines, a value at the right of each, and is given whole on the first row. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes.

[1700] This paragraph opens the right column. *Vltima* is feminine and names no noun. *44 6¾*, printed without unit marks, is given as degrees and minutes.

[1701] "Reading", "No." and "Value" are this edition's heads; the page prints none. The page prints *Capellem*; *Capellam*, as printed twice lower on this page, is given. The sign after *caput* is not printed in the form of the II of the left column of this page: on a native-resolution crop its two uprights carry upper and lower strokes that curve outward, away from each other, and descend below the line, with no stroke joining them. Whether it is a damaged or reversed II sort or another sign is not settled on this copy; it is given as II, marked [?], by the words *inferius caput* ("the lower head"), the left column printing *inferius* II with the regular sign. *19 1/12* is printed as a fraction of one twelfth. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Remark
	44° 6½′	
	44° 6⅔′	twice more [adhuc bis]

1702

Let this distance therefore be set at 44° 6⅔′ without error. [Ponatur itaque diſt. hæc absque errore P. 44 M. 6⅔][1703]

Reading	Value	Remark
The bright [star] of ♈ and the right shoulder of Erichthonius [Lucida ♈ & dext. hum.] [Erichtonij]	51° 21¼′	twice [bis]

1704

The distance of Capella from the stars of Cassiopeia. [Capellæ diſt. a ſtellis Caßiopeæ.][1705]

Reading	No.	Value	Remark
Between Capella and the head of Cassiopeia [Inter Capellam & caput] [Caßiopeæ]	I	43° 45⅓′	
	II	43° 43⅔′	
	III	43° 44′	
use the distance [vtere diſt.]		43° 44½′	
Capella and the small [star] at the hair of Cassiopeia [Capella & parua ad] [crines Caß.]	I	44° 15′	
	II	44° 15½′	
Capella and that [star] which [is] in the right arm [Capella et ea quæ] [in brachio dextro]	I	48° 9′	doubtful (for both) [du-] [biæ]
	II	48° 9½′	
The following [star] of those three, from Capella [Sequens earum trium] [a Capella]	I	48° 3′	
	II	48° 3¾′	
	III	48° 3½′	
use [vtere]		48° 3½′	
The third of those three, from Capella [Tertia earum trium] [a Capella]	I	48° 34′	
	II	48° 33′	

[1702] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The label runs over two lines, a value at the right of each, and is given whole on the first row. *bis* stands after the first value; *adhuc bis* stands alone on the line below the third value, at the right edge, and is given on that row. The values, printed without unit marks, are given as degrees and minutes.

[1703] The value is printed with *P.* before the degrees and *M.* before the minutes.

[1704] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The label runs over two lines, the value on the second. The value, printed without unit marks, is given as degrees and minutes.

[1705] This line stands centred in the column, after a blank space.

Reading	No.	Value	Remark
	III	48° 33½′	
use [vtere]		48° 33½′	
Capella and the left elbow of Cassiopeia [Capella & cubitus] [ſiniſter Caß.]	I	38° 42⅓′	
	II	38° 42¼′	
Capella and the small [star] in the left arm, VIII [Capella & parua in] [brachio ſiniſtro VIII]	I	39° 29⅓′	
	II	39° 28½′	

1706

Set the distance at 39° 29′. [Pone diſt. 39 29]

Reading	No.	Value
Capella and Schedar of Cassiopeia [Capella & Schedir] [Caßiopeæ]	I	42° 28′
	II	42° 28⅙′
	III	42° 28⅙′
Capella and the bright [star] of the Chair [Capella & lucida] [cathedræ]	I	45° 41⅓′
	II	45° 41⅓′
Capella and the bend [Capella & Flexura]	I	39° 30′
	II	39° 30′
	III	39° 30′

1707

Reading	No.	Value
Capella and the girdle of Cassiopeia [Capella & cingulum] [Caß.]	I	41° 7′
	II	41° 7⅔′
	III	41° 8′
	IV	41° 8′

1708

[1706] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. Each label runs over two lines and is given whole on its first row. *vtere diſt.* and *vtere* stand set to the right in the label position, each directly before its value, and are given on their own rows. *du- / biæ* stands in smaller type after *48 9* and *48 9½*, divided at the line end; it is plural and is given once, on the first row, with its scope in round brackets. *VIII* stands at the end of the label, as printed. The values, printed without unit marks, are given as degrees and minutes.

[1707] "Reading", "No." and "Value" are this edition's heads; the page prints none. *cathedræ* is printed in lower case. The second upright of the *II* before *45 41⅓* is thinner and shorter than the first; it is given as *II*. These rows end the right column; the lower part of the page is blank. The values, printed without unit marks, are given as degrees and minutes.

[1708] "Reading", "No." and "Value" are this edition's heads; the page prints none. These rows open the left column with no date line above them; they continue the distances of Capella from the stars of Cassiopeia on the preceding page. The label runs over two lines, a value at the right of each, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

Set [it] at 41° 7′ 45″. [Pone 41 7 45][1709]

Reading	No.	Value
Capella and the 11th [star] of Cassiopeia [Capella & XIma] [Caßiopeæ]	I	41° 53½′
	II	41° 53¼′
	III	41° 53½′

1710

For the navel of Cassiopeia, where there are two very small stars of the sixth magnitude so joined that they cannot be distinguished, you will take the middle of these from the 11th [star] of Cassiopeia and the bright [star] of the Chair; [they] are not yet in the number of the others. But call [it] the ring of the navel. [Pro vmbilico Caßiopeæ, vbi ſunt duo ſtellæ paruulæ ſextæ magnitud. adeo conjunctæ vt diſcerni nequeant, harum medium accipies ab XIa Caß. et luc. Cathedræ, non ſunt adhuc in numero cæterarum. Voca autem gyrum vmbilici.][1711]

If you wish to distinguish the distance of each of these small [stars], set the nearest to the Chair at 5° 59′, the most remote at 6° 4′; let the distance from the 11th remain the same for both. [Si vis vtramque harum paruarum diſtantiam diſcernere, pone proximam Cathedræ part. 5.59, remotiß. 6.4, diſt. ab XIma maneat vtrique eadem.][1712]

Reading	No.	Value
XI of Cassiopeia and the ring of the navel [XI Caß. & Gyrus vmbilici]	I	4° 42½′
	II	4° 42⅔′
The ring of the navel and the bright [star] of the Chair [Gyrus umbil. & luc.] [Cathedræ]		5° 59′
		6° 5′

[1709] Three figures are printed without unit marks; they are given as degrees, minutes and seconds, the third standing to the right of the minutes.

[1710] "Reading", "No." and "Value" are this edition's heads; the page prints none. *XIma* is printed with the letters *ma* raised. The label runs over two lines, a value at the right of each, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

[1711] *paruulæ* ("very small", a diminutive) is given as "very small". *harum medium* ("the middle of these") is the point between the two stars; *accipies … ab* ("you will take … from") is given word for word — the distance of that middle point from the two stars named. *non ſunt adhuc in numero cæterarum* has no expressed subject; "[they]" is supplied from the two stars. *gyrum vmbilici* ("the ring of the navel") is the name the page gives the point; *gyrus* is given as "ring".

[1712] *part. 5.59* is printed with *part.* ("degrees") and a point between the figures; it is given as 5° 59′. *6.4* is printed without a unit mark and is given in the same way, as 6° 4′. *remotiß.* ("the most remote") is abbreviated. *vtramque* distributes ("each of these"); *vtrique* is given as "for both", one distance serving the two stars.

1713

Set [it] at 6° 2′. [Pone 6 2]

Reading	No.	Value
Capella and the small [star] nearest to the Knee [of Cassiopeia], number XVI [Capella & parua proxima] [Genu numero XVI]	I	35° 0⅔′
	II	35° 0½′
	III	35° 1′
Capella and the other [star] near the Knee [of Cassiopeia], XV [Capella & altera apud] [Genu XV]	I	36° 54¼′
	II	36° 53¾′
Capella and XVII, which is in the footstool [Capella & XVII quæ eſt] [in ſcabello]	I	34° 42′
	II	34° 44′
	III	34° 44¼′
Capella and the middle [star] of the footstool [Capella & media ſcabelli]	I	36° 15½′
	II	36° 15⅔′
Capella and the extreme [star] in the footstool [Capella & extrema] [in ſcabello]	I	37° 42¼′
	II	37° 42½′
Capella and XX, which is the middle [star] in the lower part of the Chair [Capella & XX quæ eſt] [media in cathedræ] [parte inferiori]		37° 29¾′
		37° 28¾′
		37° 29¼′
Capella and the Knee [of Cassiopeia], the 5th [Capella & Genu Vta]		36° 1½′
		36° 1½′
Capella and the leg, VI [Capella et crus VI]	I	32° 46¾′
	II	32° 46′
	III	32° 46½′
Capella and the sole of the foot, the 7th [Capella et Planta] [pedis VIIa]		30° 18⅓′
		30° 17¾′
		30° 18′

1714

1713 "Reading", "No." and "Value" are this edition's heads; the page prints none. *XI* is printed without raised letters here. *Gyrus umbil. & luc. / Cathedræ* runs over two lines, a value at the right of each, and is given whole on its first row; no numeral stands before either of its values. The values, printed without unit marks, are given as degrees and minutes.

1714 "Reading", "No." and "Value" are this edition's heads; the page prints none. Labels running over two or three lines, a value at the right of each, are given whole on their first row. No numeral stands before the values of *XX quæ eſt …*, *Genu Vta* and *Planta pedis VIIa*. *Vta* and *VIIa* are printed with raised letters; the roman numerals *XVI*, *XV*, *XVII*, *XX* and *VI* are printed without them and are kept as printed. *proxima* and *altera* are feminine and name no noun; "the small [star] nearest to the Knee [of Cassiopeia]" and "the other [star]" follow *parua* and the star labels of this page. *ſcabellum* is given as "footstool", as *ſcabelli pedis* on p. 245. A small point is printed between *35* and *0½* in the second row, and after the fraction of *30 18⅓*. A blank space stands above *Capella et crus VI* and above *Capella et Planta*. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
Between Capella and the northern horn of ♉ [Inter Capellam &] [boreale cornu ♉]	I	17° 30¾′
	II	17° 31¼′
	III	17° 31½′
	IV	17° 31½′
	V	17° 31⅔′
	VI	17° 31⅔′
	VII	17° 31½′

1715

Set the true distance at 17° 31½′. [Pone diſtantiam veram Part. 17 31½][1716]

Reading	No.	Value
Between Aldebaran and the northern horn of ♉ [Inter Aldeboram &] [boreale cornu ♉]	I	16° 42′
	II	16° 44¼′
	III	16° 44½′
	IV	16° 44¼′
	V	16° 43′

1717

Set the true distance at 16° 44′. [Pone diſt. veram 16 44]

Reading	No.	Value
Between Aldebaran and the southern horn of ♉ [Inter Aldeb. & auſtrale] [cornu ♉]	I	15° 18′
	II	15° 17⅚′
	III	15° 18′
Between Capella and the southern horn of ♉ [Inter Capellam & auſt.] [cornu ♉]	I	25° 15¾′
	II	25° 16′
	III	25° 16′
	IV	25° 16′
The southern horn of ♉ and the lower head of ♊ [Auſtrale cornu ♉ &] [inferius caput ♊]	I	29° 50′
	II	29° 49⅚′
	III	29° 49⅚′
The northern horn of ♉ and the lower head of ♊ [Boreale cornu ♉ &] [inferius caput ♊]	I	30° 35′
	II	30° 35′
	III	30° 35⅙′
Between Capella and the extreme [star] at the top of the chair, number XXI [Inter Capellam & extre-] [mam in ſummitate] [ſellæ numero XXI]	I	50° 34¼′

[1715] "Reading", "No." and "Value" are this edition's heads; the page prints none. These rows open the right column. The label runs over two lines, a value at the right of each, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

[1716] *Part.* ("degrees") is printed before the figures; the minutes are printed without a unit mark.

[1717] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label runs over two lines, a value at the right of each, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
	II	50° 33⅓′
	III	50° 34′
Between Capella and the little [star] near the bend [Inter Capellam & paruu-] [lam apud flexuram]	I	39° 54′
	II	39° 53′
	III	39° 54′
Between the bright [star] of the Chair and the bend, XII and IV [Inter lucidam Cathedræ] [& Flexuram] [XII et IV]	I	6° 11¾′
	II	6° 11½′
	III	6° 11⅔′
	IV	6° 11½′
Between the bright [star] of the Chair and the Knee [of Cassiopeia], XII and V [Inter lucidam Cathedræ] [& Genu XII et V]	I	9° 42′
	II	9° 42′
	III	9° 42⅓′
Between the bright [star] of the Chair and Schedar, XII and the 2nd [Inter luc. Cathedræ] [& Schedir XII et IIa]	I	4° 57′
	II	4° 57⅓′
	III	4° 57′
Between the bright [star] of the Chair and the head, XII and the 1st [Inter luc. Cathedræ] [& caput XII et Ia]	I	6° 32⅓′
	II	6° 32½′
Between the bright [star] of the Chair and the hair, XII and XIV [Inter luc. Cathedræ &] [crines XII et XIV]	I	5° 49′
	II	5° 39′
Between the bright [star] of the Chair and the right arm, XII and IX [Inter luc. cathedræ &] [dext. Brachium] [XII et IX]	I	9° 18′
	II	9° 17′
	III	9° 17¾′

1718

Reading	No.	Value	Re-mark
Between the bright [star] of the Chair and the girdle, XII and III [Inter luc. Cathedræ &] [Cingulum XII & III]	I	5° 19½′	
	II	5° 19′	
Between the bright [star] of the Chair and the navel [Inter luc. cathedræ] [& vmbilicum]		5° 59′	

[1718] "Reading", "No." and "Value" are this edition's heads; the page prints none. Labels running over two or three lines, a value at the right of each, are given whole on their first row; *extre- / mam* and *paruu- / lam* are divided at the line end. *IIa* and *Ia* are printed with a raised *a*; the other roman numerals in the labels are printed without raised letters and are kept as printed. The pairs of numerals (*XII et IV* and the rest) stand after the second star named and are given in the same place. *Aldeb.* follows *Aldeboram*, printed in full above it. *auſt.* follows *auſtrale*, printed in full above it. *paruulam* ("the little [star]") is a diminutive. *ſella* is given as "chair", *Cathedra* as "the Chair" (glossary). The two values under *crines XII et XIV* are printed *5 49* and *5 39*. These rows end the right column. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value	Re-mark
		5° 58½′	
Between the bright [star] of the Chair and the highest [star] in the Knee [of Cassiopeia], namely number XV [Inter luc. Cath. & ſupre-] [mam in Genu ſcilicet] [num. XV]	I	9° 15¼′	
	II	9° 15′	
Between the bright [star] of the Chair and the calf, number VI [Inter luc. Cathedræ] [& Suram VI num.]	I	13° 18′	
	II	13° 18′	
Between the bright [star] of the Chair and the sole of the foot, XII and VII [Inter luc. Cath. & Plan-] [tam pedis XII & VII]	I	17° 29′	
	II	17° 28⅓′	
The bright [star] of the Chair and the far end of the footstool, XII and XIX [Lucida Cath. & Extrema] [ſcabelli XII & XIX]	I	17° 22¼′	
	II	17° 22¼′	
The bright [star] of the Chair and the middle [star] of the footstool, XVIII [Lucida Cathedræ &] [media ſcabelli XVIII]	I	16° 27¼′	
	II	16° 27′	
The bright [star] of the Chair, the lowest and 1st [star] of the footstool, number XVII [Luc. Cathedræ infima & Ia] [ſcabelli XVII numero]		14° 55′	
		14° 54⅔′	
The bright [star] of the Chair and the middle [star] between the 11th and the 1st at the bottom of the chair, number XX [Lucida Cath. & med. inter] [XIm & Iam in imo ſellæ] [num. XX]		12° 16′	
		12° 16½′	
Between the eleventh [star] and the bright [star] of the Chair [Inter vndecimam et luc.] [Cathedræ]		4° 47′	
		4° 47½′	
Between the 11th and Schedar [Inter XIam & Schedir]	I	6° 26′	good [bona]
	II	6° 24¾′	
	III	6° 24⅓′	
Between XI and the bend [Inter XI & Flexuram]	I	3° 32⅓′	
	II	3° 32⅓′	
Between Schedar and the Knee [of Cassiopeia] [Inter Schedir & Genu]	I	6° 57⅓′	
	II	6° 57⅓′	
Between Schedar and the bend [Inter Schedir & Flexuram]	I	4° 36⅚′	
	II	4° 37′	
	III	4° 36½′	
Between the bend and the Knee [of Cassiopeia] [Inter Flexuram & Genu]	I	3° 34⅔′	
	II	3° 34⅔′	
Afterwards the same distance was observed [Poſtea eadem diſt. obſer-] [uabatur]		3° 36′	

1719

On 5 March [DIE 5 MARTIJ.]

Reading	No.	Value
Between the eleventh [star] and the girdle [Inter vndecimam &] [cingulum]		5° 24′
		5° 23′
Between Schedar and the girdle [Inter Schedir & cingulum]		1° 39½′
		1° 39½′
Between Schedar and the head [Inter Schedir & caput]	I	2° 35′
	II	2° 36′
	III	2° 35′

1720

On 10 March [DIE 10 MARTIJ.]

Reading	Value
Between Capella and the lower head of II, to examine the sextant [Inter Capellam & infer.] [caput II] [pro examine Sextantis.]	34° 19⅓′
	34° 19½′

1721

Reading	Value	Remark
Between the bright [star] of the Chair and the bend [Inter luc. Cathedræ &] [flexuram]	6° 12′	

1719 "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. These rows open the left column with no date line above them. Labels running over two or three lines are given whole on their first row; the three-line labels *Inter luc. Cath. & ſupre-* … *num. XV* and *Lucida Cath. & med. inter* … *num. XX* carry values on their first and third lines only. No numeral stands before the values of *& vmbilicum*, *infima & I*^{a}, *med. inter*, *vndecimam et luc.* and *Poſtea eadem diſt.*. No *&* is printed between *Luc. Cathedræ* and *infima*; the two stars are given as the page sets them, with a comma. *I*^{a}, *XI*^{m} and *XI*^{am} are printed with raised letters and are given as ordinals; the other roman numerals in the labels are kept as printed. *med.* is abbreviated and is given as "the middle [star]". *Sura* is given as "the calf". *bona* stands in smaller type directly after *6 26*. A small point is printed between *17* and *28⅓*. The values, printed without unit marks, are given as degrees and minutes.

1720 "Reading", "No." and "Value" are this edition's heads; the page prints none. The values of *1 39½* stand with the figure *1* in the degrees position and no numeral before them. The values, printed without unit marks, are given as degrees and minutes.

1721 "Reading" and "Value" are this edition's heads; the page prints none. *infer.* follows *inferius*, printed in full in the same label in the right column of this page. *pro examine Sextantis.* stands on a line of its own under the label, indented, with no value, and is given with the label. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Remark
	6° 12′	
	6° 12′	
Between the bright [star] of the Chair and Schedar [Inter luc. Cath. & Schedir]	4° 59′	once [ſemel]

1722

On 17 March, in the evening [DIE 17 MARTIJ, VESPERI.]

Reading	No.	Value
Between Capella and the lower head of II, to examine the sextant [Inter Capellam & inferius] [caput II] [pro examine Sextantis.]		34° 19′
		34° 19′
Between the bright [star] of the Chair and the bend [Inter lucidam Cathedræ] [& Flexuram]	I	6° 11⅚′
	II	6° 12′
	III	6° 11⅚′
Between the bright [star] of the Chair and Schedar [Inter lucidam Cathedræ] [& Schedir]	I	4° 59⅓′
	II	4° 59⅓′
	III	4° 59¼′
Between the bend and Schedar [Inter Flexuram & Schedir]	I	4° 37⅔′
	II	4° 37⅔′
Between Schedar and the eleventh [star] [Inter Schedir &] [vndecimam]	I	4° 24′
	II	4° 24¼′
	III	4° 24′

1723

Reading	Method	Value	Remark
Schedar from the bright [star] of the Chair [Schedir a luc. Cathedræ]	by two centres [per bina centra]	4° 58⅓′	twice [bis]
	with a single centre [vnico centro]	4° 59′	twice [bis]
		4° 59 1/12′	

[1722] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. These rows open the right column with no date line above them; the last date line printed before them is *DIE 10 MARTIJ.* in the left column. *ſemel* stands in smaller type directly after *4 59*. The values, printed without unit marks, are given as degrees and minutes.

[1723] "Reading", "No." and "Value" are this edition's heads; the page prints none. *pro examine Sextantis.* stands on a line of its own under the first label, indented, with no value, and is given with the label. Labels running over two lines, a value at the right of each, are given whole on their first row. The values, printed without unit marks, are given as degrees and minutes.

1724

Reading	No.	Value
Between the 11th and Schedar of Cassiopeia [Inter XIam & Schedir] [Caßiopeæ]	I	6° 27′
	II	6° 26½′
	III	6° 27⅙′
Between the 11th and the girdle of Cassiopeia [Inter XIam & Cingulum] [Caßiopeæ]	I	5° 23′
	II	5° 23½′
	III	5° 23′
Between the 11th of Cassiopeia and the pole star [Inter XIam Caßiopeæ &] [Polarem]	I	26° 25′
	II	26° 25¾′
	III	26° 25′
	IIII	26° 25′
Between the bend and the pole star [Inter Flexuram &] [Polarem]	I	28° 35⅚′
	II	28° 35⅚′
	III	28° 35¾′
Between the bend and the leg of Cassiopeia [Inter Flexuram & crus] [Caß.]	I	7° 20′
	II	7° 20′
	III	7° 19¾′
Between the bright [star] of the Chair and the Knee [of Cassiopeia] [Inter luc. Cathedræ &] [Genu]	I	9° 42¼′
	II	9° 42′
	III	9° 42⅓′

1725

On 22 March, in the evening [DIE 22 MARTIJ, VESPERI.]

Reading	No.	Value	Remark
Between the bright [star] of the Chair and the bend [Inter lucidam Cathe-] [dræ & Flexuram]	I	6° 11½′	with two centres (for both) [duobus] [centris]
	II	6° 11⅔′	
Between the bright [star] of the Chair and Schedar [Inter luc. Cathedræ &] [Schedir]	I	4° 58⅓′	also with two centres (for both) [etiam] [duobus] [centris]
	II	4° 58¼′	

1724 "Reading", "Method", "Value" and "Remark" are this edition's heads; the page prints none. The label stands on a line of its own with no value; *per bina centra* and *vnico centro* stand indented under it, each with a value, and are given in the second column; a third value stands alone on the line below. *bis* stands directly after the first two values. *59 1/12* is printed as a fraction of one twelfth. The values, printed without unit marks, are given as degrees and minutes.

1725 "Reading", "No." and "Value" are this edition's heads; the page prints none. *XIam* is printed with the letters *am* raised. *IIII* is printed. Labels running over two lines, a value at the right of each, are given whole on their first row. *Polarem* ("the polar [star]") is given as "the pole star" (glossary). The values, printed without unit marks, are given as degrees and minutes.

1726

Diagram. A framed woodcut filling the whole text block, with no caption. A woman sits on a high-backed chair whose arms end in scrolls; the arm on the left of the picture is raised, the arm on the right holds a palm branch, and her feet rest on a footstool standing on a board. Stars are drawn as small asterisk-shaped marks, most of them numbered; the numbers are the only lettering on the figure.

- 21.: on the scroll of the chair's arm, upper left
- 13: on the chair's back, beside the scroll
- 10: at the shoulder of the raised arm
- 14: at the edge of the face, on the left
- 12: on the chair's back, lower down
- 2: on the breast
- 3: below the breast
- 8: on the upper arm of the arm holding the branch, just short of the elbow
- 9: at the elbow of that arm
- 11.: on the chair's back, lowest
- 4.: at the hip
- 15: at the knee
- 5: on the thigh
- 16: at the knee, the lower of the two stars there
- 20: on the chair's front panel, below the seat
- 6.: on the shin
- 17: on the footstool, upper
- 18.: on the footstool
- 19.: on the footstool, at the left
- 7: at the ankle[1727]

[1726] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. Each pair of values is joined at the right by a brace, and the words to the right of each brace, in smaller type, apply to both values of its pair; *duobus* / *centris* stand on two lines beside the first pair, *etiam* / *duobus* / *centris* on three lines beside the second. *Cathe-* / *dræ* is divided at the line end. These rows end the right column. The values, printed without unit marks, are given as degrees and minutes.

[1727] Four marks in the figure carry no number that can be read: the star on the mouth, two small stars close together at the navel, and a mark where the raised arm meets the chair's back. On native-resolution crops the small strokes beside the last are shading of the woodcut, not a figure, and whether the mark itself is a star or a crossing of outlines is not settled. Below the star on the mouth a short stroke joined to its lower ray, with a faint point at its foot, may be the number *1.*; it is not settled on this copy. No number above *21* was found. The page prints no caption and names no star. The neighbouring entries name stars as *Cathedræ* (the Chair), *Schedir*, *Flexuram*, *Genu* and *Caßiopeæ*; that the figure shows the stars measured there is an inference of this edition and is not printed on the page.

Reading	No.	Value	Remark
Between the bright [star] of the Chair and the Knee [of Cassiopeia] [Inter luc. Cathedræ &] [Genu]	I	9° 42¼′	with two centres (all seven values) [duobus centris]
	II	9° 42⅓′	
Between the 11th and Schedar of Cassiopeia [Inter XIam & Schedir] [Caß.]	I	6° 26′	
	II	6° 25½′	
	III	6° 25¾′	
	IV	6° 26′	
	V	6° 25⅔′	

1728

On 1 April, in the evening [DIE 1 APRILIS, VESPERI.]

Reading	No.	Value
Between the bend and the knee [Inter flexuram & Genu]	I	3° 36′
	II	3° 36⅙′
	III	3° 35¾′
Set [it] everywhere [Pone vbique]		3° 36′
Between the bend and the pole star [Inter flexuram & Polarem]	I	28° 35½′
	II	28° 35⅙′
Between the bend and the girdle [Inter flexuram & cingulum]	I	3° 2⅓′
	II	3° 2⅓′
	III	3° 2½′
Between the knee and the leg [Inter Genu & crus]	I	4° 50′
	II	4° 50′

1729

On 29 April [DIE 29 APRILIS.]

Reading	No.	Value	Remark
Between the 11th and the girdle of Cassiopeia [Inter XIam & cingulum] [Caßiopeæ]		5° 23′	

[1728] "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. These rows open the left column with no date line above them; the last date line printed before them is *DIE 22 MARTIJ, VESPERI.* on p. 248 (p. 249 is a figure). The seven values are joined at the right by a single brace, and the words to the right of it, *duobus / centris*, in smaller type, apply to all seven. Labels running over two lines are given whole on their first row. *XIam* is printed with the letters *am* raised and is given as an ordinal. The values, printed without unit marks, are given as degrees and minutes.

[1729] "Reading", "No." and "Value" are this edition's heads; the page prints none. *Pone vbique* is set to the right, directly before its value, with no numeral, on the line below the three readings between the bend and the knee. *Polarem* ("the polar [star]") is given as "the pole star" (glossary). The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value	Remark
		5° 22½′	
		5° 23′	
Between XI and the bend [Inter XI & Flexuram]	I	3° 32′	
	II	3° 31⅔′	
Between XI and the bright [star] of the Chair [Inter XI & luc. Cathedræ]	I	4° 46′	
	II	4° 47′	
	III	4° 46′	
Between Schedar and the head [Inter Schedir & caput]	I	2° 34′	
	II	2° 33½′	
Between the bright [star] of the Chair and the girdle [Inter luc. Cathedræ & cing.]		5° 17′	
			once [ſemel]

1730

On 10 December [DIE 10 DECEMBRIS.]

Reading	Value
Between the bright [star] of ♈ and the sole of the foot of Cassiopeia [Inter luc. ♈ & Plantam pedis] [Caßiop.]	44° 2½′
	44° 2⅔′
or [vel]	2¾′
Between the bright [star] of ♈ and the far end of the seat of Cassiopeia [Inter luc. ♈ & extrem.] [ſedis Caßiopeæ]	41° 30⅓′
	41° 31′
The bright [star] of ♈ and the right elbow of Cassiopeia [Lucida ♈ & dexter cubitus] [Caß.]	39° 56′
	39° 56⅓′
The bright [star] of ♈ and the left elbow of Cassiopeia [Luc. ♈ & ſiniſter cubitus] [Caß.]	33° 22′
	33° 21½′
The bright [star] of ♈ and the little [star] in the left arm [Luc. ♈ & paruula in ſiniſtro] [brachio]	33° 37¾′
	33° 38′
Between Capella and the far end of the chair [Inter Capellam & Extremam] [ſellæ]	48° 3′

1731

1730 "Reading", "No.", "Value" and "Remark" are this edition's heads; the page prints none. *cing.* is abbreviated and follows *cingulum*, printed in full in the same column. *ſemel* stands on a line of its own under the figures *5 17*. The values, printed without unit marks, are given as degrees and minutes.

1731 "Reading" and "Value" are this edition's heads; the page prints none. *vel* stands on a line of its own before the figures *2¾*, with no degree figure; the value is given as minutes. *extrem.* is abbreviated and is given as "the far end", following *Extremam* printed in full in the same column. The label *Inter Capellam & Extremam / ſellæ* carries its value on its second line. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
Between Capella and the right elbow [Inter Capellam & dextrum] [cubitum]	I	48° 9½′
	II	48° 9½′
Between Capella and the left elbow [Inter Capellam & ſiniſt. cub.]		38° 41½′
Between Capella and the left arm [Inter Capell. & ſiniſt. brach.]		39° 27′

1732

On 19 December [DIE 19 DECEMBRIS.]

Reading	Value	Remark
Between Capella and the upper of the two small [stars] in the knee [Inter Capellam & ſuperiorem] [ex duabus paruis in Genu]	34° 59′	
Between Capella and the preceding of the two [stars] in the knee [Inter Capellam & Præced.] [duarum in Genu]	36° 56′	
Between Capella and the bright [star] in the left arm [Inter Capellam & luc. in] [ſiniſt. brachio]	38° 40¾′	
Between Capella and the other less bright [star] [Inter Capellam & alt. minus] [lucidam]	39° 25′	
Between Capella and XIII of Cassiopeia [Inter Capellam & XIII Caß.]	48° 29½′	
Between Capella and the middle [star] of the footstool [Inter Capellam &] [mediam ſcabelli]	36° 14½′	
	36° 14½′	doubtful [dubia]
Between Capella and the following of the two northern [stars] in the branch [Inter Capellam & ſequentem] [duarum boreal. in virga]	43° 2¾′	
	43° 3′	
Between Capella and the preceding [star] of the two in the branch [Inter Capellam & præced.] [ex duabus in virga]	44° 15¼′	
	44° 15′	
Between Capella and the following of the two extreme [stars] in the branch [Inter Capellam & ſequentem] [duarum extremarum in] [virga]	44° 43′	
	44° 43½′	
Between Capella and the extreme [star] in the branch [Inter Capellam & Extremam] [in virga]	45° 24⅓′	
	45° 25′	
Between the bright [star] of ♈ and the small [star] in a straight line with XI and the middle [star] of the footstool [Inter luc. ♈ & paruam in] [recta linea cum XI &] [media ſcabelli]	45° 5½′	
	45° 5¾′	
Between the bright [star] of ♈ and the following [star] in the knee [Inter luc. ♈ & ſequentem in] [genu]	36° 14½′	
	36° 14½′	

1732 "Reading", "No." and "Value" are this edition's heads; the page prints none. These rows open the right column with no date line above them; the last date line printed before them is *DIE 10 DECEMBRIS.* in the left column. A blank space of about three lines follows them. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Re-mark
Between the bright [star] of ♈ and the preceding [star] in the knee [Inter luc. ♈ & præcedentem] [in genu]	35° 47′	
	35° 47′	
Between the bright [star] of ♈ and the bright [star] in the left arm [Inter luc. ♈ & luc. in ſiniſt.] [brachio]	33° 22′	
Between the bright [star] of ♈ and the less bright [star] of the same arm [Inter luc. ♈ & minus lucidam] [eiusdem brach.]	33° 39′	
Between the bright [star] of ♈ and the little [star] below the far end of the chair [Inter luc. ♈ & paruulam] [infra extremam ſellæ]	43° 0½′	
	43° 1′	
The bright [star] of ♈ and the following of the two northern [stars] in the branch [Lucid. ♈ & ſequens duarum] [boreal. in virga]	31° 23′	
	31° 23′	
The bright [star] of ♈ and the preceding of the two northern [stars] in the branch [Lucid. ♈ & præced. duarum] [boreal. in virga]	31° 41¼′	
	31° 41′	
Between the bright [star] of ♈ and the upper of the two extreme [stars] in the branch [Inter luc. ♈ & ſuperiorem] [duarum extrem. in virga]	29° 39½′	
	29° 40½′	
Between the bright [star] of ♈ and the extreme [star] in the branch [Inter luc. ♈ & Extremam] [in virga]	28° 55′	
	28° 54½′	

1733

Altitudes by the sextant, in the morning. [Altitudines per Sextantem, mane.]

On 11 January [DIE 11 JANUARIJ.]

Reading	Value
Meridian altitude of Schedar of Cassiopeia [Alt. merid. Schedir] [Caßiopeæ]	20° 13¾′
Of the bend [Flexuræ]	24° 24¾′
Of the foot of Cassiopeia [Pedis Caßiopeæ]	27° 32⅔′
Of the preceding [star] in the side of Perseus [Præcedentis in latere Perſei]	17° 46¼′
Of the bright [star] of the side of Perseus [Lucidæ lateris Perſei]	14° 17⅙′

[1733] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. Labels running over two or three lines are given whole on their first row; where the first line of a label carries no value, the first value stands on its second or third line. *dubia* stands on a line of its own under the second value between Capella and the middle [star] of the footstool. *alt.* is abbreviated and is given as "the other". *extrem.* is abbreviated and follows *extremarum*, printed in full in the same column. *boreal.* is abbreviated and is given as "northern". *XIII* is a roman numeral in the label and is kept as printed. These rows end the right column. The values, printed without unit marks, are given as degrees and minutes.

1734

On 15 January [DIE 15 JANUARIJ.]

Reading	Value
The bright [star] of the Chair [Lucida Cathedræ]	22° 49½′
Schedar [Schedir]	20° 14′
The bend [Flexura]	24° 24⅓′

1735

Meridian altitudes by the same sextant, in the evening. [Altitudines meridianæ] [per eundem Sextantem Veſperi.]

On 9 January [DIE 9 JANUARIJ.]

Reading	Value	Remark
Meridian altitude of the middle [star] in the tail of Ursa Major [Alt. merid. mediæ in cauda] [vrſæ maioris]	22° 55⅙′	
Of the extreme [star] in the tail [Extremæ in cauda]	17° 24¾′	
The bright [star] in the □ of Ursa Minor [Lucida in □to vrſæ minoris]	41° 45′	
Of the following [star] in the □ of the same [Ursa Minor] [Sequentis in □to eiusdem]	39° 14′	
The bright [star] of Lyra at minimum altitude [Lucida Lyræ in alt. minima]	4° 39½′	
Altitude of the far end of the Chair [Alt. Extremæ Cathedræ]	22° 49¼′	
Schedar of Cassiopeia [Schedir Caßiopeæ]	20° 12⅙′	uncertain [incerta]
The bend [Flexura]	24° 25⅙′	
The Knee of Cassiopeia [Genu Caßiop.]	24° 0′	uncertain (for both) on account of clouds [incertæ propter nubes.]

1736

1734 "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second, and is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

1735 "Reading" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

1736 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second, and is given whole on the first row. The sign □, a hollow square, is kept; the page sets it with a raised *to*. *incerta* stands on a line of its own under the figures of Schedar. The two values of the bend and the knee are joined at the right by a single brace, and *incertæ propter nubes.* stands on the line below the brace; the plural covers both. The values, printed without unit marks, are given as degrees and minutes.

[It] was not possible to observe the foot of Cassiopeia in the meridian on account of clouds. [Pedem Caßiopeæ in Meridie propter] [nubes obſeruare non licuit.]

On 14 January [DIE 14 JANUARIJ.]

Reading	Value
The bright [star] in the □ of Ursa Minor [Lucida in □^{to}] [vrſæ minoris]	41° 45′
The following [star] of the lower □ [ſequens inferioris □^{ti}]	39° 13¾′

1737

On 1 January [DIE 1 JANUARIJ.]

By the Tychonic [quadrant]. [[Per Tychon.].]

Reading	Value	Remark
Altitude of the preceding [star] in Arcturus [Altitudo præcedentis] [in Arcturo]	54° 36⅙′	with the old [vet.]
	54° 36′	with the new [nouo]

1738

Reading	Value	Remark
Meridian altitude of Arcturus [Altitudo Arcturi merid.]	55° 28′	with the old [vet.]
	55° 27¾′	with the new [nouo]

1739

By the Tychonic [quadrant] [Per Tychonicum]

On 9 January [DIE 9 JANUARIJ.]

1737 "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second, and is given whole on the first row. The sign □ is set with a raised *to* in the first label and a raised *ti* in the second. The values, printed without unit marks, are given as degrees and minutes.

1738 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *Per Tychon.* is printed enclosed in square brackets in the edition itself, with a point after the closing bracket; the English gives the words without the enclosure. The label runs over two value lines and is given whole on the first row. These rows end the left column of the upper block. The values, printed without unit marks, are given as degrees and minutes.

1739 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. These rows open the right column with no date line above them; the last date line printed before them is *DIE 1 JANUARIJ.* in the left column. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Remark
The calf of Boötes in the meridian [Sura Bootis in merid.]	54° 36′	with the old [vet.]
	54° 35⅚′	with the new pinnule [nouo] [pin.]
Meridian altitude of Arcturus [Alt. merid. Arcturi]	55° 28′	with both pinnules [vtroq.] [pin.]

1740

On 15 January [DIE 15 JANUARIJ.]

Reading	Value
Arcturus through the meridian in altitude [Arcturus per merid. in alt.]	55° 27½′

1741

On 15 December [DIE 15 DECEMBRIS.]

Reading	Value	Remark
Meridian altitude of the head of Andromeda [Altitudo merid.] [capitis Andromedæ]	60° 55′	with both [vtroq.]
Meridian altitude of the far end of the wing of Pegasus [Alt. merid. extr. alæ] [Pegaſi]	46° 59½′	with the old [vet.]
	46° 59¼′	with the new [nouo]

1742

On 16 December [DIE 16 DECEMBRIS.]

Reading	Value	Remark
Altitude of Scheat of Pegasus [Alt. ſcheat Pegaſi]	59° 58′	uncertain on account of clouds [in-] [certa propter nubes]
Of the head of Andromeda [Capitis Androm.]	60° 55′	with both [vtroq.]
Of the far end of the wing of Pegasus [Extremæ alæ Pegaſi]	46° 59⅔′	with the old [vet.]
	46° 59½′	with the new [nouo]

[1740] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *pin.* stands on a line of its own at the right, under *nouo* and under *vtroq.*, and is given in the row of the word above it. The values, printed without unit marks, are given as degrees and minutes.

[1741] "Reading" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

[1742] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. Labels running over two lines are given whole on their first row; the second label carries a value on each of its two lines. *extr.* is abbreviated and follows *Extremæ*, printed in full in the same column. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Remark
Of the middle [star] of the left shoulder-blade of Andromeda [Mediæ ſiniſtræ ſcapulæ] [Andromedæ]	62° 42′	with the old [vet.]
	62° 41⅚′	with the new [nouo]
Of the bright [star] of the belt of Andromeda [Lucidæ Balth. Androm.]	67° 30′	with the new pinnule [nouo] [pinn.]

1743

On 26 December [DIE 26 DECEMBRIS.]

By the revolving azimuthal [quadrant]. [Per volub. Azimuth.]

Reading	Value
Altitude of Canis Major [Canis maioris alt.]	17° 53½′
Of Canis Minor [Canis minoris]	40° 18⅔′
Altitude of Arcturus [Altit. Arcturi]	55° 29¾′

1744

On 27 December [DIE 27 DECEMBRIS.]

Reading	Value	Remark
Meridian altitude of the head of Andromeda [Alt. merid. capitis] [Andromedæ]	60° 55′	with the old [vet.]
	60° 54¾′	with the new [nou.]
Of the bright [star] of the belt of Andromeda [Lucidæ Balthei] [Andromedæ]	67° 30′	with the new [nouo]

1745

1743 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *in-* follows the figures of Scheat and is divided at the line end; *certa propter nubes* stands on the next line, set to the right; the remark is given whole on the row of its value. The label of the shoulder-blade runs over two value lines and is given whole on the first row. *pinn.* stands on a line of its own at the right, under *nouo*, and is given in the row of the word above it. *Balth.* is abbreviated and follows *Balthei*, printed in full in the same column. The values, printed without unit marks, are given as degrees and minutes.

1744 "Reading" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

1745 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The first label runs over two value lines and is given whole on the first row; the second label runs over two lines, the value on the second, and is given whole on its row. These rows end the right column of the upper block. The values, printed without unit marks, are given as degrees and minutes.

Observations of the stars of Cassiopeia in distances, in imitation of Thaddaeus [Obſeruationes ſtellarum Cassiopeæ in diſtantijs ad imitationem Thaddæi.]

Star	From	Value
The eleventh [star] of Cassiopeia, from [Vnde-] [cima] [Caß. a]	the 2nd, Schedar [II[a] Schedir]	6° 26½′
	III, the girdle [III Cingulo]	5° 23′
	XII, the bright [star] of the Chair [XII Luc.Cathedræ]	4° 46½′
	the polar Cynosura [Cynoſura polari]	26° 25′
II, Schedar, from [II] [Sche-] [dir a]	I, the head [I Capite]	2° 34′
	III, the girdle [III Cingulo]	1° 39½′
	IIII, the bend [IIII Flexura]	4° 37½′
	XII, the bright [star] of the Chair [XII Cathed. lucid.]	4° 59′
	XI, as above [XI vt ſupra]	

1746

Star	From	Value
IV, the bend, from [IV] [Flex-] [ura a]	III, the girdle [III Cingulo]	3° 2½′
	V, the Knee [of Cassiopeia] [V Genu]	3° 36′
	VI, the leg [VI Crure]	7° 19¾′
	XII, the bright [star] of the Chair [XII Cath. lucid.]	6° 12′
	Cynosura	28° 35½′
III from XII, the bright [star] of the Chair and the girdle [III a XII Lucida Cathe-] [dræ & Cing.]		5° 19′
V from VI, the Knee [of Cassiopeia] from the leg [V a VI Genu a Crure]		4° 50′

1746 "Star", "From" and "Value" are this edition's heads; the page prints none. On the page each group label stands at the left, divided over three lines (*Vnde- / cima / Caß. a*; *II / Sche- / dir a*), and a brace joins it to the four lines at its right; each group label is given whole on the first row of its group. *II*[a] is printed with a raised *a* and is given as an ordinal. The roman numerals before the star names are kept as printed. *Cathed. lucid.* is abbreviated and follows *Luc.Cathedræ*, printed in the same column. *XI vt ſupra* stands below the second brace, with no value. These rows are the left column of the block. The values, printed without unit marks, are given as degrees and minutes.

1747

Table of the longitudes and latitudes of all the stars of Cassiopeia, which according to [our] own observations number 26. For the beginning of the year 1573. [TABULA LONGITUDINUM] [& LATITUDINUM STELLARUM CASSIOPEÆ OMNIUM,] [QUÆ JUXTA PROPRIAS OBSERUATIONES NUMERANTUR 26.] [AD INITIUM ANNI 1573.]

Star	Longitude [Longitudo]	Latitude [Latitudo]
I. The head of Cassiopeia [I. Caput Caßiopeæ]	29° 11′ ♈	44° 40½′ north
II. Schedar [II. Schedir]	1° 53½′ ♉	46° 35⅓′ north
III. The girdle [III. Cingulum]	4° 14′ ♉	47° 5¼′ north
IV. The bend [IV. Flexura]	8° 3½′ ♉	48° 46′ north
V. The Knee [of Cassiopeia] [V. Genu]	11° 57′ ♉	46° 22′ north
VI. The leg [VI. Crus]	18° 49½′ ♉	47° 29′ north
VII. The far end of the foot [VII. Extrema pedis]	26° 15′ ♉	48° 54′ north
VIII. The left arm [VIII. Brachium ſiniſtrum]	5° 50½′ ♉	43° 6⅓′ north
IX. The left elbow [IX. Cubitus ſiniſter]	4° 52⅓′ ♉	43° 28′ north
X. The right elbow [X. Dexter Cubitus]	24° 15⅓′ ♈	49° 24½′ north
XI. The foot of the Chair [XI. Pes Cathedræ]	6° 42′ ♉	52° 14′ north
XII. The bright [star] of the Chair [XII. Lucida Cathedræ]	29° 11′ 30″ ♈	51° 14½′ north
XIII. The far end of the Chair [XIII. Extrema Cathedræ]	25° 10⅙′ ♈	51° 8¼′ north
XIV. [The star] which is next to 13, or the far end of the chair [XIV. Quæ eſt apud 13 vel extrema] [ſellæ]	25° 8′ ♈	52° 39′ north
XV. That [star] which is nearly in a straight line with XI and the middle [star] of the footstool [XV. Illa quæ eſt in recta linea pro-] [pemodum cum XI & media] [ſcabelli]	19° 4′ ♉	52° 48′ north

1747 "Star", "From" and "Value" are this edition's heads; the page prints none. The group label *IV / Flex- / ura a* stands at the left over three lines, joined by a brace to the four lines at its right, and is given whole on the first row. *Cynosura*, printed with a round *s*, stands below the brace, in line with the names inside it. The last two labels stand at the left edge of the column; the first of them runs over two lines, the value on the second, and is given whole on one row. *Cath. lucid.* and *Cing.* are abbreviated and follow *Lucida Cathedræ* and *Cingulo*, printed in the same block. The values, printed without unit marks, are given as degrees and minutes.

Star	Longi-tude [Longi-tudo]	Latitude [Lati-tudo]
XVI. The far end of the footstool [XVI. Extrema ſcabelli]	21° 57⅓′ ♉	56° 13′ north
XVII. The middle [star] of the footstool [XVII. Media ſcabelli]	22° 9′ ♉	54° 27′ north
XVIII. [The star] in the footstool nearest to the sole of the foot [XVIII. In ſcabello proxime ad plan-] [tam pedis]	21° 34′ ♉	52° 8½′ north
XIX. That [star] which follows the Knee [of Cassiopeia] [XIX. Illa quæ Genu ſequitur]	12° 33½′ ♉	44° 57½′ north
XX. That [star] which precedes the Knee [of Cassiopeia] [XX. Illa quæ Genu præcedit]	9° 36′ ♉	45° 4½′ north
XXI. The ring of the navel [XXI. Gyrus vmbilici]	6° 28′ ♉	47° 31½′ north
XXII. The little [star] at the hair of Cassiopeia [XXII. Paruula ad Crines Caßiopeæ]	28° 46′ ♈	45° 38′ north
XXIII. The following of the two more northern [stars] in the branch [XXIII. Sequens ex duabus borealiori-] [bus in Virga]	29° 8′ ♈	41° 15′ north
XXIV. The preceding of the two northern [stars] in the branch [XXIV. Præcedens ex duabus Boreali-] [bus in Virga]	27° 33′ ♈	41° 25½′ north
XXV. The second-to-last [star] of the branch [XXV. Penultima Virgæ]	26° 32′ ♈	39° 15⅓′ north
XXVI. The far end of the branch [XXVI. Extrema Virgæ]	25° 30½′ ♈	38° 19′ north

1748

Observations of stars in the southern constellations outside the zodiac. [OBSERUATIONES STELLARUM IN ASTERISMIS] [AUSTRALIBUS EXTRA ZODIACUM.]

On 6 January [DIE 6 JANUARIJ.]

Meridian altitudes. [Altitudines meridianæ.]

Time	Reading	Instrument	Value	Remark
	The far end of Eridanus [Extrema Eridani]	by the sextant [per Sext.]	28° 24½′	
	The left foot of Orion [Siniſter pes Orionis]	by the sextant [per Sext.]	25° 20½′	

[1748] The page prints the heads *Longitudo* and *Latitudo*, with the sub-heads *P. M. S.* (degrees, minutes, seconds) and *P. M. S. B.* (degrees, minutes, seconds, north); each sexagesimal group is given in one cell. The label column has no head on the page; "Star" is this edition's. In the longitude column the sign of the zodiac stands at the right of every row. Only the row of the bright [star] of the Chair carries seconds, printed *30″* with their mark; no other longitude and no latitude has a figure in the seconds position. *B*, printed after every latitude, is given as "north". Labels printed over two or three lines are given whole on one row, one printed-form bracket per line. The roman numerals, each followed by a point, are kept as printed. The degrees and minutes are printed without unit marks.

Time	Reading	Instrument	Value	Remark
	The first [star] of the belt of Orion [Prima balthei Orionis]	by the revolving [quadrant] [per Volub.]	33° 25½′	
	The middle [star] of the belt of Orion [Media balthei Orionis]	by the revolving [quadrant] [per Volub.]	32° 33¼′	
	The 3rd [star] of the belt of Orion [3ª balthei Orionis]	by the revolving [quadrant] [per Volub.]	31° 51⅓′	
		by the sextant [per Sextant.]	31° 51⅓′	
	The lowest [star] of the sword of Orion [Infima enſis Orion.]	by the revolving [quadrant] [per Volub.]	27° 51⅙′	
9ʰ 28ᵐ 30ˢ	The right foot of Orion passed through the meridian in altitude [Tranſiuit dexter Pes Orionis] [per Meridianum in Alt.]	by the revolving [quadrant] [per Volub.]	24° 12′	
		by the sextant [per Sext.]	24° 13′	
	Canis Major in the meridian [Canis maior in meridie]	by the sextant [per Sext.]	17° 54′	
	In the mouth of Cetus, meridian altitude [In bucca Ceti] [alt. mer.]	by the new sextant [per Sext.] [nou.]	35° 28′	doubtful [dubia]
	The bright [star] of the jaw of Cetus [Lucida mandibulæ] [Ceti]	by the Tychonic quadrant [per Q. Tych.]	36° 31′	with the old [vet.]
			36° 30⅙′	with the new [nou.]
	The brighter [star] of the pelt in Orion [Lucidior exuuiarum] [in Orione]	by the revolving quadrant (all three values) [per] [Q.] [Volub.]	40° 15¼′	
	The left shoulder of Orion [Siniſter hum. Orionis]		39° 59¾′	
	The head of Orion in the meridian [Caput Orionis in merid.]		43° 40¾′	
9ʰ 33ᵐ 12ˢ [9ʰ 33′ 12″]	The bright shoulder of Orion passed through the meridian in altitude [tranſiuit lucidus humerus] [Orionis per Meridianum in alt.]	by the revolving [quadrant] [per Volub.]	41° 20¾′	
		by the sextant [per Sext.]	41° 21′	
	Canis Minor in the meridian [Canis minor. in meridiano]	by the revolving [quadrant] [per Volub.]	40° 18¾′	
		by the Tychonic [quadrant] [per Tych.]	40° 18½′	
			40° 19′	with the old pinnule [vet. pin.]

1749

On 9 January, in the evening [DIE 9 JANUARIJ, VESPERI.]

Time	Reading	Instrument	Value
	Meridian altitude of the 3rd [star] of the belt of Orion [Alt merid. 3æ balthei] [Orionis]	by the revolving [quadrant] (all four values) [Per] [Vo-] [lub.]	31° 51¼′
$9^h\ 26^m$ 20	The right foot of Orion [Dexter Pes] [Orionis]		24° 12⅙′
	The right shoulder of Orion [Dext. humerus] [Orionis]		41° 20¾′
$9^h\ 58^m$	Meridian altitude of the foot of Canis Major [Pedis Canis ma-] [ioris alt. mer.]		16° 16½′

1750

Time	Reading	Value
$10^h\ 20⅙^m$	Canis Major through the meridian, altitude [Canis maior] [per merid. alt.]	17° 53⅙′
$11^h\ 10^m\ 46^s$	Canis Minor through the meridian, altitude [Canis minor] [per merid. alt.]	40° 18′
	The neck of Canis Minor at meridian altitude [Ceruix Canis min. in alt. mer.]	43° 8⅚′

1751

1749 "Time", "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The instrument, printed on the label line or indented on the line below it, is given in its own column. Labels running over two lines are given whole on their first row. The first time is printed *9 28 30* without marks and is given as hours, minutes and seconds; the second is printed *H.9 33″12″*, with *H.* before the hours and the mark ″ after both the minutes and the seconds, and is given as hours, minutes and seconds. In the mouth of Cetus: *35 28* follows *per Sext.* on the first line, and *dubia* stands on the second line, under those figures. *nou.* stands at the head of the second line; it is taken with *Sext.*, "by the new sextant"; it can also be read "with the new [pinnule]", as in the row below, or with *alt. mer.*, "new meridian altitude". The three values of the brighter [star] of the pelt, the left shoulder and the head of Orion are joined at the right by a single brace, with *per / Q. / Volub.* set on three lines beside it; the remark covers all three. After *40 19* the page sets a small point. The values, printed without unit marks, are given as degrees and minutes.

1750 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each label runs over two lines, the value on the second, and is given whole on one row. The four values are joined at the right by a single brace, with *Per / Vo- / lub.* set on three lines beside it; the remark covers all four. *Alt* is printed without a point. The times, printed without marks, are given as hours, minutes and seconds, and as hours and minutes. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes.

1751 "Time", "Reading" and "Value" are this edition's heads; the page prints none. These rows open the right column with no date line above them; the last date line printed before them is *DIE 9 JANUARIJ, VESPERI.* in the left column. The first time is printed *10ᴴ20⅙ᴹ*, with small capitals *H* and *M*; the second *11 10 46* without marks, given as hours, minutes and seconds. The first two labels run over two lines, the value on the second, and are given whole on one row. The values, printed without unit marks, are given as degrees and minutes.

On 11 January [DIE 11 JANUARIJ.]

Time	Reading	Value
$3^{h}\ 43^{m}$	The second [star] in the □ of the Crow in the meridian [Secunda in □ Corui] [in merid.]	18° 50¾′
$3^{h}\ 58^{m}$	The third [star] in the □ of the Crow, meridian altitude [Tertia in □ Corui] [Alt. mer.]	19° 53⅔′

1752

On 14 January, in the evening [DIE 14 JANUARIJ, VESPERI.]

Reading	Instrument	Value
The bright foot of Orion in the meridian, altitude [Pes lucidus Orionis in mer.] [alt.]	by the revolving [quadrant] [per Volub.]	25° 22⅓′
The left shoulder of Orion, meridian altitude [Sinister humerus Orionis] [alt. mer.]		40° 1′
Meridian altitude [merid.] [Alt.]: of the 1st [star] of the belt of Orion [Iæ balthei Orionis]		33° 26⅓′
of the 2nd [star] of the belt of Orion [IIæ balthei Or.]		32° 35′
of the 3rd [star] of the belt of Orion [IIIæ balth. Or.]		31° 53′
The preceding foot of Canis Major [Præcedens Pes canis maioris]		16° 19′
Canis Major, its meridian altitude [Canis maior alt. eius merid.]		17° 55½′
The preceding [star] in Canis Minor [Præcedens in Cane minore]		45° 9½′
Canis Minor, meridian altitude [Canis minor alt. merid.]		40° 19⅙′

1753

On 15 January [DIE 15 JANUARIJ.]

Reading	No.	Value
Distance between the bright foot of Orion and Canis Minor [Dist. inter luc. Ped. Orionis] [et canem min.]	I	38° 36⅔′
	II	38° 36½′
During the observing, the altitude of the bright foot of Orion was 20° [Inter obseruandum fuit] [alt. luc. Pedis] [Orionis 20 Part.]	III	38° 36½′

1752 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The sign □, a hollow square, is kept. The first time is printed *3ʰ43ᴹ*; the second *3 58* without marks, given as hours and minutes. Each label runs over two lines, the value on the second, and is given whole on one row. The values, printed without unit marks, are given as degrees and minutes.

1753 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first two labels run over two lines, the value on the second, and are given whole on one row. *merid.* and *Alt.* stand on two lines at the left and are joined by a single brace to the three lines of the belt of Orion at their right; the group label is given on the first of those rows. *Iæ*, *IIæ*, *IIIæ* are printed with a raised *æ* and are given as ordinals. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
	V	38° 36⅝′
	IV	38° 36½′

1754

On 20 January [DIE 20 JANUARIJ.]

Reading	Value	Remark
Meridian altitude of the far end of Eridanus [Extremæ Eridani Alt. mer.]	28° 25′	
The left foot of Orion [Sinister Pes Orionis]	25° 20¼′	
		not certain [non certa.]
The left shoulder of Orion [Sinister humerus Orionis]	40° 0$\frac{1}{12}$′	
The 1st [star] of the girdle of Orion [I^{a} Cinguli Orionis]	33° 26′	
The head of Orion [Caput Orionis]	43° 40¼′	
The 2nd [star] of the girdle of Orion [II^{a} Cinguli Orionis]	32° 33¾′	
The 3rd [star] of the girdle of Orion [III^{a} Cinguli Orionis]	31° 52½′	
The right foot of Orion [Dexter pes Orionis]	24° 13½′	
Aldebaran, west, 20° 10′; the bright shoulder of Orion in the meridian [Aldeb. occ. 20° 10′ luc. hume-] [rus Orionis in. mer.]	41° 21½′	

1755

Note: all the following observations of altitude by the revolving quadrant are more exact than the earlier ones and are in good order, for the quadrant, once a new cylinder had been fitted and rectified, had been well verified. Therefore rely on them in what follows, bringing the mural [quadrant] into consultation. [N.B. Omnes sequentes obseruatio-] [nes altitudinis per quad. volubilem] [sunt exactiores prioribus & se bene ha-] [bent, nam quadrans apposito & recti-] [ficato nouo cilindro bene erat verifi-] [catus. Funda te itaque in sequentibus] [adhibito murali in consilium.]

On 26 January, in the morning [DIE 26 JANUARIJ, MANE.]

1754 "Reading", "No." and "Value" are this edition's heads; the page prints none. The distance label runs over two lines, the first value on the second, and is given whole on the first row. The roman numerals stand before the figures in the order *I*, *II*, *III*, *V*, *IV*, as printed. The sentence *Inter obseruandum fuit alt. luc. Pedis Orionis 20 Part.* stands at the left over three lines, beside the lines numbered III, V and IV, and is given whole on the first of them. The values, printed without unit marks, are given as degrees and minutes.

1755 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *non certa.* stands on a line of its own, in smaller type, under the figures of the left foot of Orion. *I^{a}*, *II^{a}*, *III^{a}* are printed with a raised *a* and are given as ordinals. In the last label *20° 10′* is printed with its marks; the label runs over two lines, the value on the second, and is given whole on one row; *in.* is printed with a point. The values, printed without unit marks, are given as degrees and minutes; the fraction after *0* in the left shoulder of Orion is printed as one twelfth.

Reading	Value
Distance between the bright [star] of Hydra and Canis Minor [Diſt. inter luc. Hydræ &] [canem minorem]	30° 20½′
	30° 20′
Meridian altitude of the lower of the preceding [stars] in the □ of the Crow [Inferioris præcedentium in □to] [corui alt. mer.]	13° 43½′
Meridian altitude of the upper of the preceding [stars] of the □ of the Crow [Superioris præcedentium □ti] [corui alt. mer.]	18° 52⅓′

1756

On 27 January [DIE 27 JANUARIJ.]

Time	The bright [star] of ♈, west [Luc.♈ occ.]	Reading	Instrument	Value	Remark
7h 51m	59½° 54′	The first [star] of the girdle of Orion [I Cing. Orionis]		33° 25⅓′	meridian altitude (all three values) [Altitud.] [merid.]
7h 56m	192° 54¾′	The second [star] of the girdle of Orion [II Cinguli Orion.]		32° 33¾′	
8h 0m	50½3° 57¾′	The third [star] of the girdle of Orion [III Cing. Orionis]		31° 51⅔′	
		The head of Orion, meridian altitude [Caput Orionis alt. merid.]	by the revolving [quadrant] [per volub.]	43° 41′	
		The bright [star] of the sword of Orion, meridian altitude [Lucida enſis Orionis alt. mer.]	by the revolving [quadrant] [per vol.]	27° 51′	
8h 8m	55½6° 1½′	The right foot of Orion [Dext. pes Orion.]		24° 13¼′	
8h 13m	457° 15′	The right shoulder of Orion [Dexter hum. Orion.]		41° 21⅙′	
8h 45m	065° 8½′	The foot of Canis Major [Pes canis maioris]		16° 18¾′	
		Canis Minor at meridian altitude [Canis minor in alt. meridiana]		40° 19′	

1756 "Reading" and "Value" are this edition's heads; the page prints none. The distance label runs over two lines, a value on each, and is given whole on the first row. The sign □ is set with a raised *to* in the first altitude label and a raised *ti* in the second; the second prints no *in* before it. The altitude labels run over two lines, the value on the second, and are given whole on one row. The values, printed without unit marks, are given as degrees and minutes.

Time	The bright [star] of ♈, west [Luc.♈ occ.]	Reading	Instrument	Value	Remark
		Note, for ☿ (all four rows) [N.B.] [pro ☿ⁱᵒ]: distance between Canis Minor and the left foot of Orion [Dift. inter canem minorem & finift. pe-] [dem orionis.]		38° 25¾′	
		The altitude of the foot of Orion was then [Fuit tunc alt. Pedis Orionis]		3° 15′	
		The same distance of Canis Minor and the foot of Orion [Eadem Diftantia canis min. & pedis] [Orion.]		38° 25′	
		The altitude of the same foot [Altitudo Pedis eiusdem]		2° 25′	
		The true distance is [Vera dift. eft]		38° 37½′	

1757

On 29 January [DIE 29 JANUARIJ.]

Time	Distance between Canis Minor and the heart of ♌ [Dift. inter] [Can. min. et] [cor ♌]	Declination of Canis Minor [Declin. can.] [min.]	Altitude of Canis Minor [Alt. Can.] [min.]
3^h 59⅓^m	37° 13¾′	6° 21¾′	4° 35′
4^h 3¼^m	37° 12½′	6° 23⅓′	4° 0′
4^h 6^m	37° 12′	6° 24⅔′	3° 25′
4^h 9⅙^m	37° 11′	6° 25½′	3° 0′
4^h 13^m	37° 10′	6° 27′	2° 0′

1758

1757 "Time", "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints only the head of the second column, *Luc.*♈ *occ.*, in a smaller type over the figures of that column. On the page the time, the figures under that head and the label are divided by vertical rules in the first three and in the sixth to eighth rows. The first time is printed *7ᴴ51ᴹ50″*, with *H* and *M* and a double mark after the seconds; the other times are printed without marks and are given as hours, minutes and seconds. The values of the three stars of the girdle are joined at the right by a single brace, with *Altitud. / merid.* on two lines beside it; the remark covers all three. The other values of the entry stand further to the right, in the position of *Altitud.* The label of the distance runs over two lines and the four lines from the distance to the altitude of the same foot are joined at the left by a single brace to *N.B. / pro* ☿ⁱᵒ, printed on two lines; the note is given on the first of those rows. *Vera dift. eft* is set to the right, directly before its figures, below the braced group. The values, printed without unit marks, are given as degrees and minutes.

1758 "Time" is this edition's head; the page prints the heads of the other three columns, in a smaller type, and none over the times. The first time is printed *3ᴴ59⅓ᴹ*; the others are printed without marks and are given as hours and minutes. The values, printed without unit marks, are given as degrees and minutes.

Note: these [are] for ☿. [N.B. Hæc pro ☿.]

Reading	Value
The true distance of Canis Minor and the heart of ♌ is [Vera diſtantia Canis min. &] [cordis ♌ eſt]	37° 19½′
The true declination of Canis Minor [Can. min. declinatio vera]	6° 13½′ north [borea]

1759

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Value	Remark
Meridian altitude of the far end of Eridanus [Extremæ Eridani alt. mer.]	28° 24⅚′	meridian altitude by the revolving quadrant (all eight values) [Alt.] [mer.] [per Q.] [volu-] [bilem]
The left foot of Orion, meridian altitude [Iniſter Pes Orionis in] [merid. alt.]	25° 21¼′	
The left shoulder of Orion [Iniſter humerus Orionis]	39° 59⅔′	
The 1st [star] of the girdle of Orion [I[a] Cinguli Orionis]	33° 25′	
The 2nd [star] of the girdle of Orion [II[a] Cinguli Orionis]	32° 33⅓′	
The 3rd [star] of the girdle of Orion [III[a] Cinguli Orionis]	31° 51½′	
The right foot of Orion, meridian altitude [Dext. Pes Orionis alt. mer.]	24° 13′	
The right shoulder of Orion in the meridian [Dexter humerus Orionis] [in mer.]	40° 20⅔′	

1760

Distances by the sextant. [Diſtantiæ per Sextantem.]

1759 "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, the value on the second, and is given whole on one row. *borea* is printed after the figures, in a smaller type. The values, printed without unit marks, are given as degrees and minutes.

1760 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The eight values are joined at the right by a single tall brace, with *Alt.* / *mer.* / *per Q.* / *volu-* / *bilem* on five lines beside it, in a smaller type; the remark covers all eight. *Iniſter Pes Orionis in* / *merid. alt.* is given as "The left foot of Orion, meridian altitude", the *in* at the line end being followed by *merid. alt.* on the next line. *I[a]*, *II[a]*, *III[a]* are printed with a raised *a* and are given as ordinals. Labels running over two lines are given whole on one row. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes.

Reading	No.	Value
Between the bright foot of Orion and Canis Major [Inter luc. Pedem Orionis &] [canem maiorem]		23° 42′
	II	23° 41½′
	III	23° 41⅔′
Between Canis Major and the Lesser [Dog] [Inter canem maiorem &] [minorem]	I	25° 41′
	II	25° 41½′
	III	25° 41¼′
	IV	25° 41¼′
Between Canis Minor and the bright foot of Orion [Inter canem minorem &] [luc. Pedem Orionis]	I	38° 37¼′
		38° 37¼′
		38° 37⅓′

1761

On 22 February [DIE 22 FEBRUARIJ.]

Reading	No.	Value	Remark
Distance of the mouth of Canis Major and its foot [Diſt. oris canis maioris] [& pedis eius]	I	5° 35⅚′	by the sextant (for both) [per] [Sext.]
		5° 36′	
Meridian altitude of the star under the belly of Canis Major [Alt. merid. ſtellæ ſub aluo] [canis maioris]		5° 46′	

1762

On 23 February [DIE 23 FEBRUARIJ.]

Reading	Value	Remark
Distance of the head and the foot of Canis Major [Diſt. capitis & pedis canis] [maioris]	5° 33⅔′	three times [ter]

[1761] "Reading", "No." and "Value" are this edition's heads; the page prints none. These rows open the right column with no date line above them; the last date line printed before them in reading order is *DIE 5 FEBRUARIJ.* in the left column. The roman numerals stand before the figures as printed; the first value of the first distance and the second and third values of the last carry none. Each label runs over two lines and is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes.

[1762] "Reading", "No." and "Value" and "Remark" are this edition's heads; the page prints none. The two values of the distance are joined at the right by a single brace, with *per* / *Sext.* on two lines beside it, in a smaller type; the remark covers both. The distance label runs over two lines, a value on each, and is given whole on the first row; the altitude label runs over two lines, the value on the second. The values, printed without unit marks, are given as degrees and minutes.

1763

On 2 March [DIE 2 MARTIJ.]

Time	Reading	Value
$11^{h}\ 3^{m}$	Distance between Canis Minor and the middle [star] in the girdle of Orion [diſt. inter canem min. & med.] [in cing. Orion.]	31° 24′
	Declination of the middle [star] in the girdle of Orion [decl. med. in cing. Orionis]	1° 24′
	Altitude of the middle [star] of the same [Orion] in the girdle [Alt. med. eiusd. in cing.]	4° 30′

1764

Reading	Value
The same distance of Canis Minor and the middle [star] of the girdle of Orion [Diſt. eadem canis min. & med cing.] [Orionis]	31° 22⅓′
Declination of the middle [star] in the girdle [Declinatio mediæ in cing.]	1° 21½′
Altitude of the same [star] [Alt. eiusdem]	3° 30′

1765

These two middle stars in the girdle of Orion could not be seen any further because of the rather scattered clouds near the horizon. [vlterius hæ duæ ſtellæ in cingulo Ori-] [onis mediæ propter rariuſculas apud] [Horizontem nubes conſpici non po-] [tuerunt.][1766]

On 3 March [DIE 3 MARTIJ.]

Reading	No.	Value
Between Canis Minor and the middle [star] of the belt of Orion [Inter canem min. & med.] [balthei Orionis]		31° 30⅙′

[1763] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The label runs over two lines, the value on the second. *ter* is printed after the figures, in a smaller type. The value, printed without unit marks, is given as degrees and minutes.

[1764] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed $11^{H}3^{M}$. The first label runs over two lines, the value on the second, and is given whole on one row. The values, printed without unit marks, are given as degrees and minutes.

[1765] "Reading" and "Value" are this edition's heads; the page prints none. These rows open the left column with no date line above them; the last date line printed before them in reading order is *DIE 2 MARTIJ.* on the preceding page. The distance label runs over two lines, the value on the second, and is given whole on one row; *med* is printed without a point. *eiusdem* is given as "of the same [star]", the middle [star] of the line above. The values, printed without unit marks, are given as degrees and minutes.

[1766] *mediæ* is taken as agreeing with *ſtellæ*, "these two middle stars". It can also be read as a genitive singular, "of the middle [star]"; the two stars are then those of the distance above, Canis Minor and the middle [star] of the girdle. *vlterius* is taken as "any further"; it can also mean "moreover", opening the note. The note begins with a lower-case *v*.

Reading	No.	Value
	II	31° 30¼′
	III	31° 30′
Between Canis Major and its front foot [Inter canem maiorem &] [pedem eius anteriorem]		5° 35½′
		5° 35⅓′

1767

On 15 November [DIE 15 NOUEMBRIS.]

Reading	Instrument	Value
Declination of the tail of Cetus [Declinatio caudæ Ceti]	by the southern armillae [per] [Arm. auſt.]	20° 10′ south [M. 20 10]
Between the left shoulder of ♒ and the tail of Cetus [Inter ſiniſt. hum. ♒ &] [caudam Ceti]		48° 25½′
		48° 25⅔′
		48° 25⅓′
Between the bright [star] of the tail of Cetus and the mouth of Pegasus [Inter luc. caudæ Ceti &] [os Pegaſi]		52° 17⅔′
		52° 17⅔′
Between Fomahant and the lower horn of ♑ [Inter Fomahant &] [inferius cornu ♑]		38° 50′
		38° 49′
	by the old sextant [per Sext. vet.]	38° 50½′
		38° 50′
Between Fomahant and the tail of Cetus [Inter Fomahant &] [caudam Ceti]		26° 44′
		26° 45′
	by the old sextant [per Sext. vet.]	26° 44′
The altitude of Fomahant was then [Fuit tunc Alt. Fomahant]		2¾°
Declination of Fomahant, south [Declinatio Fomahant auſt.]		31° 29′
		31° 29′

[1767] "Reading", "No." and "Value" are this edition's heads; the page prints none. The roman numerals stand before the figures as printed; the first value carries none. Each label runs over two lines, a value on each, and is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes.

1768

Reading	Value	Altitude [Alt.]	Instrument
Azimuth of Fomahant, west [Azimut Fomahant] [occ.]	3° 27′	2° 31′	
	3° 49′	2° 28′	
	4° 9′	2° 22′	
			by the revolving quadrant [per Q. Volub.]

1769

Altitudes of the fixed [stars] by the Tychonic quadrant at evening time. [Altitudines Fixarum per] [Q. Tychonicum veſpertino tempore.]

On 9 January [DIE 9 JANUARIJ.]

Reading	Value	Remark
The 1st [star] in the girdle of Orion [I[a] in cingulo Orionis]	33° 25′	with one [vno]
The middle [star] [Media]	32° 33′	
		with both [vtroque]
The last [star] [Vltima]	31° 51¾′	
	31° 51 2/[?]′	
The right shoulder of Orion [Dexter humerus Orionis]	41° 20⅓′	

1770

1768 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first line is set as running text: *M.* stands before the figures *20 10*, and *per* follows them at the line end, with *Arm. auſt.* on the next line. The star printed *Fomahant* is kept as printed; no modern star name is given. Each distance label runs over two lines, a value on each, and is given whole on its first row. *per Sext. vet.* is printed on the third line of each of the two distances with Fomahant, with the third value; the page does not say whether it covers the other values of the distance. The altitude *2¾* is printed without a minutes figure, the *2* standing in the position of the degree figures; it is given as degrees. The other values, printed without unit marks, are given as degrees and minutes.

1769 "Reading", "Value" and "Instrument" are this edition's heads; *Alt.* is printed between the two pairs of figures on the first line only and is kept as the head of the second column. The label runs over two lines, *occ.* on the second. *per Q. Volub.* stands to the right on a line of its own below the third row; the page does not say which values it covers. The values, printed without unit marks, are given as degrees and minutes.

1770 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *vno* is printed after the first value, in a smaller type. *vtroque* stands on a line of its own in the position of the figures, between the value of the middle [star] and that of the last; the page does not say which value it belongs to. *I[a]* is printed with a raised *a* and is given as an ordinal. In the second value of the last [star] the denominator of the fraction is not settled on the scan (it reads as 3 or 8). The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
The foot of Canis Major [Pes canis maioris]	16° 17⅚′
	16° 18′
Canis Major [Canis maior]	17° 54⅙′
	17° 54⅓′

1771

On 14 January [DIE 14 JANUARIJ.]

Reading	Value	Remark
The 1st [star] in the girdle of Orion [I[a] in cingulo Orionis]	33° 25¾′	uncertain because of clouds (all three values) [incertæ] [propter] [nubes]
The 2nd [star] in the girdle [2da in cingulo]	32° 33¾′	
The 3rd [star] in the girdle [3[a] in cingulo]	31° 52⅙′	
Canis Major [Canis maior]	17° 54⅓′	

1772

On 15 January [DIE 15 JANUARIJ.]

Reading	Value	Remark
Altitude of the middle [star] in the girdle [Alt. mediæ in cingulo]	32° 32⅚′	
		with both [vtroque]
Of the extreme [star] [Extremæ]	31° 51′	
The right foot of Orion [Dexter pes Orionis]	24° 12⅚′	
	24° 13′	
The bright shoulder of Orion [Lucidus humerus Orion.]	41° 20⅓′	
		with both [vtroque]
Altitude of Canis Major [Alt. canis maioris]	17° 54′	

[1771] "Reading" and "Value" are this edition's heads; the page prints none. These rows open the right column with no date line above them; the last date line printed before them in reading order is *DIE 9 JANUARIJ.* in the left column. The values, printed without unit marks, are given as degrees and minutes.

[1772] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The three values of the girdle are joined at the right by a single brace, with *incertæ* / *propter* / *nubes* on three lines beside it, in a smaller type; the remark covers all three. *I*[a], *2*[da], *3*[a] are printed with raised letters and are given as ordinals. The values, printed without unit marks, are given as degrees and minutes.

1773

On 20 January [DIE 20 JANUARIJ.]

Reading	Value
The left foot of Orion [Sinister pes Orionis]	25° 21′
	25° 21⅔′
The left shoulder of Orion [Sinister humerus Orionis]	39° 59⅔′
The first [star] of the belt [Prima balthei]	33° 25′
The 2nd [star] of the belt [2da balthei]	32° 33′
	32° 33⅓′
The 3rd [star] of the belt [3^{a} balthei]	31° 51½′
	31° 51⅔′
The right foot of Orion [Dexter pes Orionis]	24° 13′
The right shoulder of Orion [Dexter humerus Orionis]	41° 20⅓′

1774

On 26 January [DIE 26 JANUARIJ.]

Reading	Value	Remark
The far end of Eridanus [Extrema Eridani]	28° 24⅓′	
The left foot of Orion [Sinist. pes Orionis]	25° 21⅓′	
	25° 21½′	
The left shoulder [Sinister humerus]	40° 0′	
	39° 59⅚′	
The 1st [star] in the girdle [I^{ma} in cingulo]	33° 25¼′	
	33° 25⅙′	
The 2nd [star] in the girdle [2da in cingulo]	32° 33⅓′	
The 3rd [star] in the girdle [3^{ia} in cingulo]	31° 51′	
The right foot of Orion [Dext. pes Orionis]	24° 13′	
	24° 12⅚′	
The right shoulder of Orion [Dext. humerus Orionis]	41° 20½′	
		with both [vtroque]
The foot of Canis Major [Pes canis maioris]	16° 17⅚′	
	16° 18′	
Canis Major [Canis maior]	17° 54⅓′	
	17° 54′	

1773 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. Each *vtroque* stands on a line of its own in the position of the figures, below the value of the line above it; the page does not say which value it belongs to. *Extremæ* is a genitive with no noun printed to govern it; it is given as "Of the extreme [star]", continuing *Alt.* of the first row, and "in the girdle" may be understood from that row. The values, printed without unit marks, are given as degrees and minutes.

1774 "Reading" and "Value" are this edition's heads; the page prints none. *2da* and *3^{a}* are printed with raised letters and are given as ordinals. The values, printed without unit marks, are given as degrees and minutes.

1775

The same evening, by the revolving [quadrant]. [Eodem veſpere per volubilem.]

Reading	Value
The left shoulder of Orion [Iniſter humerus Orionis]	39° 59⅚′
The 1st [star] of the belt [I^{ma} balthei]	33° 25⅓′

1776

On 27 January [DIE 27 JANUARIJ.]

Reading	Value
The 1st [star] of the belt of Orion [I^{a} balthei Orionis]	33° 25′
The 2nd [star] of the belt [2da balthei]	32° 33′
The 3rd [star] of the belt [3^{ia} balthei]	31° 51⅔′
	31° 51½′
The right foot of Orion [Dexter pes Orionis]	24° 13′
The right shoulder [Dext. humerus]	41° 20⅓′
	41° 20½′

1777

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Value
The left shoulder of Orion [Iniſter humerus orionis]	39° 59′
The 1st [star] in the girdle [I^{ma} in cingulo]	33° 24⅚′
	33° 25′
The 3rd [star] in the girdle [3^{ia} in cingulo]	31° 51⅓′
The right foot of Orion [Dexter pes orionis]	24° 13′
The right shoulder [Dexter humerus]	41° 20⅔′

1775 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *I*^{ma}, *2*^{da}, *3*^{ia} are printed with raised letters and are given as ordinals. *vtroque* stands on a line of its own in the position of the figures, below the value of the right shoulder; the page does not say which value it belongs to. These rows end the right column. The values, printed without unit marks, are given as degrees and minutes.

1776 "Reading" and "Value" are this edition's heads; the page prints none. The line *Eodem veſpere per volubilem.* opens the left column with no date line above it; the last date line printed before it in reading order is *DIE 26 JANUARIJ.* on the preceding page. *I*^{ma} is printed with raised letters and is given as an ordinal. The values, printed without unit marks, are given as degrees and minutes.

1777 "Reading" and "Value" are this edition's heads; the page prints none. *I*^{a}, *2*^{da}, *3*^{ia} are printed with raised letters and are given as ordinals. The values, printed without unit marks, are given as degrees and minutes.

1778

On 17 February [DIE 17 FEBRUARIJ.]

Reading	Instrument	Value
The left shoulder of Orion [Sinister humerus Orionis]		39° 59⅔′
		39° 58½′
In the girdle, the first [star] [in cingulo prima]		33° 25⅙′
		33° 24′
In the girdle, the second [star] [in cingulo secunda]		32° 33⅓′
In the girdle, the third [star] [in cingulo tertia]		31° 51½′
The right foot of Orion [Dexter pes Orionis]		24° 12⅚′
The right shoulder of Orion [Dexter humerus Orionis]		41° 20⅙′
		41° 19½′
Canis Minor [Canis minor]	by the Tychonic [quadrant] [per Tych.]	40° 18⅔′

1779

On 18 February [DIE 18 FEBRUARIJ.]

Reading	Value
The left foot of Orion [Sinist. pes Orionis]	25° 21′
The left shoulder [Sinist. humerus]	39° 59¾′
The 1st [star] in the belt [I^{ma} in baltheo]	33° 24¾′
The 2nd [star] in the belt [2da in baltheo]	32° 33¼′
The 3rd [star] in the belt [3^{ia} in baltheo]	31° 51½′

1780

By the Tychonic [quadrant] at morning time [Per Tychonicum matutino tempore]

On 11 January [DIE 11 JANUARIJ.]

1778 "Reading" and "Value" are this edition's heads; the page prints none. *orionis* is printed with a lower-case *o* in the first and fifth labels. *I*^{ma} and *3*^{ia} are printed with raised letters and are given as ordinals. No second [star] of the girdle is printed under this date. The values, printed without unit marks, are given as degrees and minutes.

1779 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The three girdle labels are indented and set the ordinal after the noun. *per Tych.* is printed on the line of Canis Minor only. The values, printed without unit marks, are given as degrees and minutes.

1780 "Reading" and "Value" are this edition's heads; the page prints none. *I*^{ma}, *2*^{da}, *3*^{ia} are printed with raised letters and are given as ordinals. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
The following northern [star] in the □ of the Crow [Sequens borealis in □to] [corui]	17° 54⅙′
	17° 54⅓′
The following southern [star] in the □ of the Crow [Sequens auſtralis in □to] [corui]	13° 3′

1781

On 26 January [DIE 26 JANUARIJ.]

Reading	Value
The southern first [star] in the □ of the Crow [Auſtralis prima in □to corui]	13° 43¾′
The following [star] toward the north [Sequens verſus boream]	18° 52⅔′
	18° 52½′
The northern extreme [star] in the □ [borealis Extrema in □to]	19° 55⅙′
	19° 55′
The following [star] toward the south [Sequens verſus auſtrum]	13° 2⅔′

1782

The same day, by the sextant. [Eodem die per Sextantem.]

Reading	Value
The first [star] in the □ of the Crow [Prima in □to corui]	13° 43½′
The following [star] of the same [□] [Sequens eiusdem]	18° 53¾′
The third [star] in the □ of the Crow [Tertia in □to corui]	19° 53¾′
The lowest [star] in the □, toward the south [Infima in □to verſus auſtrum]	13° 2⅓′

1783

On 9 January [DIE 9 JANUARIJ]

At evening time, by the Tychonic quadrant. [veſpertino temp. per Q. Tychonicum.]

1781 "Reading" and "Value" are this edition's heads; the page prints none. The line *Per Tychonicum matutino tempore* is printed without a point at the end. The sign □ is printed with a raised *to*. Each label runs over two lines and is given whole on its first row; the first carries a value on each line, the second its value on the second line only. The values, printed without unit marks, are given as degrees and minutes.

1782 "Reading" and "Value" are this edition's heads; the page prints none. *borealis Extrema* is printed with a lower-case *b* and a capital *E*, indented. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes.

1783 "Reading" and "Value" are this edition's heads; the page prints none. The line *Eodem die per Sextantem.* opens the right column with no date line above it; the last date line printed before it in reading order is *DIE 26 JANUARIJ.* at the foot of the left column. *eiusdem* is given as "of the same [□]"; it may also be taken as "of the same [Crow]", which names the same star. *verſus auſtrum* may go with *Infima* ("the lowest [star], toward the south") or with the square; the English keeps the order of the page. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Remark
The bright [star] of Cetus [Lucida Ceti]	36° 31⅓′	with one [vno]
	36° 31½′	with the other [alt.]
Altitude of the first [star] in the girdle of Orion [Altitudo primæ in Cin-] [gulo Orionis]	33° 25′	with only one pinnule [vno ſal-] [tem pin.]
Of the middle [star] [Mediæ]	32° 33′	with both [vtroque]
Of the last [star] [Vltimæ]	31° 51¾′	with the old [vet.]
	31° 51⅔′	with the new [nouo]
Altitude of the right foot of Orion [Altitudo dextri pedis] [Orionis]	24° 17⅙	with the new [nouo]
	24° 17⅓	with the old [vet.]
Of the right shoulder of Orion [Dextri humeri] [Orionis]	41° 20⅓	with both [vtroque]
Of the foot of Canis Major [Pedis canis] [maioris]	16° 17⅚′	with the new [nouo]
	16° 18′	with the old [vet.]
Altitude of Canis Major [Canis maioris alt.]	17° 54⅙	with the new [nouo]
	17° 54⅓	with the old [veteri]
Of Canis Minor [Canis minoris]	40° 18¾′	with both [vtroque]

1784

On 14 January [DIE 14 JANUARIJ.]

Reading	Value	Remark
Of the first [star] in the belt of Orion [Primæ in Baltheo] [Orionis]	33° 25¾′	among clouds (all three values) [inter] [nubes]
Of the middle [star] [Mediæ]	32° 33¾′	
Of the extreme [star] [Extremæ]	31° 52⅙′	
Canis Major [Canis maior.]	17° 54⅓′	with both [vtroque]
Canis Minor [Canis minor.]	40° 18½′	with both [vtroque]

[1784] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The date line is printed without a point at the end; the line *veſpertino temp. per Q. Tychonicum.* stands below it at the left margin. The genitives *Mediæ*, *Vltimæ*, *Dextri humeri*, *Pedis canis maioris* and *Canis minoris* have no noun printed to govern them; they are given as "Of …", continuing *Altitudo* of the lines above. *vno ſaltem pin.* is printed after the figures over two lines, *ſal-* / *tem* divided with a hyphen, and is given whole on its row; *ſaltem* is given as "only", as elsewhere in this edition; it can also be read as "at least" ("with at least one pinnule"). *alt.* after the second value of Cetus is given as "with the other", pairing with *vno* above it; no noun is printed after it. *vet.* / *veteri* and *nouo* are given as "with the old" and "with the new"; no noun is printed after them. Labels running over two lines are given whole on their first row. The values, printed without unit marks, are given as degrees and minutes.

1785

On 15 January [DIE 15 JANUARIJ.]

Reading	Value	Remark
Altitude of Canis Major [Altit. canis maioris]	17° 54′	with both [vtroque]
Of the middle [star] in the girdle of Orion [Mediæ in Cingulo] [Orionis]	32° 32⅚′	with both [vtroque]
Of the extreme [star] [Extremæ]	31° 51′	with both [vtroque]
Of the right foot of Orion [Dextri pedis Orionis]	24° 12⅚′	
with the other [Altero]	24° 13′	
Of the bright [star] of the shoulder of Orion [Lucidæ humeri] [Orionis]	41° 20⅓′	with both [vtroque]

1786

On 20 January [DIE 20 JANUARIJ.]

Reading	Value
Of the left foot of Orion [Siniſtri pedis Orionis]	25° 21′
	25° 21⅔′
Of the left shoulder of Orion [Siniſtri humeri] [Orionis]	39° 59⅔′
Of the first [star] of the belt [Primæ Balthei]	33° 25′

1787

[1785] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The three values of the belt are joined at the right by a single brace, with *inter / nubes* on two lines beside it; the remark covers all three. The first label runs over two lines, the value on the second, and is given whole on one row. The genitives *Primæ*, *Mediæ*, *Extremæ* have no noun printed to govern them and are given as "Of …". *maior.* and *minor.* are printed with a point. The values, printed without unit marks, are given as degrees and minutes.

[1786] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *Altero* is printed in the position of the label words, indented, on the line of the second value of the right foot; it is given there, as "with the other". The genitives have no noun printed to govern them and are given as "Of …", continuing *Altit.* of the first row. Labels running over two lines are given whole on their first row. The values, printed without unit marks, are given as degrees and minutes.

[1787] "Reading" and "Value" are this edition's heads; the page prints none. The genitives have no noun printed to govern them and are given as "Of …". In the value of the left shoulder the fraction is ⅔: its heavily inked denominator, which does not separate 3 from 8 at low magnification, is read as 3 on a native-resolution crop, open on the left like the 3 of the ⅔ above it. These rows end the right column and the page. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Remark
Of the middle [star] of the belt [Mediæ Balthei]	32° 33′	
with the other [alt.]	32° 33⅓′	
Of the far end of the belt [Extremæ Balthei]	31° 51½′	
with the other [alt.]	31° 51⅔′	
Of the right foot of Orion [Dextri pedis Orionis]	24° 13′	
with the other [alt.]	24° 13⅙′	
Of the right shoulder of Orion [Dextri humeri Orionis]	41° 20⅓′	with both [vtroque]

1788

On 26 January [DIE 26 JANUARIJ.]

Reading	Value	Remark
Altitude of the far end of Eridanus [Extremæ Erid. alt.]	28° 24⅓′	with both [vtroque]
Of the left foot of Orion [Siniſtri pedis Orionis]	25° 21⅓′	with the new [nouo]
with the old [veteri]	25° 21½′	nearly [fere]
Of the left shoulder [Siniſtri humeri]	40° 0′	with the old [vet.]
	39° 59⅚′	with the new [nouo]
Of the first [star] in the girdle [Primæ in Cingulo]	33° 25¼′	with the old [vet.]
	33° 25⅙′	with the new [nouo]
Of the middle [star] [Mediæ]	32° 33⅓′	with both [vtroque]
Of the last [star] [Vltimæ]	31° 51′	with the new [nouo] only [tantum]
Of the right foot of Orion [Dextri pedis Orionis]	24° 13′	with the old [veteri]
	24° 12⅚′	with the new [nouo]
Of the right shoulder of Orion [Dextri humeri Orionis]	41° 20½′	with the new [nouo]
with the old [vet.]	41° 20½′	nearly [fere]
Of the foot of Canis Major [Pedis canis maioris]	16° 17⅚′	with the new [nouo]
	16° 18′	with the old [veteri]
Canis Major [Canis maior.]	17° 54⅓′	with the old [vet.]
	17° 54′	with the new [nouo]

[1788] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. These rows open the left column with no date line above them; the last date line printed before them is *DIE 20 JANUARIJ.* on the preceding page, whose right column ends at *Primæ Balthei 33 25*; they continue that list. The genitives have no noun printed to govern them and are given as "Of …". *alt.* stands in the label space, directly before the second value of each of three stars, with no label words on its line; it is given as "with the other", as *Altero* in the same position on the preceding page; it can also be taken as *alt[itudo]*, "altitude", of the same star. The values, printed without unit marks, are given as degrees and minutes.

1789

On 27 January [DIE 27 JANUARIJ.]

Reading	Value	Remark
The first [star] of the belt of Orion [Prima Balthei Orionis]	33° 25′	with both [vtroque]
The second [star] [Secunda]	32° 33⅙′	with the old [vet.]
The third [star] of the belt [Tertia Balthei]	31° 51½′	with the new [nouo]
Of the right foot of Orion [Dextri Orionis pedis]	24° 13⅙′	with the old [vet.]
	24° 13′	with the new [nouo]
Of the right shoulder of Orion [Dextri humeri Orionis]	41° 20½′	with the old [vet.]
	41° 20⅓′	with the new [nouo]
Canis Major [Canis maior.]	17° 54½′	
Canis Minor [Canis minor.]	40° 18⅔′	

1790

On 18 February [DIE 18 FEBRUARIJ.]

Reading	Value	Remark
The left foot of Orion [Sinifter pes Orionis]	25° 21′	with the new [nouo] only [ſaltem]
The left shoulder of Orion [Sinift. hum. Orionis]	39° 59¾′	with the new [nouo]
The first [star] in the belt of Orion [Prima in Baltheo] [Orionis]	33° 24¾′	with the new [nouo]
The second [star] of the belt of Orion [Secund. Balth. Orionis]	32° 33¼′	
The third [star] of the belt of Orion [Tertia Balth. Orionis]	31° 51½′	
Canis Minor [Canis minor]	40° 18⅓′	

[1789] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *Erid.* is abbreviated on this page and is given as "Eridanus", the name earlier pages print in full (*Eridani*); *alt.* after it is given as "Altitude". The other genitives have no noun printed to govern them and are given as "Of …". *veteri* and *vet.* in the third and thirteenth rows stand in the label space, directly before the figures, and are given in the Reading column; *fere* stands after the figures of those two rows and qualifies the value. *tantum* stands alone on the line under *nouo* of the last [star], at the right edge of the column, and is given with that row. The values, printed without unit marks, are given as degrees and minutes.

[1790] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The left column ends after the right foot of Orion; the rows from the right shoulder on open the right column with no date line above them and follow the left column's last line. The page sets the first three labels and the two Dogs in the nominative, the right foot and the right shoulder in the genitive ("Of …"). The values, printed without unit marks, are given as degrees and minutes.

1791

On 16 December [DIE 16 DECEMBRIS.]

Reading	Value	Remark
Of the tail of Cetus [Caudæ Ceti]	13° 53′	with the old pinnule [veteri] [pinn.]

1792

On 26 December [DIE 26 DECEMBRIS.]

Reading	Value	Remark
Altitude of the bright [star] of Hydra [Lucidæ Hydræ alt.]	27° 11¼′	
Of the lower [star] in the jaw of Cetus [Inferioris in mandi-] [bula Ceti]	36° 31⅓′	with the old [vet.]
	36° 31′	with the new [nouo]
Of the middle [star] of the three in Eridanus, under the breast of ♉ [Mediæ trium in Erid.] [ſub pectore ♉]	22° 53½′	
	22° 53⅓′	
Altitude of the left shoulder of Orion [Altit. ſiniſtri humeri] [Orionis]	41° 20⅔′	
	41° 20½′	
Altitude of the star preceding Arcturus [Alt. ſtellæ præce-] [dentis Arcturum]	54° 36′	
	54° 35⅚′	
Meridian altitude of Arcturus [Alt. Arcturi merid.]	55° 28½′	

[1791] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *ſaltem* stands alone on the line under *nouo* of the left foot, at the right edge of the column, and is given with that row; it could also be read with the row below. *ſaltem* is given as "only", as elsewhere in this edition; it can also be read as "at least" ("at least with the new"). *Siniſt. hum.* is abbreviated and shows no case; it is given as a nominative, like *Siniſter pes* above it. The label *Prima in Baltheo / Orionis* runs over two lines, the value on the second, and is given whole on one row. The values, printed without unit marks, are given as degrees and minutes.

[1792] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *pinn.* stands alone on the line under *veteri*, at the right edge of the column, and is given with it. The genitive has no noun printed to govern it and is given as "Of …". The value, printed without unit marks, is given as degrees and minutes.

1793

On 27 December [DIE 27 DECEMBRIS.]

Reading	Value	Remark
Of the left foot of Orion [Siniſtri pedis Orionis]	25° 26⅓′	with both [vtroque]
Of the left shoulder of Orion [Siniſtri humeri] [Orionis]	40° 0′	
	39° 59⅔′	

1794

Observations of the Year 1588 [OBSERUATIONES ANNI 1588.]

Observations of the Sun [OBSERUATIONES SOLIS.][1795]

On 3 January [DIE 3 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the Tychonic [quadrant] [per Tych.]	12° 33′	with both [vtroq.]
	by the revolving [quadrant] [per Volub.]	12° 32¾′	

1796

[1793] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. Four labels run over two lines, with a value at the right of each line; each is given whole on its first row, the second value on the row below. *Inferioris* and *Mediæ* have no noun printed to govern them and are given as "Of …". *ſub pectore* ♉ stands on the second line of its label; the page does not show whether it goes with *Erid.* or with *trium*, and the English keeps the order of the page. *Erid.* is given as "Eridanus", as in the 26 January entry above. The values, printed without unit marks, are given as degrees and minutes. The altitude of the left shoulder of Orion is printed 41 20⅔ and 41 20½ here (the word *ſiniſtri* and both figures confirmed on a native-resolution crop), while this page prints the left shoulder at 40 0 and 39 59⅔ on 27 December below and at 39 59¾ on 18 February, and the right shoulder at 41 20½ and 41 20⅓ at the head of this column; the page does not say which star is meant here, and the word and figures are given as printed, with no correction.

[1794] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The genitives have no noun printed to govern them and are given as "Of …". The second label runs over two lines, with a value at the right of each, and is given whole on its first row. These rows end the right column; below the columns the page is blank. The values, printed without unit marks, are given as degrees and minutes.

[1795] below the two headings the page is set in two columns divided by a vertical rule; the English gives the left column first.

[1796] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ☉ *Merid.* stands alone on its line, the instrument lines indented below it; it is given with the first of them. *vtroq.* stands between the instrument and the figures. The values, printed without unit marks, are given as degrees and minutes.

On 9 January [DIE 9 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tych.,]	13° 40⅓′	with both [vtroq.]
	by the revolving quadrant [per Q. Volub.]	13° 40½′	
Declination [Declin.]	by the armillae [per Armillas]	20° 23′	with one [vno]
		20° 23⅓	with the other pinnule [alt. pin.]

With the instrument not well rectified. [Inſtrumento non bene rectificato.][1797]

On 10 January [DIE 10 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tych.]	13° 53⅓′	with the old [veteri]
		13° 53⅔′	with the new [nouo]
	by the revolving quadrant [per Q. Volub.]	13° 54′	
	by the least quadrant [per Q. Minim.]	13° 52′	
Declination [Decl.]	by the subterranean armillae [per Armill. ſubt.]	20° 12′	
		20° 12¼′	

1798

On 13 January [DIE 13 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per. Tych.]	14° 31′	with the new [nouo]
		14° 31⅙′	with the old [veteri]

[1797] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands alone on its line and is given with the first instrument line. *vtroq.*, *vno* and *alt. pin.* stand between the label words and the figures. The line *Inſtrumento non bene rectificato.* stands below the two declination values, with no figures; it does not name the instrument. The values, printed without unit marks, are given as degrees and minutes.

[1798] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* and *per Tych.* stand on two lines, *veteri* and a value at the right of the first, *nouo* and a value at the right of the second; the label is given whole on the first row. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
	by the revolving quadrant [per Q. Volub.]	14° 32¾′	
	by the least quadrant [per Q. Minim.]	14° 31′	
Declination [Declin.]	by the subterranean armillae [per Armill. ſubt.]	19° 31¾′	
		19° 31⅔′	

1799

On 19 January [DIE 19 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude [Alt. Merid.]	by the revolving [quadrant] [per Volub.]	16° 2′	doubtful [dubia]
	by the Tychonic quadrant [per Q. Tych.]	16° 3′	with both [vtroque]
	by the greatest steel quadrant [per Q. max. Chalyb.]	16° 4½′	The steel [quadrant] was not yet sufficiently corrected. [Chalyb. nondum erat ſatis correctus.]
	by the new sextant [per Sext. nouum.]	16° 4′	
Declination [Decl.]	by the armillae [per Armill.]	18° 2½′	south [A.]
		18° 2⅓′	
Declination repeated [Repetita decl.]		18° 2½′	with both [vtroque]

1800

On 22 January [DIE 22 JANUARIJ.]

1799 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ⊙ *Merid.* stands alone on its line and is given with the first instrument line; *per. Tych.* is printed with a point after *per*. *veteri* stands on the line below *nouo*, with the second value. The values, printed without unit marks, are given as degrees and minutes.

1800 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. Merid.* is printed without ⊙. *dubia* stands alone on the line under the first value, at the right edge of the column, and is given with that row. The line *Chalyb. nondum erat ſatis correctus.* stands below the row of the greatest steel quadrant, with no figures, and is given with that row. *Chalyb.* is abbreviated; the masculine *correctus* and the line above, *per Q. max. Chalyb*., show a quadrant, and "[quadrant]" is supplied. *A.* stands directly after the first declination value and is given as "south". The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tych.]	16° 51⅓′	with the new [nouo]
		16° 51′ 35″	with the old [vet.]
	by the revolving quadrant [per Q. Volub.]	16° 51¾′	
	by the greatest quadrant [per Q. Max.]	16° 53′	doubtful [dubia]
Declination [Declin.]	by the armillae [per Armillas]	17° 14′	south [Au.]
		17° 13⅚′	
Declination of ⊙ repeated [Repetita declin. ⊙]		17° 14′	
		17° 13¾′	

1801

On 24 January [DIE 24 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving quadrant [per Q. Volub.]	17° 26½′	
	by the great [quadrant] [per Max.]	17° 27½′	[It] was not sufficiently corrected. [non ſatis erat correctus.]
	by the Tychonic quadrant [per Q. Tychon]	17° 26⅙′	with one [vno]
		17° 26⅔′	with the other [alt]
	by the new sextant [per Sext. nouum]	17° 26⅔′	
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.,]	16° 39′	with both [vtroque]

1802

[1801] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* and *per Tych.* stand on two lines, *nouo* and a value at the right of the first, *vet.* and a value at the right of the second; the label is given whole on the first row. The second Tychonic value is printed as three figures, *16 51 35*, the third to the right of the two figure positions of the column; it is given as degrees, minutes and seconds. *dubia* and *Au.* stand between the label words and the figures; *Au.* is given as "south". The left column ends after the declination by the armillae; the two rows of *Repetita declin. ⊙* open the right column with no date line above them and follow the left column's last line. The other values, printed without unit marks, are given as degrees and minutes.

[1802] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The line *non ſatis erat correctus.* stands below the row of *per Max.*, set to the right, with no figures; it is given with that row, whose instrument the masculine *correctus* fits. *per Max.* names no noun and "[quadrant]" is supplied, as *per Q. Max.* on 22 January prints it. *alt* is printed without a point. In the last row *vtroque* follows *per Armill.,* within the label line. The values, printed without unit marks, are given as degrees and minutes.

On 30 January[1] [DIE 30 JANUARIJ[1].]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the Tychonic [quadrant] [per Tych.]	19° 16½′	with the new [nouo]
		19° 16⅔	with the old [vet.]
	by the greatest steel [quadrant] [per Chalyb. max.]	19° 17½′	[It] was not sufficiently corrected [non erat ſatis correctus]
	by the revolving [quadrant] [per Volub.]	19° 16¾′	
	by the new sextant [per Sext. nou.]	19° 16⅔′	
Declination [Declin.]	by the armillae [per Armill.]	14° 49′	with one [vno]
		14° 48⅚	with the other [alt.]

1803

On 4 February [DIE 4 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the Tychonic [quadrant] [per Tych.]	20° 55′	with both [vtroq.]
	by the revolving [quadrant] [per Volub.]	20° 55′	
	by the steel [quadrant] [per Chalyb.]	20° 55½′	
	by the trigonal sextant [per Sext. Trig.]	20° 55⅚′	
Declination [Declin.]	by the armillae [per Armill.,]	13° 10½′	with both [vtroque]

[It] was not sufficiently clear. [Non erat ſatis ſerenum.][1804]

On 5 February [DIE 5 FEBRUARIJ.]

[1803] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ☉ *Merid.* and *per Tych.* stand on two lines, *nouo* and a value at the right of the first, *vet.* and a value at the right of the second; the label is given whole on the first row. The line *non erat ſatis correctus*, printed without a point, stands below the row of *per Chalyb. max.*, set to the right, with no figures, and is given with that row. "[quadrant]" is supplied after "steel", as on 19 January. The values, printed without unit marks, are given as degrees and minutes.

[1804] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ☉ *Merid.* stands alone on its line and is given with the first instrument line. "[quadrant]" is supplied after "steel", as on 19 January. The line *Non erat ſatis ſerenum.* stands below the declination, set to the right, with no figures. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	21° 15½′	
	by the revolving [quadrant] [per Volub.]	21° 15⅙′	
	by the Tychonic [quadrant] [per Tych.]	21° 15½′	with the old [vet.]
		21° 15⅓′	with the new [nouo]
	by the new sextant [per Sext. nou.]	21° 15¼′	
Declination [Decl.]	by the armillae [per Armillas]	12° 50⅓′	
		12° 50¼′	

1805

On 6 February [DIE 6 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	21° 36⅓′	
	by the revolving [quadrant] [per Volub.]	21° 35½′	
	by the Tychonic quadrant [per Q. Tych.]	21° 36′	with the new [nouo]
		21° 36⅙′	with the old [vet.]
	by the new sextant [per Sext. nouum]	21° 36′	
Declination [Declin.]	by the armillae [per Armillas]	12° 30′	
		12° 30⅙′	

1806

[1] Cf. vol. II, p. 87. [Cf. T. II p. 87.]
___1807

1805 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *per Chalyb.* stands on the line of *Alt. ⊙ Merid.*; "[quadrant]" is supplied after "steel", as on 19 January. *nouo* stands on the line below *vet.*, with the second Tychonic value. The values, printed without unit marks, are given as degrees and minutes.

1806 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *per Chalyb.* stands on the line of *Alt. ⊙ Merid.*; "[quadrant]" is supplied after "steel", as on 19 January. These rows end the right column. The values, printed without unit marks, are given as degrees and minutes.

1807 the upper part of the page is set in two columns divided by a vertical rule; the English gives the left column first. Below the columns a full-width date line and sentence introduce the eclipse of 16 February, which is set again in two columns, then in two columns of figures flanked by circles.

On 7 February [DIE 7 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	21° 57¼′	
	by the revolving [quadrant] [per Volub.]	21° 56⅔′	
	by the Tychonic [quadrant] [per Tych.]	21° 56½′	with the new [nouo]
		21° 56⅔′	with the old [vet.]
	by the new sextant [per Sext. nou.]	21° 56½′	
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.,]	12° 9½′	with both [vtroque]

1808

On 8 February [DIE 8 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Declination of the Sun after the armillae [were] arranged differently toward the pole [Declin. Solis poſt aliter ordinatas in polum Armillas]		*11° 47¼′*	*with one [vno]*
		11° 47⅓′	*with the other [alt.]*
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tych.]	22° 17½′	with both [vtroq.]
	by the mural [quadrant] [per Muralem]	*22° 17⅙′*	
	by the steel [quadrant] [per Chalyb.]	*22° 18′*	
	by the new sextant [per Sext. nou.]	22° 17⅔′	
	by the lesser quadrant [per Q. min.]	22° 17′	
Declination of ⊙ [Declin. ⊙]	*by the armillae [per Armillas]*	*11° 47⅙′*	
		11° 47¼′	
Repeated [Repetita]		*11° 47′*	

1808 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *per Chalyb.* stands on the line of *Alt. ⊙ Merid.*; "[quadrant]" is supplied after "steel", as for *per Chalyb.* on the preceding page. *vet.* stands on the line below *nouo*, with the second Tychonic value. In the last row *vtroque* follows *per Armill.,* within the label line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
		11° 47¼′	

1809

On 10 February [DIE 10 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	23° 0⅙′	
	by the revolving [quadrant] [per Volub.]	22° 59⅔′	
	by the mural [quadrant] [per Muralem]	23° 0⅙′	with both [vtroq.]
Declination [Declin.]	by the armillae [per Armill.]	11° 4⅝′	
		11° 4¾′	

1810

On 11 February [DIE 11 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	23° 21¼′	
	by the revolving [quadrant] [per Volub.]	23° 20⅔′	
	by the mural [quadrant] [per Muralem]	23° 21$\frac{1}{12}$′	with both [vtroq.]
	by the new sextant [per Sext. nouum]	23° 21′	

1809 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The date line and much of this entry are set in italic; the English follows the page's faces: *per Tych. vtroq.*, *per Sext. nou.* and *per Q. min.* with their values are roman, the rest italic. The first label runs over three lines, *Declin. Solis poſt aliter or- / dinatas in polum / Armillas*, with *vno* and a value at the right of the second line and *alt.* and a value at the right of the third; it is given whole on the first row, and its hyphen is not reproduced in the bracket. *poſt … ordinatas … Armillas* is construed as "after the armillae [were] arranged"; *in polum* is given as "toward the pole" — "on the pole" is the other sense. *Alt. ⊙ Merid.* stands alone on its line and is given with the first instrument line; *vtroq.* follows *per Tych.* within the label line. *per Q. min.* is given as "by the lesser quadrant", the form earlier entries of this edition use for *Q. min.*; *min.* does not show whether the comparative or the superlative is meant. The values, printed without unit marks, are given as degrees and minutes.

1810 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The left column ends after the mural quadrant; the two rows of *Declin. per Armill.* open the right column with no date line above them and follow the left column's last line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Declination [Declin.]	by the armillae [per Armill.]	10° 43⅓′	
		10° 43¼′	

1811

On 12 February [DIE 12 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	23° 43½′	
	by the revolving [quadrant] [per Volub.]	23° 43′	
	by the mural quadrant [per Q. Mural.]	23° 43½′	with both [vtroq.]
	by the new sextant [per Sext. nouum]	23° 43⅔′	
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armill.]	10° 21⅚′	
		10° 21¾′	

1812

On 15 February [DIE 15 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	24° 49½′	
	by the revolving [quadrant] [per Volub.]	24° 49⅓′	
	by the Tychonic [quadrant] [per Tychon.]	24° 49⅙′	with one [vno]
		24° 49′	with the other [alt.]
	by the new sextant [per Sext. nouum]	24° 49′	
Declination [Declin.]	by the armillae [per Armill.]	9° 15½′	with both [vtroq.]

1813

[1811] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The fraction in the mural-quadrant row is printed 1 over 12. The values, printed without unit marks, are given as degrees and minutes.

[1812] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1813] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *alt.* stands on the line below *vno*, with the second Tychonic value. These rows end the right column of the upper part of the page. The values, printed without unit marks, are given as degrees and minutes.

On 16 February, p.m. [DIE 16 FEBRUARIJ P. M.]

An eclipse of the Sun was observed in this way, as follows. [obſeruabatur Eclipſis Solis in hunc modum vt ſequitur.]

If you set the beginning of this eclipse at 1^h 25^m and the end at 2^h 55^m: total duration 1^h 30^m; half duration 45^m; middle of the eclipse 2^h 10^m. [Si ponas huius Eclipſis initium H. 1 M. 25 & finem H. 2 M. 55, Tota duratio 1 30 Dimidia duratio 45 Medium Eclipſis 2 10]

The Prutenic calculation has the middle at 1^h 25^m, and that ¾ of an hour earlier. Mästlin's modern restoration comes closer, setting the middle at 2^h 14^m. [Calculus Prutenicus habet medium H. 1.25 idque ¾ horæ anterius. Mæſtlini neoterica reſtitutio propius accedit, ſtatuens Medium Hora2 M. 14.][1814]

Diagram. Six circles of equal size, three in a column at the left edge of the left column and three in a column at the right edge of the right column, with the rows of figures below set between them. In each circle a segment at the upper right of the disc is shaded with close diagonal hatching, bounded by a curve from the top of the circle to its right side; the rest of the disc is white. In the first and second circles of the left column the shaded segment is narrow; in the third it is a little deeper. The three circles of the right column have deeper shaded segments than those of the left, the second and third deeper than the first. Each circle stands level with one group of rows: in the left column with the rows for 1^h 31½^m, 1^h 34⅔^m and 1^h 43^m; in the right column with those for 1^h 46^m, 1^h 51¼^m and 1^h 57^m. No letters, numerals or words are drawn.

Time	Azimuth of ☉, west [Azim. ☉ occ.]	Altitude [Alt.]	Remark
1^h 31½^m [H. 1 31½]	24° 40′	22° 30′	Something was first noticed to be missing. [Primum animaduerſum eſt aliquid deeße.]
1^h 34⅔^m	25° 30′	22° 19′	
1^h 43^m	27° 30′	21° 50½′	about a 12th part [quaſi 12ma pars]
1^h 46^m	28° 35′	21° 33′	
1^h 51¼^m	29° 40′	21° 17′	Still increasing [Adhuc creſcens]
1^h 57^m	31° 10′	20° 52′	

[1814] the two italic passages stand side by side in two columns divided by a vertical rule, *Si ponas …* on the left, *Calculus Prutenicus …* on the right; the English gives the left first. In the left passage *Tota duratio 1 30*, *Dimidia duratio 45* and *Medium Eclipſis 2 10* are set as three lines, each with its figures at the right of the column; the figures carry no unit marks and are given as hours and minutes (45 as minutes), as *H.* and *M.* give the beginning and end. In the right passage *H. 1.25* is given as 1^h 25^m; *idque ¾ horæ anterius* is verbless and is given as "and that ¾ of an hour earlier". *Mæſt- / lini* is divided over two lines; the hyphen is not reproduced in the bracket. The page prints *Hora2* with no space.

1815

___1816

Diagram. Six circles, three in a column at the left edge of the left column and three in a column at the right edge of the right column, each level with one row of figures: on the left with the rows for 2^h 2¾^m, 2^h 8^m and 2^h 19^m; on the right with those for 2^h 26¾^m, 2^h 31½^m and 2^h 41¼^m. The first circle on the left is drawn smaller than the others, which are of equal size. In each circle a segment at the top of the disc, toward the right, is shaded with close diagonal hatching, bounded below by a curve; the rest of the disc is white. The segments of the right-hand circles are narrower than those of the left-hand circles, the second and third narrower than the first. No letters, numerals or words are drawn.

Time	Azimuth of ⊙ [Azim. ⊙]	Altitude [Alt.]	Remark
2^h 2¾^m	32° 40′	20° 25′	
2^h 8^m	34° 3′	19° 58½′	
2^h 19^m	36° 37′	19° 10′	
2^h 26¾^m	38° 36′	18° 31′	
2^h 31½^m	39° 39′	18° 5′	
2^h 41¼^m	42° 4′	17° 10′	Very small, there appeared about for the third time a 12th part. [valde minuta apparuit quaſi tertia vice 12^a pars.]
2^h 51^m	44° 18′	16⅓°	Among the clouds the Sun appeared wholly round. [inter nubes Sol totus rotundus apparuit.]

1815 "Time" and "Remark" are this edition's heads; the page prints *Azim.* ⊙ *occ.* and *Alt.* in small type over the figures of the first row only, and nothing over the time. *H.* is printed only on the first row. The first three rows stand in the left column, the last three in the right column, which carries no head; they are given in one table in the page's order. Each time is printed as two figures without unit marks after *H.* and is given as hours and minutes; the azimuths and altitudes, printed without unit marks, are given as degrees and minutes. *occ.* follows ⊙ and is given as "west"; it could also qualify the azimuth ("western azimuth"). *Primum animaduer- / ſum eſt aliquid deeße.* runs over two lines under the first row, its hyphen not reproduced in the bracket; *quaſi 12*^{ma} *pars* stands under the third row and *Adhuc creſcens* under the fifth; each is given with the row above it.

1816 the page continues the eclipse of 16 February from the preceding page, with no date line of its own. Its upper part is set in two columns divided by a vertical rule, flanked by circles; the English gives the left column first, then the right, then the full-width line that follows them.

1817

N. B. At the beginning of the eclipse it was moderately clear, in the middle well [clear]; at the end clouds hid ☉, so that [it] could not be seen accurately enough. The times assigned have been corrected. [N. B. In principio Eclipſeos erat mediocriter ſerenum, in medio bene, in fine nubes ſubduxerunt ☉, vt non ſatis accurate videri potuißet. Tempora aßignata ſunt correcta.]

The observation of the same [eclipse] at the southern armillae [is] as it is depicted in what follows, where the times assigned [were] taken from ☉ by the armillae themselves. [Apud Armillas auſtrales eiusdem obſeruatio prout in ſequentibus depingitur, vbi tempora aßignata per ipſas Armillas a ☉ accepta.][1818]

Diagram. Twelve circles of equal size in two rows of six across the width of the page, each with a time printed in smaller type below it; two lines of words stand between the rows, under the fifth circle of the first row. In each circle a segment of the disc is shaded with close diagonal hatching, bounded by a curve; the rest is white. First row: in the first three circles a narrow segment at the upper right; in the fourth to sixth a deeper segment, at the upper right in the fourth and fifth and at the top, toward the right, in the sixth, the sixth the deepest of the row. Second row: in the first circle a deep segment at the upper right; in the second a narrower one at the upper right; in the third a small one at the upper right; in the fourth and fifth a small segment at the top; in the sixth a very thin sliver at the top. No letters are drawn on the circles.

- First row, first circle (below): $1^h\ 35^m$ [1ʰ35ᵐ]
- First row, second circle (below): $1^h\ 42^m$ [1.42]
- First row, third circle (below): $1^h\ 45^m$ [1.45]
- First row, fourth circle (below): $1^h\ 48½^m$ [1.48½]
- First row, fifth circle (below): $1^h\ 56^m$ [1.56]

[1817] "Time" and "Remark" are this edition's heads; the page prints *Azim.* ☉ and *Alt.* in small type over the figures of the first row only, and nothing over the time; on this page no *occ.* follows ☉. The first three rows stand in the left column, the next three in the right column, which carries no head; the last row is a full-width line below the columns, whose figures are followed on the same line by its words. The times, printed as two figures without unit marks, are given as hours and minutes; the azimuths and altitudes, printed without unit marks, are given as degrees and minutes. The last row prints a single figure with a fraction, *16⅓*, in the altitude place; it is given as degrees. The remark on the sixth row runs over three lines under that row; its hyphen is not reproduced in the bracket. *valde minuta* is taken as describing the part, "very small"; *quaſi* stands before *tertia vice 12ª pars* and may qualify "for the third time" or the whole of "a 12th part for the third time" — the English keeps it before both. *tertia vice* can also refer back to the third row of figures, where a 12th part is first recorded ("as at the third [observation]"); and *minuta* can be the participle, "diminished", of the waning eclipse.

[1818] *ſubduxerunt* is literally "withdrew"; it is given as "hid". *bene* stands alone after *in medio*, and "[clear]" is supplied from *ſerenum*. The subject of *videri potuißet* is not expressed; "[it]" may be ☉ or the eclipse. The sentence *Apud Armillas auſtrales …* has no main verb; "[is]" and "[were]" are supplied. *eiusdem* names no noun; "[eclipse]" is supplied from the preceding sentences. *depingi- / tur* is divided over two lines; the hyphen is not reproduced in the bracket.

- First row, sixth circle (below): $2^h\ 2^m$ [2.2]
- Under the fifth circle of the first row, two lines: a sixth part of ☉ eclipsed, namely 2 digits [eclipſata ſixta pars ☉, ſc. digiti 2.]
- Second row, first circle (below): $2^h\ 12^m$ [2.12]
- Second row, second circle (below): $2^h\ 16^m$ [2.16]
- Second row, third circle (below): $2^h\ 26^m$ [2.26]
- Second row, fourth circle (below): $2^h\ 37^m$ [2.37]
- Second row, fifth circle (below): $2^h\ 40^m$ [2.40]
- Second row, sixth circle (below): about $2^h\ 43^m$ [quaſi $2^H 43^M$][1819]

Reading	Time
Beginning of the eclipse [Initium Eclipſis]	$1^h\ 30^m$
End of the eclipse [Finis Eclipſis]	$2^h\ 52^m$
Total duration [Tota duratio]	$1^h\ 22^m$
Half [duration] [Dimid.]	41^m
Middle of the eclipse [Medium Eclipſis]	$2^h\ 11^m$

Middle of this eclipse $2^h\ 10^m$. [Medium huius Eclipſis H. 2 M. 10.][1820]
___[1821]

On 17 February [DIE 17 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel quadrant [per Q. Chalyb.]	25° 34′	
	by the revolving quadrant [per Q. Volub.]	25° 33½′	
	by the Tychonic quadrant [per Q. Tych.]	25° 34′	with one [vno]
		25° 34⅙′	with the other [alt.]
Declination [Declin.]	by the armillae [per Armillas]	8° 31′	
		8° 31¼′	

[1819] the labels under the first and last circles print raised *H* and *M* after the figures; the others print the hour and the minutes divided by a point, without unit marks, and are given as hours and minutes. The page prints *ſixta*; the English takes it as "sixth". *ſc.* is given as "namely".

[1820] "Reading" and "Time" are this edition's heads; the page prints none. The block is italic. *H.* and *M.* are printed in the first row only; the figures below stand in the same two places and are given as hours and minutes (*41* as minutes). *Dimid.* names no noun; "[duration]" is supplied, as the preceding page prints *Dimidia duratio*. *Medium huius Eclipſis H. 2 M. 10.* stands apart at the right, on the line of *Tota duratio*; the English gives it after the block.

[1821] the page is set in two columns divided by a vertical rule; the English gives the left column first.

1822

On 19 February [DIE 19 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel quadrant [per Q. Chalyb.]	26° 19′ 5″	
	by the revolving quadrant [per Q. Volub.]	26° 18′ 55″	
	by the mural quadrant [per Q. Mural.]	26° 18′ 50″	with both [vtroq.]
Declination of ☉ [Declin. ☉]		7° 46′	with one [vno]
	by the armillae [per Armillas]	7° 46¼′	with the other [alt.]
Repeated, southern [Repetita, auſt.]		7° 46′	with one [vno]
		7° 45¾′	with the other [alt.]
Repeated again [Repetita denuo]		7° 46′	with one [vno]
		7° 45¾′	with the other [alt.]

1823

Note. A truer declination is therefore gathered when the individual [values] are compared: 7° 46′ in full; and the true altitude [is] 26° 19′; when this is subtracted from 34° 5′, the same declination, 7° 46′, results. [Nota. Verior itaque declinatio colligitur, collatis ſingulis P. 7 M. 46 complete, altitudo autem vera 26 19, qua ablata a 34 5 prouenit eadem declinatio 7 46.][1824]

Or thus, weighing everything precisely: [Vel ſic omnia ſcrupuloſe trutinando]

Reading	Instrument	Value
Altitude [Alt.]	*by the steel [quadrant] [per Chalyb.]*	*26° 19′ 5″*
		34° 5′ 0″
Declination [Declinatio]		*7° 45′ 55″*

[1822] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *alt.* stands on the line below *vno*, with the second Tychonic value. The values, printed without unit marks, are given as degrees and minutes.

[1823] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Declin.* ☉ stands alone at the left of its line, with *vno* and the first value at the right; *per Armillas* stands on the line below, with *alt.* and the second value, and each is kept on its own row. *auſt.* is given as "southern"; the word it qualifies is not printed. The altitudes, printed as three figures without unit marks, are given as degrees, minutes and seconds; the declinations, printed as two figures, as degrees and minutes.

[1824] *P.* and *M.* give the first value as degrees and minutes; *26 19*, *34 5* and *7 46*, printed without unit marks, are given the same way. *complete* is an adverb, here given as "in full" after the value it follows. *col- / ligitur* is divided over two lines; the hyphen is not reproduced in the bracket.

Reading	Instrument	Value
With one pinnule [Vno pinnacidio]		*7° 46′ 0″*
With the other [Altero]		*7° 45′ 45″*
True declination [Vera declinatio]		*7° 45′ 53″*

which agrees within two seconds. [quod concordat in duobus fecundis.][1825]

On 22 February [DIE 22 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	27° 27½′	
	by the revolving [quadrant] [per Volub.]	27° 27½′	
	by the new sextant [per Sext. nouum]	27° 28′	
Declination [Decl.]	by the armillae [per Armill.]	6° 36½′	with one [vno]
		6° 37′	with the other [alt.]
Repeated [Repetita]		6° 37⅓′	
		6° 36¾′	

1826

The shadow through the channel was not sufficiently exact. [Vmbra per canalem non fatis exquifita fuit.]

On 23 February [DIE 23 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel quadrant [per Q. Chalyb.]	27° 50⅔′	
	by the revolving quadrant [per Q. Volub.]	27° 50′ 35″	
	by the mural [quadrant] [per Muralem]	27° 50¼′	with both [vtroque]
	by the new sextant [per Sext. nouum]	27° 51′	
Declination [Declin.]	by the armillae [per Armillas]	6° 15¼′	
		6° 15¾′	

[1825] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. This passage is set in italic, words and figures alike. The second row has no label. The values, printed as three figures without unit marks, are given as degrees, minutes and seconds. *quod concordat in duobus fecundis* stands on two lines indented below the last row.

[1826] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. A brace to the right of the figures joins the four declination values, 6° 36½′ to 6° 36¾′; nothing is printed beside it. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark

1827

On 25 February [DIE 25 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving quadrant [per Q. Volub.]	28° 37′	
	by the steel quadrant [per Q. Chalyb.]	28° 37′	
	by the mural quadrant [per Q. Mural.]	28° 37′	with both [vtroque]
	by the new sextant [per Sext. nouum]	28° 36⅔′	
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armillas]	5° 28¾′	
		5° 28′	

1828

On 27 February [DIE 27 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	29° 23′	
	by the revolving [quadrant] [per Volub.]	29° 23⅙′	
	by the mural [quadrant] [per Mural.]	29° 23½′	with the new pinnule [nouo pin.]
		29° 23⅔′	with the other [altero]
	by the new sextant [per Sext. nouum]	29° 24′	
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.]	4° 41½′	
		4° 41′	
Repeated declination [Repetita Decl.]		4° 41⅔′	
		4° 41′	

1829

[1827] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes, and as degrees, minutes and seconds where three figures are printed.

[1828] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. This entry opens the right column. The values, printed without unit marks, are given as degrees and minutes.

[1829] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *altero* stands on the line below *nouo pin.*, with the second mural-quadrant value. The values, printed without unit marks, are given as degrees and minutes.

On 28 February [DIE 28 FEBRUARIJ.]

At noon the clock was moving 10^{m} 30^{s} [10′ 30″] faster than it should. [Horologium in Meridie 10′ 30″ iuſto velocius mouebatur.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic quadrant [per Q. Tych.]	29° 46⅝′	
	by the steel [quadrant] [per Chalyb.]	29° 46⅔′	
	by the revolving [quadrant] [per Volub.]	29° 46′ 35″	
	by the new sextant [per Sext. nou.]	29° 46½′	
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armill.]	4° 17′	
		4° 17¼′	
Repeated [Repetita]		4° 17′	
		4° 17½′	*doubtful [dubiæ]*
[At] 12^{h} 40½[m] [H. 12 40½], repeated declination [repet. declin.]		4° 17′	

1830

On 29 February [DIE 29 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	by the Tychonic [quadrant] [per Tych.]	30° 10½′	with both [vtroq.]
	by the new sextant [per Sext. nou.]	30° 10¾′	
	by the steel [quadrant] [per Chalyb.]	30° 10⅙′	
	by the revolving [quadrant] [per Volub.]	30° 10⅙′	
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armillas]	3° 54⅔′	
		3° 54⅓′	

1831

[1830] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The clock's *10′ 30″* is given as minutes and seconds of time. *dubiæ*, in italic, stands at the right of its line before the figures, with no label at the left. In the last row the time is printed with *H.* before the hour; *40½* is given as minutes. The values, printed without unit marks, are given as degrees and minutes, and as degrees, minutes and seconds where three figures are printed.

[1831] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Mer.* stands alone on its line and is given with the first instrument line. The values, printed without unit marks, are given as degrees and minutes.

N. B. At noon the clock was moving 15½[m] [15½] slower than it should, from 9⅓[h] in the evening. [N. B. Horologium in Meridie 15½ iuſto tardius mouebatur ab H. 9⅓ veſpertina.][1832]

On 1 March [DIE 1 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]		30° 33⅚′	with the old [vet.]
	by the Tychonic quadrant [per Q. Tych.]	30° 33⅔′	with the new [nou.]
	by the new sextant [per Sext. nou.]	30° 34′	
	by the steel quadrant [per Q. Chalyb.]	30° 33⅓′	
	by the revolving quadrant [per Q. Volub.]	30° 33′	
Declination [Declin.]	by the armillae [per Armill.]	3° 31′	
		3° 31⅓′	

1833

___1834

N. B. The clock was moving 18[m] 5[s] [18′ 5″] faster than it should from noon of the preceding day. [N. B. Horol. 18′ 5″ celerius iuſto mouebatur a Meridie antecedentis diej.][1835]

On 2 March [DIE 2 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel quadrant [per Q. Chalyb.]	30° 57′ 25″	
	by the revolving [quadrant] [per Volub.]	30° 57′ 30″	
	by the Tychonic quadrant [per Q. Tych.]	30° 57¾′	with the new [nouo]
		30° 57⅚′	with the old [vet.]

[1832] *15½* is printed without a unit mark and is given as minutes of time. *iu-* / *ſto* and *veſper-* / *tina* are divided over the lines; the hyphens are not reproduced in the bracket.

[1833] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *vet.* and the first value stand on the line of *Alt. ⊙ Merid.*; *per Q. Tych.* stands on the line below with *nou.* and the second value, and each is kept on its own row; the page does not name an instrument on the first line. These rows end the right column; the lower part of the page is blank. The values, printed without unit marks, are given as degrees and minutes.

[1834] the page is set in two columns divided by a vertical rule; the English gives the left column first.

[1835] this note stands at the head of the left column, above the date line of 2 March, with no date line of its own. *18′ 5″* is given as minutes and seconds of time. *mo-* / *uebatur* is divided over two lines; the hyphen is not reproduced in the bracket.

Reading	Instrument	Value	Remark
[At] 12^{h} 8^{m} [H. 12. 8], declination [Decl.]	by the armillae [per Arm.]	3° 7¼′	
		3° 7⅔′	with the other pinnule [alt. pinnacid.]
[At] 12^{h} 12^{m} [H. 12. 12], declination repeated [Decl. repetita]		3° 7¾′	
		3° 7½′	

1836

On 8 March [DIE 8 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel quadrant [per Q. Chalyb.]	33° 19′	
	by the revolving quadrant [per Q. Volub.]	33° 19$\frac{1}{12}$′	
	by the Tychonic quadrant [per Q. Tych.]	33° 19′	with the new [nouo]
		33° 19⅙′	with the old [vet.]
	by the new sextant [per Sext. nou.]	33° 18½′	
Declination of ☉ [Declin. ☉]	by the armillae [per Arm.]	0° 46′	south [Auſtr.]
		0° 46⅓′	
[At] 12^{h} 6^{m} [H. 12. 6], repeated [repetita]		0° 46′	
		0° 45⅚′	

1837

On 12 March [DIE 12 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	34° 53¼′	
	by the revolving [quadrant] [per Volub.]	34° 53⅓′	
	by the new sextant [per Sext. nou.]	34° 53¾′	

[1836] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *vet.* stands on the line below *nouo*, with the second Tychonic value; *alt. pinnacid.* stands at the left of its line, indented under the label above, with the second declination value. The times are printed with *H.* before the hour and a point after it; the second figure is given as minutes. The values, printed without unit marks, are given as degrees and minutes, and as degrees, minutes and seconds where three figures are printed.

[1837] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The fraction in the revolving-quadrant row is printed 1 over 12. *Auſtr.* stands before the first declination value, at the right of the label line. The values, printed without unit marks, are given as degrees and minutes; the leading *0* is printed.

Reading	Instrument	Value	Remark
Declination [Declin.]	by the armillae [per Armill.]	0° 47½′	north [B.]
		0° 47¼′	

1838

On 14 March [DIE 14 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel quadrant [per Q. Chalyb.]	35° 40⅔′	
	by the revolving quadrant [per Q. Volub.]	35° 41′	
	by the Tychonic quadrant [per Q. Tych.]	35° 40⅚′	
	by the new sextant [per Sext. nou.]	35° 41′	
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armill.]	1° 35⅓′	north [B.]
		1° 35⅔′	

1839

On 15 March [DIE 15 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel quadrant [per Q. Chalyb.]	36° 4¼′	
	by the revolving quadrant [per Q. Volub.]	36° 4¼′	
	by the Tychonic quadrant [per Q. Tych.]	36° 4⅓′	with one pinnule [vno pin.]
	by the new sextant [per Sext. nou.]	36° 4⅔′	
Declination [Declin.]	by the armillae [per Armill.]	1° 59′	
		1° 59¼′	

1840

On 27 March [DIE 27 MARTIJ.]

[1838] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *B.* stands before the first declination value, at the right of the label line. The values, printed without unit marks, are given as degrees and minutes; the leading *0* is printed.

[1839] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *B.* stands before the first declination value, at the right of the label line. The values, printed without unit marks, are given as degrees and minutes.

[1840] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	40° 41½′
	by the Tychonic [quadrant] [per Tychon.]	40° 41⅓′
	by the new sextant [per Sext. nou.]	40° 41⅙′
Declination [Declin.]	by the armillae [per Armillas]	6° 36½′
		6° 36⅛′

1841

On 29 March [DIE 29 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]		41° 25⅚′	with the new [nouo]
	by the Tychonic [quadrant] [per Tych.]	41° 26¼′	with the old [vet.]
	by the new sextant [per Sext. nou.]	41° 26½′	

1842

N. B. The Sun was among clouds. [N. B. Fuit Sol inter nubes.]

On 5 April [DIE 5 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tych.]	43° 59′ 45″	with both [vtroq.]
	by the revolving [quadrant] [per Volub.]	43° 59′ 35″	
	by the steel [quadrant] [per Chalyb.]	43° 59⅔′	
Declination [Declin.]	by the armillae [per Armill.]	9° 54′	north [B.]
		9° 53½′	

1843

[1841] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes. In the last row the fraction is ⅛: its heavily inked denominator is read as 8 on a native-resolution crop, its lower bowl closed on the left where the 3 of the ⅓ above it is open.

[1842] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. This entry opens the right column. *nouo* and the first value stand on the line of *Alt. ⊙ Merid.*; *per Tych.* stands on the line below with *vet.* and the second value, and each is kept on its own row; the page does not name an instrument on the first line. The values, printed without unit marks, are given as degrees and minutes.

[1843] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands alone on its line and is given with the first instrument line. *B.* stands after the first declination value. The values, printed without unit marks, are given as degrees and minutes, and as degrees, minutes and seconds where three figures are printed.

On 16 April [DIE 16 APRILIS.]

Time [H. M.]	☉ from the east [☉ab ortu]	Declination of ☉ [Decl. ☉]	Remark
3^h 23½^m	140° 52′	13° 41½′	
3^h 25⅓^m	141° 20′	13° 41½′	
4^h 6^m	151° 28′	13° 41¼′	
4^h 8⅔^m	152° 10′	13° 41½′	better [melius]

1844

On 27 April [DIE 27 APRILIS.]

Reading	Instrument	Value
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the Tychonic [quadrant] [per Tych.]	51° 0¼′
	by the revolving [quadrant] [per Volub.]	51° 0½′
	by the steel [quadrant] [per Chalyb.]	51° 0¼′
Declination [Decl.]	by the armillae [per Armillas]	16° 54¾′

1845

On 28 April [DIE 28 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the Tychonic [quadrant] [per Tych.]	51° 17⅙′	with both [vtroq.]
	by the steel [quadrant] [per Chalyb.]	51° 16½′	
	by the revolving [quadrant] [per Volub.]	51° 16⅔′	
Declination [Declin.]	by the armillae [per Armillas]	17° 11¼′	
		17° 11½′	

1846

On 1 May [DIE 1 MAIJ.]

1844 the page prints the heads *H. M.*, ☉*ab ortu* and *Decl.* ☉ in smaller type; "Time" and "Remark" are this edition's. *ab ortu* is given as "from the east"; "from the rising [point]" is the literal sense, and the page does not name the quantity measured. *melius*, in smaller type, stands after the last declination value only. The times are given as hours and minutes under *H.* and *M.*; the other values, printed without unit marks, as degrees and minutes.

1845 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

1846 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ☉ *Merid.* stands alone on its line and is given with the first instrument line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	52° 4′
	by the revolving [quadrant] [per Volub.]	52° 3⅔′
	by the mural [quadrant] [per Muralem]	52° 4⅙′
Declination [Declin.]	by the armillae [per Armillas]	17° 58¾′
		17° 59′

1847

On 3 May [DIE 3 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	52° 33¾′	
	by the revolving [quadrant] [per Volub.]	52° 33½′	
	by the Tychonic quadrant [per Q. Tychon.]	52° 33⅝′	
Declination [Declin.]	by the armillae [per Armill.]	18° 29¼′	
		18° 29′	with the other pinnule [alt. pinn.]

1848

On 5 May [DIE 5 MAIJ.]

Reading	Instrument	Value
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the mural [quadrant] [per Mural.]	53° 3¼′
	by the revolving [quadrant] [per Volub.]	53° 2½′
	by the steel [quadrant] [per Chalyb.]	53° 2¾′
Declination [Declin.]	by the armillae [per Armillas]	18° 58′
		18° 58⅓′

1849

___1850

[1847] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1848] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *alt. pinn.* stands at the right of its line before the second declination value, with no label at the left. The values, printed without unit marks, are given as degrees and minutes.

[1849] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. These rows end the right column; the lower part of the page is blank. The values, printed without unit marks, are given as degrees and minutes. In the last row the fraction is ⅓: its heavily inked denominator is read as 3 on a native-resolution crop, open on the left between the waist and the lower terminal.

[1850] the page is set in two columns divided by a vertical rule; the English gives the left column first.

On 10 May [DIE 10 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	54° 8½′	
	by the revolving [quadrant] [per Volub.]	54° 9⅓′	
	by the Tychonic [quadrant] [per Tych.]	54° 9⅔′	with both [vtroque]
Declination [Declin.]	by the armillae [per Armillas]	20° 3⅔′	
		20° 3½′	

1851

On 17 May [DIE 17 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the revolving [quadrant] [per Volub.]	55° 27½′	
	by the steel [quadrant] [per Chalyb.]	55° 27′	
	by the Tychonic [quadrant] [per Tychon.]	55° 28′	with both [vtroque]
Declination [Declin.]	by the armillae [per Armillas]	21° 23′	
		21° 22½′	

1852

[It] was moderately clear [Erat mediocriter ſerenum.].

On 19 May [DIE 19 MAIJ.]

Reading	Instrument	Value
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the Tychonic [quadrant] [per Tych.]	55° 47¼′
		55° 47⅓′
	by the revolving [quadrant] [per Volub.]	55° 47′
	by the steel [quadrant] [per Chalyb.]	55° 46½′
Declination [Declin.]	by the armillae [per Armillas]	21° 42′
		21° 42⅙′

1853

[1851] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1852] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1853] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The second Tychonic value stands on its own line with no words at the left. The values, printed without unit marks, are given as degrees and minutes.

On 23 May [DIE 23 MAIJ.]

Reading	Instrument	Value
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the Tychonic [quadrant] [per Tych.]	56° 21⅙′
	by the revolving [quadrant] [per Volub.]	56° 20½′
	by the steel [quadrant] [per Chalyb.]	56° 20¼′
Declination [Declin.]	by the armillae [per Armillas]	22° 16½′
		22° 16⅔′

1854

On 30 May [DIE 30 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt, ☉ Mer.]	by the mural [quadrant] [per Mural.]	57° 5′ 50″	with both [vtroq.]
	by the revolving [quadrant] [per Volub.]	57° 5¼′	
	by the iron [quadrant] [per Ferreum]	57° 5′	

1855

On 1 June [DIE 1 JUNIJ.]

Reading	Instrument	Value
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the revolving [quadrant] [per Volub.]	57° 14′
	by the iron [quadrant] [per Ferreum]	57° 14½′
	by the Tychonic [quadrant] [per Tych.]	57° 14¾′ [57 14 8/4]
Declination [Declin.]	by the armillae [per Armillas]	23° 10′
		23° 9⅚′

1856

1854 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

1855 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The page prints a comma, not a point, after *Alt.* In *57 5 50* the minutes figure *5* stands to the right of the place the other lines give to the minutes; it is given as minutes. *per Ferreum* prints no noun; "[quadrant]" is this edition's supply, and the page does not say which iron instrument is meant. The values, printed without unit marks, are given as degrees and minutes, and as degrees, minutes and seconds where three figures are printed.

1856 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The fraction in the Tychonic row is printed 8 over 4: the numerator is printed as an 8 (8/4), closed on both sides, confirmed on a native-resolution crop against the 3 of the ¾ of 3 June; 8/4 is not a meaningful fraction here, and it is given as ¾. The values, printed without unit marks, are given as degrees and minutes.

On 3 June [DIE 3 JUNIJ.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid]	by the mural [quadrant] [per Mural.]	57° 22′
	by the revolving [quadrant] [per Volub.]	57° 22′
	by the iron [quadrant] [per Ferreum]	57° 21¾′
Declination of ⊙ [Declin. ⊙]		23° 17⅓′

1857

On 8 June [DIE 8 JUNIJ.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	57° 32½′
	by the steel [quadrant] [per Chalyb.]	57° 32¾′
	by the mural [quadrant] [per Muralem]	57° 33′
Declination [Declin.]	by the armillae [per Armillas]	23° 28⅓′
		23° 28¼′

1858

On 9 June [DIE 9 JUNIJ.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	by the iron [quadrant] [per Ferreum]	57° 34′
	by the revolving [quadrant] [per Volub.]	57° 34′
	by the mural [quadrant] [per Mural.]	57° 35′
Declination [Declin.]	by the armillae [per Armill.]	23° 29¾′
		23° 29⅚′

1859

On 10 June, A. M. [DIE 10 JUNIJ A. M.]

1857 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. No point is printed after *Merid.* The declination line names no instrument. The values, printed without unit marks, are given as degrees and minutes.

1858 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. These rows end the left column. The values, printed without unit marks, are given as degrees and minutes.

1859 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. This entry opens the right column. The values, printed without unit marks, are given as degrees and minutes.

Declination of ⊙ [Declin. ⊙]	Altitude of ⊙ [Altitudo ⊙]	Azimuth from the meridian [Azim. a Mer.]
23° 36¾′	6° 26′	
23° 36½′	6° 53′	
23° 36½′	7° 3′	
23° 36⅓′	7° 10′	
23° 36′	7° 22½′	121° 40′
23° 35⅔′	7° 42′	121° 10′
23° 35½′	8° 5′	120° 35′
23° 35′	8° 21′	120° 12′
23° 34½′	8° 32′	119° 50′
23° 33¾′	8° 44′	119° 30′
23° 33⅓′	9° 1′	119° 0′
23° 33′	9° 32′	118° 10′
23° 32¾′	10° 0′	117° 26′
23° 32¾′	10° 22′	116° 55′
23° 32½′	11° 0′	115° 55′
23° 32⅓′	12° 0′	114° 20′
23° 32′	13° 0′	112° 50′
23° 31⅔′	14° 40′	110° 18′

1860

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	…[1] […[1]]	57° 35′
	… […]	57° 34⅝′
	by the mural [quadrant] [per Muralem]	57° 35½′
Declination of ⊙ [Declin. ⊙]		23° 30½′
		23° 30¾′

1861

On 11 June [DIE 11 JUNIJ.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	by the Tychonic quadrant [per Q. Tych.]	57° 35′ 35″
	by the revolving quadrant [per Q. Volub.]	57° 35′ 30″
Declination of ⊙ [Declin. ⊙]	by the subterranean armillae [per Arm. fubt.]	23° 30½′

[1860] the three heads are the page's, printed in smaller type. *a Mer.* is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; "from the south" is the other construal. The first four rows carry no azimuth. The values, printed without unit marks, are given as degrees and minutes.

[1861] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. These lines follow the 10 June table with no new date line. Three points stand where an instrument name stands in other lines, on the first line with the footnote cue and on the second line alone. The declination lines name no instrument. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
		23° 30⅚′

1862

The same day, P. M. [Eodem die P. M.]

Declination of ⊙ [Decl. ⊙]	Altitude of ⊙ [Alt. ⊙]	Reckoning
23° 31′	17° 10′	*57° 35′ 30″*
23° 31¼′	16° 40′	*1′ 35″*
23° 31¼′	16° 0′	*57° 37′ 0″*
23° 31⅔′	15° 0′	*34° 5′ 10″*
23° 31′	14° 0′	*23° 31′ 50″*

1863

On 12 June [DIE 12 JUNIJ.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the mural [quadrant] [per Mural.]	57° 35⅔′
	by the revolving [quadrant] [per Volub.]	57° 35′
	by the iron [quadrant] [per Ferreum]	57° 35¾′
Declination [Declin.]	by the armillae [per Armill.]	23° 31½′
		23° 31′

1864

[1] No mention of the instrument in codex D. [Nulla mentio inſtrumenti in codice D.]

___1865

1862 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes, and as degrees, minutes and seconds where three figures are printed.

1863 the heads of the first two columns are the page's, printed in smaller type; "Reckoning" is this edition's head for the third group, which the page sets in italic, with no head, on the same lines as the first two. A horizontal rule is printed under *1 35* and another under *34 5 10*, each spanning the italic group only. *1 35* stands with *1* under the minutes and *35* under the seconds of the line above, and is given as minutes and seconds by that position; the other italic values, printed as three figures without unit marks, as degrees, minutes and seconds. The values of the first two columns are given as degrees and minutes. In the reckoning, 57 35 30 and 1 35 add to 57° 37′ 5″, while the sum is printed 57 37 0; the next line closes (57 37 0 less 34 5 10 gives 23 31 50). The seconds of every line are confirmed on a native-resolution crop; the figures are given as printed, and no correction is made.

1864 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. These rows end the right column. The values, printed without unit marks, are given as degrees and minutes.

1865 the page is set in two columns divided by a vertical rule; the English gives the left column first.

The same day, P. M. [Eodem die P. M.]

Declination of ⊙ [Decl. ⊙]	Altitude of ⊙ [Altit. ⊙]	Azimuth from the meridian toward the west [Azim. a mer. ad occ.]	Reckoning
23° 31½′	11° 15′		
23° 32¼′	11° 0′	116° 9′	
23° 32¾′	10° 45′	116° 35′	
23° 33′	10° 30′	117° 15′	
23° 33½′	9° 24′	118° 48′	*57° 35′*
23° 34′	8° 52′	119° 40′	*1′ 34″*
23° 34½′	8° 12′	120° 38′	*57° 36′ 34″*
23° 34¾′	7° 39′	121° 35′	*34° 5′ 15″*
23° 35¼′	6° 55′	122° 50′	*23° 31′ 20″*
23° 35¾′	5° 59′	124° 28′	*Greatest declination [Decl. Max.]*

1866

On 13 June [DIE 13 JUNIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	by the Tychonic [quadrant] [per Tych.]	57° 35′	with both [vtroq.]
	by the revolving [quadrant] [per Volub.]	57° 34½′	
	by the steel [quadrant] [per Chalyb.]	57° 34⅓′	
Declination [Declin.]	by the armillae [per Armillas]	23° 31′	
		23° 30¾′	

1867

[1866] the page continues the 12 June entry with this heading. The first three heads are the page's, printed in smaller type, the third on two lines; "Reckoning" is this edition's head for the fourth group, which the page sets in italic, with no head, on the same lines as the first three. *a mer.* is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; "from the south" is the other construal. The first row carries no azimuth. A horizontal rule is printed under *1 34* and another under *34 5 15*, each spanning the italic group only. *1 34* stands with *1* under the *35* of the line above and *34* to the right of it, and is given as minutes and seconds by that position; *57 35*, printed as two figures, as degrees and minutes; the other italic values, printed as three figures, as degrees, minutes and seconds. The values of the first three columns, printed without unit marks, are given as degrees and minutes. In the reckoning, 57 36 34 less 34 5 15 gives 23° 31′ 19″, while the difference is printed 23 31 20; the sum above it closes (57 35 and 1 34 give 57 36 34). The seconds are confirmed on a native-resolution crop; the figures are given as printed, and no correction is made.

[1867] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

The same day, P. M. [Eodem die P. M.]

Declination of ☉ [Decl. ☉]	Altitude of ☉ [Altit. ☉]	Azimuth from the meridian toward the west [Azim. a mer. ad occ.]
23° 33½′	6° 44′	123° 7′
23° 33⅔′	6° 15′	123° 57′
23° 35′	5° 42′	124° 55′
23° 35½′	4° 54′	126° 25′
23° 36′	4° 30′	127° 6′
23° 37′	4° 10′	127° 38′

1868

On 14 June [DIE 14 JUNIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Mer.]	by the Tychonic [quadrant] [per. Tych.]	57° 33⅔′	with both [vtroq.]
	by the revolving [quadrant] [per Volub.]	57° 33′	
	by the steel [quadrant] [per Chalyb.]	57° 33′	
Declination [Declin.]	by the armillae [per Armill.]	23° 28½′	
		23° 28¼′	

1869

Declination of ☉ [Declin. ☉]	Altitude of ☉ [Altit. ☉]	Azimuth from the meridian toward the west [Azim. a Mer. ad occ.]
23° 30½′	9° 17′	118° 50′
23° 31′	8° 52′	119° 29′
23° 31⅔′	8° 30′	120° 7′
23° 32′	8° 19′	120° 20′
23° 35¼′	4° 42′	126° 41′
23° 36′	4° 12′	127° 35′
23° 36⅔′	3° 53′	128° 10′
23° 37′	3° 46′	128° 25′
23° 37⅓′	3° 38′	128° 41′
23° 37½′	3° 24′	129° 3½′
23° 37¾′	3° 17′	129° 22′
23° 38′	3° 7′	129° 38′

[1868] the three heads are the page's, printed in smaller type, the third on two lines; *a mer.* is given as under the 12 June afternoon table. The values, printed without unit marks, are given as degrees and minutes.

[1869] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. A point is printed after *per*. The values, printed without unit marks, are given as degrees and minutes.

Declination of ⊙ [Declin. ⊙]	Altitude of ⊙ [Altit. ⊙]	Azimuth from the meridian toward the west [Azim. a Mer. ad occ.]
23° 38¾′	2° 53′	130° 8′
23° 39¼′	2° 42′	130° 31′
23° 39¾′	2° 32′	130° 48′
23° 40¼′	2° 27′	131° 2′
23° 41′	2° 17′	131° 19′
23° 41½′	2° 5′	131° 49′
23° 42′	1° 57′	132° 3′
23° 43′	1° 50′	132° 19′
23° 44½′	1° 39′	132° 40′
23° 45½′	1° 29′	133° 9′

1870

On 15 June, A. M. [DIE 15 JUNIJ A. M.]

Declination of ⊙ [Declin. ⊙]	Altitude of ⊙ [Altit. ⊙]	Azimuth, east [Azim. or.]
23° 30¾′	9° 30′	118° 12′
23° 30¾′	9° 59′	117° 21′
23° 30⅔′	10° 18′	116° 50′
23° 30½′	10° 31′	116° 30′
23° 30′	13° 30′	111° 59′
23° 30′	13° 47′	111° 30′
23° 29⅚′	13° 45′	109° 59′
23° 29⅚′	15° 1′	109° 40′

1871

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	by the Tychonic [quadrant] [per Tych.]	57° 32⅙′	with the old [vet.]
		57° 32½′	with the new [nouo]
	by the revolving [quadrant] [per Volub.]	57° 32′	
Declination [Decl.]	by the armillae [per Armillas]	23° 27½′	

[1870] the three heads are the page's, printed in smaller type, the third on two lines, here with *Mer.* in capitals; *a Mer.* is given as under the 12 June afternoon table. The table follows the 14 June entry with no date line or other heading. Its first twelve rows end the left column; the rows from 23° 38¾′ on stand at the head of the right column, with no heading of their own, under the places of the same three groups. The values, printed without unit marks, are given as degrees and minutes.

[1871] the three heads are the page's, printed in smaller type. The values, printed without unit marks, are given as degrees and minutes.

1872

On 14 July [DIE 14 JULIJ.]

Reading	Instrument	Value	Remark
Meridian altitude [Alt. Mer.]	by the Tychonic [quadrant] [per Tych.]	53° 59¼′	with both [vtroq.] nearly [fere]
	by the revolving [quadrant] [per Volub.]	53° 59′	
	by the steel [quadrant] [per Chalyb.]	53° 58¾′	
Declination [Declin.]	by the armillae [per Armillas]	19° 53½′	
		19° 53¾′	

1873

On 18 July [DIE 18 JULIJ.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	by the mural [quadrant] [per Mural.]	53° 6⅙′
		53° 5⅚′
	by the revolving [quadrant] [per Volub.]	53° 6′
	by the iron [quadrant] [per Ferreum]	53° 5½′
Declination [Declin.]	by the armillae [per Armillas]	19° 1′
		19° 1½′

1874

On 25 July [DIE 25 JULIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	by the Tychonic [quadrant] [per Tych.]	51° 20⅙′	with the old [vet.]
		51° 20¼′	with the new [nouo]
	by the revolving [quadrant] [per Volub.]	51° 20′	
	by the iron [quadrant] [per Ferreum]	51° 19¾′	

[1872] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. These lines follow the 15 June table with no new date line. *nouo* stands on the line below *vet.*, with the second Tychonic value. The values, printed without unit marks, are given as degrees and minutes.

[1873] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. No ⊙ is printed in the first label. *fere* stands alone on the line below the first value, at the right. The values, printed without unit marks, are given as degrees and minutes.

[1874] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The second mural-quadrant value stands on its own line with no words at the left. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armillas]	17° 15½′ 17° 15′	

1875

___1876

On 2 August [DIE 2 AUGUSTI.]

Reading	Instrument	Value
Altitude of ⊙ [Alt. ⊙]	by the revolving quadrant [per Q. Volub.]	49° 3′
	by the iron quadrant [per Q. Ferreum]	49° 2⅝′
Declination [Declin.]	by the armillae [per Armillas]	14° 57½′
		14° 58′

1877

On 5 August [DIE 5 AUGUSTI.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	by the revolving [quadrant] [per Volub.]	48° 8′
	by the iron [quadrant] [per Ferreum]	48° 7½′
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armillas]	14° ½′[1] [14 ½[1]]
		14° ¼′ [14 ¼]

1878

On 9 August [DIE 9 AUGUSTI.]

[1875]"Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *nouo* stands on the line below *vet.*, with the second Tychonic value. These rows end the right column; the lower part of the page is blank. The values, printed without unit marks, are given as degrees and minutes.

[1876]the page is set in two columns divided by a vertical rule; the English gives the left column first.

[1877]"Reading", "Instrument" and "Value" are this edition's heads; the page prints none. On this page *Q.* stands before some instrument names and not before others; where it is not printed, "[quadrant]" is this edition's supply, and the page's own *per Q. Ferreum* is given as "by the iron quadrant". No *Mer.* is printed in the first label. The values, printed without unit marks, are given as degrees and minutes.

[1878]"Reading", "Instrument" and "Value" are this edition's heads; the page prints none. In both declination rows no minutes figures are printed: only the fraction stands in the place of the minutes (see footnote 1). The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Mer.]	by the Tychonic [quadrant] [per Tych.,]	46° 50⅚′	with both [vtroq.]
	by the revolving [quadrant] [per Volub.]	46° 50½′	
	by the iron [quadrant] [per Ferreum]	46° 50′	
Declination [Declin.]	by the armillae [per Armillas]	12° 45′	
		12° 44¾′	

1879

On 10 August [DIE 10 AUGUSTI.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Mer.]	by the Tychonic [quadrant] [per Tych.]	46° 30′ 55″	with the new [nou.]
		46° 31′ 0″	with the old [vet.]
	by the sextant [per Sext.]	46° 31′	
	by the revolving quadrant [per Q. Volub.]	46° 30⅔′	
	by the iron quadrant [per Q. Ferreum]	46° 30½′	
Declination [Decl.]	by the greater armillae [per Armill. mai.]	12° 25½′	
		12° 25¼′	

1880

On 11 August [DIE 11 AUGUSTI.]

Reading	Instrument	Value
Meridian altitude of ☉ [Alt. ☉ Mer.]	by the Tychonic quadrant [per Q. Tych.]	46° 10¼′
		46° 10⅔′
	by the sextant [per Sext.]	46° 10¾′ [46 10 8/4]
	by the revolving quadrant [per Q. Volub.]	46° 10′
	by the iron quadrant [per Q. Ferreum]	46° 9¾′
Declination of ☉ [Declin. ☉]	by the armillae [per Armillas]	12° 6′
		12° 5½′

[1879] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1880] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *vet.* stands on the line below *nou.*, with the second Tychonic value. The two Tychonic values, printed as three figures, are given as degrees, minutes and seconds; the other values, printed as two figures without unit marks, as degrees and minutes.

1881

On 14 August [DIE 14 AUGUSTI.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Mer.]	by the Tychonic [quadrant] [per Tych,]	45° 9½′	with both [vtroq.]
	by the steel quadrant [per Q. Chalyb.]	45° 9¼′	
	by the revolving quadrant [per Q. Volub.]	45° 9¼′	
	by the new sextant [per Sext. nou.]	45° 9⅝′	
Declination [Declin.]	by the armillae [per Armillas]	11° 4½′	
		11° 4′	

1882

On 23 August [DIE 23 AUGUSTI.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Mer.]	by the Tychonic [quadrant] [per Tych.]	41° 57′	with the old [vet.]
		41° 57⅙′	with the new pinnule [nouo pin.]
	by the sextant [per Sext.]	41° 57⅓′	

1883

On 28 August [DIE 28 AUGUSTI.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Mer.]	by the steel quadrant [per Q. Chalyb.]	40° 5½′	
	by the revolving quadrant [per Q. Volub.]	40° 5½′	

[1881] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The second Tychonic value stands on its own line with no words at the left. The fraction in the sextant row is printed 8 over 4, the numerator closed on both sides like an 8; on a native-resolution crop it is probably an 8, but it is not separated from a heavily inked 3 on this copy. Either way the value is given as ¾ (8/4 is not a meaningful fraction here), and the printed form is kept in the bracket. The values, printed without unit marks, are given as degrees and minutes.

[1882] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Tych* is printed with no point, followed by a space and a comma. The values, printed without unit marks, are given as degrees and minutes.

[1883] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *nouo pin.* stands on the line below *vet.*, with the second Tychonic value. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
	by the mural quadrant [per Q. Mural.,]	40° 5¾′ [40 5 8/4]	with both [vtroque]
	by the trigonal sextant [per Sext. Trig.]	40° 5⅓′	
	by the azimuthal semicircle [per Semicircul. Azim.]	40° 5′	
			not yet sufficiently corrected [nondum ſatis correctum]
Declination [Declin.]	by the armillae [per Armillas]	6° 0′	
	well [bene]	6° 0⅙′	

1884

[It] was very clear indeed. [Erat bene admodum ſerenum.]

On 1 September [DIE 1 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	38° 34⅓′	
	by the revolving quadrant [per Q. Volub.]	38° 34¾′	
	by the mural quadrant [per Q. Mural.]	38° 34 2/[?]′	
		38° 34½′	
	by the trigonal sextant [per Sext. Trig.]	38° 35′	
Declination [Decl.]	by the armillae [per Armill.,]	4° 29′	with one pinnule [vno pin.]
		4° 28½′	with the other [altero]

1885

[1884] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The first two rows end the left column; the rows from the mural quadrant on stand at the head of the right column, with no heading of their own. The fraction in the mural-quadrant row is printed 8 over 4, the numerator closed on both sides like an 8; on a native-resolution crop it is probably an 8, but it is not separated from a heavily inked 3 on this copy. Either way the value is given as ¾ (8/4 is not a meaningful fraction here), and the printed form is kept in the bracket. *Azim.* is given as the adjective "azimuthal"; "the semicircle of azimuth" is the other construal. *nondum ſatis correctum* stands alone on the line below the semicircle row, set to the right, with no figures; the page does not say what it qualifies. *bene* stands in the place of an instrument name, at the left of the second declination. The values, printed without unit marks, are given as degrees and minutes.

[1885] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The second mural-quadrant value stands on its own line with no words at the left. The denominator of the first mural-quadrant fraction is not settled on the scan (3 or 8); the numerator is 2. *altero* stands on the line below *vno pin.*, with the second declination. The values, printed without unit marks, are given as degrees and minutes.

On 6 September [DIE 6 SEPTEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the mural quadrant [per Q. Mural.]	36° 39⅓′
	by the sextant [per Sextant.]	36° 39½′
	by the revolving [quadrant] [per Volub.]	36° 39′
	by the iron quadrant [per Q. Ferreum]	36° 38¾′
Declination [Declin.]	by the armillae [per Armillas]	2° 33½′
		2° 33⅓′

1886

On 7 September [DIE 7 SEPTEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel quadrant [per Q. Chalyb.]	36° 15½′
	by the revolving quadrant [per Q. Volub.]	36° 15′
Declination [Declin.]	by the armillae [per Armillas]	2° 10′
		2° 9⅚′

1887

On 8 September [DIE 8 SEPTEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel quadrant [per Q. Chalyb.]	35° 52′
	by the revolving quadrant [per Q. Volub.]	35° 51¾′
Declination of ⊙ [Declin. ⊙]		1° 46⅔′
		1° 47′

1888

Not sufficiently clear. [Non satis serenum.]

On 12 September [DIE 12 SEPTEMBRIS.]

[1886] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1887] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1888] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. No instrument is named for the declination. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving quadrant [per Q. Volub.]	34° 18′	
	by the steel quadrant [per Q. Chalyb.]	34° 17⅚′	
	by the Tychonic quadrant [per Q. Tych.]	34° 18½′	with the old [vet.]
		34° 19′	with the new [nouo]
	by the new sextant [per Sext. nouum]	34° 18¾′	
	by the azimuthal semicircle [per Semicir. Azim.]	34° 18′	
Declination [Declin.]	by the armillae [per Armillas]	0° 12½′	
		0° 12⅔′	

1889

[1] Minutes are missing in the codex. [Minuta defunt in codice.]
___1890

On 25 September [DIE 25 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude [Alt. Mer.]	by the mural quadrant [per Q. Mural.,]	29° 14⅓′	with both [vtroq.]
	by the sextant [per Sext.]	29° 14⅙′	
	by the revolving [quadrant] [per Volub.]	29° 14¾′	
	by the steel [quadrant] [per Chalyb.]	29° 14′	
Declination [Decl.]	by the subterranean armillae [per Armill. fubterr.]	4° 51¼′	
		4° 51½′	

1891

On 5 October [DIE 5 OCTOBRIS.]

Reading	Instrument	Value
Meridian altitude [Alt. Merid.]	by the mural [quadrant] [per Mural.]	25° 26½′

1889 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *nouo* stands on the line below *vet.*, with the second Tychonic value. *Azim.* is given as on 28 August. The leading *0* of the declinations is printed. These rows end the right column. The values, printed without unit marks, are given as degrees and minutes.

1890 the page is set in two columns divided by a vertical rule; the English gives the left column first.

1891 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. Mer. per Q. Mural.,* stands on a line of its own; *vtroq.* and the first value stand on the line below; the label is given whole on the first row. No ⊙ is printed in the labels of this entry. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
		25° 26¾′
	by the sextant [per Sext.]	25° 27′

1892

On 16 October [DIE 16 OCTOBRIS.]

Reading	Instrument	Value
Meridian altitude [Alt. Merid.]	by the mural [quadrant] [per Mural.]	21° 30′
		21° 30⅓′
	by the sextant [per Sextant.]	21° 30⅔′

1893

On 17 October [DIE 17 OCTOBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude [Alt. Mer.]	by the Tychonic quadrant [per Q. Tych.,]	21° 10′	with the old [vet.]
		21° 10⅓′	with the new [nouo]
	by the new sextant [per Sext. nouum]	21° 10½′	
	by the revolving [quadrant] [per Volub.]	21° 10′	
Declination [Declin.]	by the armillae [per Armillas]	12° 55½′	
		12° 55¼′	

1894

On 19 October [DIE 19 OCTOBRIS.]

⊙ from the east [⊙ ab ortu]	Declination of ⊙ [Decl. ⊙]	Altitude of ⊙ [Alt. ⊙]
26° 0′	13° 22½′ south [M.]	2° 55′
26° 55′	13° 24½′	3° 21′
30° 20′	13° 26⅔′	4° 43′

1892 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

1893 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

1894 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *nouo* stands on the line below *vet.*, with the second Tychonic value. The values, printed without unit marks, are given as degrees and minutes.

1895

Reading	Instrument	Value	Remark
Meridian altitude [Alt. Mer.]	by the Tychonic quadrant [per Q. Tych.,]	20° 30′	with the new [nouo]
		20° 29⅚′	with the old [vet.]
	by the revolving quadrant [per Q. Volub.]	20° 30′	
	by the new sextant [per Sext. nouum]	20° 30½′	
Declination [Declin.]	by the armillae [per Armillas]	13° 36′	

1896

On 21 October [DIE 21 OCTOBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude [Alt. Mer.]	by the Tychonic quadrant [per Q. Tych.,]	19° 50⅙′	with the old [vet.]
		19° 50¼′	with the new [nouo]
	by the revolving [quadrant] [per Volub.]	19° 50¼′	
	by the new sextant [per Sext. nouum]	19° 50⅓′	
Declination [Decl.]	by the armillae [per Armillas]	14° 4½′	
		14° 4⅔′	

1897

On 26 October, A. M. [DIE 26 OCTOBRIS A. M.]

Time	Remark	Declination of ⊙ [Decl. ⊙]	Altitude of ⊙ [Alt. ⊙]
8h 38m [H. 8 38′]		*15° 41′*	
8h 40m		*15° 41½′*	
8h 50m		*15° 43′*	*7° 40′*
8h 53m	*with the other [altero]*	*15° 42¾′*[1] *[15 42¾′]*	*7° 50′*
11h 39m	*with one [vno]*	*15° 48½′*	
	with the other [altero]	*15° 48⅓′*	

[1895] the three heads are the page's, printed in smaller type. *ab ortu* is given as "from the east", as the work gives *verſus occaſum* "toward the west"; "from the rising" is the literal sense. The page does not say what the first column measures. *M.* stands after the first declination only. The values, printed without unit marks, are given as degrees and minutes.

[1896] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. These lines follow the 19 October table with no new date line. *nouo* follows *Tych.,* on the first line; *vet.* stands on the line below, with the second Tychonic value. The values, printed without unit marks, are given as degrees and minutes.

[1897] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *nouo* stands on the line below *vet.*, with the second Tychonic value. The values, printed without unit marks, are given as degrees and minutes.

Time	Remark	Declination of ⊙ [Decl. ⊙]	Altitude of ⊙ [Alt. ⊙]

1898

Reading	Instrument	Value
Around noon, altitude [Circa Merid. Alt.]	*by the revolving [quadrant] [per Volub.]*	*18° 16′ 40″*
	by the mural [quadrant] [per Mural.]	*18° 16′ 45″*
	by the sextant [per Sext.]	*18° 16′ 50″*
	by the semicircle [per Semicirc.]	*18° 16′ 30″*

1899

Time	Reading	Value	Remark
11^h 58^m	*Declination of ⊙ [Decl. ⊙]*	*15° 49′*	*with one [vno]*
		15° 48⅚′	*with the other [alt.]*
	Declination of ⊙ around noon [Decl. ⊙ circa merid.]	*15° 49′*	*with one [vno]*
		15° 48¾′	*with the other [alt.]*
	True declination of ⊙ at noon [Vera ⊙ declin. in Meridie]	*15° 49′*	

1900

The clock was being corrected, and weights were being attached to the uppermost wheel, and this at the hour by the Sun 12^h 17^m, by the armillae. [Horologium emendabatur, apponebanturque pondera ſupremæ rotæ, idque hora ad ſolem 12 17 per Armillas.]

Noon was at 12^h 42⅓^m on the greater clock, which we have used here before; but it had been corrected at the hour 9½, therefore in an interval of 3½ it was moving too fast

1898 "Time" and "Remark" are this edition's heads. The page prints *Decl.* ⊙ once, on the first line after the time, and *Alt.* ⊙ once, before the first altitude; they are given here as the heads of their columns. The first two rows end the left column; the rows from 8^h 50^m on stand at the head of the right column, with no heading of their own. The whole entry is set in italic. The times, printed with *H.* and a minute mark on the first line only, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes.

1899 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Circa Merid.* is given as "around noon", as the work gives *Circa Meridiem*; "around the meridian" is the other construal. The values, printed as three figures without unit marks, are given as degrees, minutes and seconds.

1900 "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *alt.* stands below *vno* and is given as "with the other", as the work gives *alt. pin.*; it is not the abbreviation for altitude here. The time, printed without unit marks, is given as hours and minutes; the other values as degrees and minutes.

by 42½^{m}. [H. 12 42⅓ fuit Meridies in Horologio maiori quo hic antea vſi ſumus; erat autem correctum hora 9½, ergo interuallo 3½ nimis cito mouebatur minutis 42½.][1901]

On 27 October [DIE 27 OCTOBRIS.]

Time	Event
7^{h} 33^{m} 30^{s} [H. 7 33′ 30″]	⊙ began to rise [incepit ⊙ oriri]
7^{h} 36^{m} 29^{s}	⊙ was rising half-way [medius ⊙ oriebatur]
7^{h} 40^{m} 15^{s}	⊙ has risen entirely. [⊙ totus eſt ortus.]

1902

On 6 November [DIE 6 NOUEMBRIS.]

Time	Event
7^{h} 56^{m} 50^{s} [H. 7 56′ 50″]	⊙ was seen to rise [viſus eſt ⊙ oriri]
7^{h} 59^{m} 0^{s}	⊙ was rising half-way [Medius ⊙ oriebatur]
8^{h} 1^{m} 45^{s}	⊙ entirely risen [Totus ortus ⊙]

1903

There were clouds a little above the Sun. [Erant nubes paulo ſupra Solem.]

Note. At the noon soon following, the clock was moving faster than it should by 16⅔ minutes; this error, which is to be corrected, came from the hour 6¾, when it was being corrected by the stars. [Nota. Horologium in Meridie mox ſequente mouebatur iuſto citius minutis 16⅔, qui error emendandus venit ab hora 6¾ quando emendabatur ad ſtellas.][1904]

[1901] *12 17*, printed without unit marks after *hora*, is given as hours and minutes. *H. 12 42⅓ fuit Meridies in Horologio* is given as "Noon was at 12^{h} 42⅓^{m} on the clock"; "At 12^{h} 42⅓^{m} it was noon on the clock" is the other construal. The unit of *interuallo 3½* is not printed; hours, the unit of *hora 9½* in the same clause, is the natural reading, but the page's own times give 3^{h} 12⅓^{m} on the clock (2^{h} 30^{m} true), so the figure is left without a unit. The same paragraph puts noon at 12 42⅓ on the clock and gives the clock as too fast by 42½ minutes; both figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

[1902] "Time" and "Event" are this edition's heads; the page prints none. The first time is printed with *H.* and minute and second marks; the others, printed without marks, are given as hours, minutes and seconds. *medius ⊙ oriebatur* is given as "⊙ was rising half-way", as the work gives *Medius oriebatur*; "the middle of ⊙ was rising" is the other construal.

[1903] "Time" and "Event" are this edition's heads; the page prints none. In the last row *8* and *1* are italic and *45* upright. The first time is printed with *H.* and minute and second marks; the others, printed without marks, are given as hours, minutes and seconds.

[1904] *qui error emendandus venit* is given as "this error, which is to be corrected, came", the gerundive kept; "which error comes to be corrected from the hour 6¾" is the other construal. *ad ſtellas* is given as "by the stars", as *ad ſolem* above is "by the Sun".

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	*by the revolving quadrant [per Q. Volub.]*	*15° 14′*	
	by the steel [quadrant] [per Chalyb.]	*15° 14⅙′*	
			after the new division of the steel [quadrant] [poſt nouam diuiſionem Chalybei.]
Declination of ⊙ [Decl. ⊙]	*by the armillae [per Armillas]*	*18° 51⅓′* south [M.]	

1905

On 25 November [DIE 25 NOUEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving quadrant [per Q. Volub.]	11° 40¾′	
	by the iron quadrant [per Q. Ferreum]	11° 41½′	
			[It] was not yet sufficiently verified. [Nondum erat ſatis verificatus.]
	by the mural [quadrant] [per Muralem]	11° 39⅝′	
Declination of ⊙, south [Declin. ⊙ Merid.]		22° 25½′	

1906

[1] You will find other observations of the declination of the Sun below, among the observations of Venus. [Alias obſeruationes declinationis Solis infra inter obſeruationes Veneris invenies.]

___1907

1905 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *poſt nouam diuiſionem Chalybei.* stands alone on the line below the steel-quadrant value, with no figures. These lines are italic except *M.*, which is roman. The values, printed without unit marks, are given as degrees and minutes.

1906 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Nondum erat ſatis verificatus.* stands alone on the line below the iron-quadrant value, with no figures; *verificatus* is masculine, and the page does not name its subject. *Merid.* stands after the declination label, not after the value, and is given as "south", as the work gives *M.* / *Merid.* after a declination value; the entry is dated 25 November, when the declination of ⊙ is south. "Meridian" (a declination taken in the meridian), as with *Alt. ⊙ Merid.* above, is the other construal. No instrument is named for the declination. These rows end the right column. The values, printed without unit marks, are given as degrees and minutes.

1907 the page is set in two columns divided by a vertical rule; the English gives the left column first.

On 5 December [DIE 5 DECEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the revolving quadrant [per Q. Volub.]	10° 49⅓′
	by the iron quadrant [per Q. Ferreum]	10° 56⅙′
	by the Tychonic quadrant [per Q. Tych.]	10° 49⅚′
Declination of ☉, south [Declin. ☉ auſt.]		23° 16′
		23° 16½′

1908

At noon the clock was moving faster than it should by 8⅚^{m} from the hour 5 in the morning, at which it was being corrected by the stars. [Horologium in meridie iuſto citius mouebatur 8⅚′ ab hora 5 matutina, qua corrigebatur ad ſtellas.][1909]

On 6 December [DIE 6 DECEMBRIS.]

Time [Tempus]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ from the meridian toward the east [Azim. ☉ a mer. ad ort.]	Remark	Declination of ☉ [Declin. ☉]
9^{h} 20⅙^{m}	3° 33′		with one [vno]	23° 10½′
9^{h} 23⅙^{m}	3° 56′		with the other [altero]	23° 11′
9^{h} 28½^{m}	4° 21′			23° 12⅓′
9^{h} 45½^{m}	5° 32′	31° 24′		23° 15½′
9^{h} 56^{m}	6° 18′	29° 5′		23° 15′
9^{h} 58^{m}	6° 26′	28° 40′		23° 17⅓′

1910

Note. At the noon soon following, the clock was moving faster than it should by only 4^{m}; this error is to be imputed to it from the hour 5⅓ in the morning, at which it was being corrected, and from this the preceding times can be rectified. [Nota. Horologium in Meridie mox ſequente ſaltem 4 ſcrupulis primis iuſto celerius mouebatur, qui error illi ab hora 5⅓ matutina,qua

[1908] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *auſt.* stands in the label line, after ☉. No instrument is named for the declination. The values, printed without unit marks, are given as degrees and minutes.

[1909] 8⅚′, printed with a mark like a minute sign, is a time and is given as minutes of time.

[1910] the four heads are the page's, printed in smaller type over two lines; "Remark" is this edition's head for the column holding *vno* and *altero*, which stand before the declination figures. No azimuth is printed in the first three rows. *a mer. ad ort.* is given as "from the meridian toward the east", as the work gives *Azim. a Mer.* "Azimuth from the meridian" and *ab ortu* "from the east". The times, printed without unit marks, are given as hours and minutes; the other values as degrees and minutes.

corrigebatur, imputandus venit, atque hinc rectificari poßunt antecedentia tempora.][1911]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	10° 46¼′
	by the revolving [quadrant] [per Volub.]	10° 45½′
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armillas]	23° 18½′
		23° 19′

1912

On 7 December [DIE 7 DECEMBRIS.]

The clock was being corrected in the morning at the hour 5½. [Horologium emendabatur mane hora 5½.]

Time	Event
8^h $30\frac{5}{6}^m$ [H. 8 M. 30⅚]	⊙ was beginning to rise [incipiebat ⊙ oriri]
8^h $34\frac{1}{6}^m$	half of ⊙ was seen [videbatur dimidium ⊙]
8^h $36\frac{1}{6}^m$	⊙ appeared entirely risen. [⊙ totus apparebat exortus.]

1913

On 14 December [DIE 14 DECEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic quadrant [per Q. Tych.]	10° 41½′
	by the steel quadrant [per Q. Chalyb.]	10° 44′
	by the wooden revolving quadrant [per Q. Volub. lign.]	10° 42¼′
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armillas]	23° 23′
		23° 22⅔′
Declination repeated [Declin. repetita]		23° 23′
		23° 22½′

[1911] *ſaltem* is given as "only", as the work gives *ſaltem* where no lower-bound word follows; "at least" is the other construal. *4 ſcrupulis primis*, "4 first minutes", is given as minutes of time. *imputandus venit* is given as "is to be imputed", the gerundive kept; "comes to be imputed" is the more literal sense.

[1912] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. These lines follow the note with no new date line. The values, printed without unit marks, are given as degrees and minutes.

[1913] "Time" and "Event" are this edition's heads; the page prints none. The first time is printed with *H.* and *M.*; the others, printed without marks, are given as hours and minutes. *videbatur dimidium* ⊙ is given as "half of ⊙ was seen"; "half of ⊙ seemed [risen]" is the other construal.

1914

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

On 15 December [DIE 15 DECEMBRIS.]

Time [Tempus]	Altitude of ⊙ [Altit. ⊙]	Azimuth of ⊙ [Azim. ⊙]	Remark	Declination of ⊙ [Declin. ⊙]
9^h $17\frac{1}{3}^m$	3° 52′	36° 1′		23° 15′
9^h 22^m	4° 19′	34° 59′		23° 15½′
9^h 26^m	4° 37′	34° 11′		23° 15½′
			with the other [alt.]	23° 16′
9^h $32\frac{2}{3}^m$	5° 6′	32° 36′		23° 17′
			with the other [alt.]	23° 16½′
9^h $43\frac{5}{6}^m$	5° 57′	30° 10′		23° 17½′
9^h $51\frac{1}{2}^m$	6° 26′	28° 32′		23° 17½′
10^h 0^m	7° 0′	26° 34′		23° 18′
10^h $4\frac{2}{3}^m$	7° 18′	25° 38′		23° 18½′
10^h 8^m	7° 30′	24° 46′		23° 19′
10^h $22\frac{1}{6}^m$				23° 19½′
10^h $55\frac{1}{6}^m$	9° 43′	13° 53′		23° 20′

1915

At noon the clock was moving slower than it should by about 7^m; this error accrued to it from the hour 5½ before noon of this day, at which the clock was being rectified. [Horologium in Meridie mouebatur iuſto tardius circa 7 Minut. qui error illi acceßit ab Hora 5½ huius diej antemerid.qua horologium rectificabatur.][1916]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving quadrant [per Q. Volub.]	10° $43\frac{2}{3}$′
	by the steel quadrant [per Q. Chalyb.]	10° 45′
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armillas]	23° 21′

[1914] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *lign.*, printed after *Volub.*, is expanded as *ligneum*, "wooden". No instrument is named for the repeated declination. The values, printed without unit marks, are given as degrees and minutes.

[1915] the four heads are the page's, printed in smaller type; "Remark" is this edition's head for the column holding *alt.*, which stands before the declination figures. The first four rows end the left column; the rows from 9^h $32\frac{2}{3}^m$ on stand at the head of the right column, with no heading of their own, set under the places of the four groups of this table. *alt.* is given as "with the other", as the work gives *alt. pin.*; no *vno* is printed in this table, and the page does not say what *alt.* refers to. The times, printed without unit marks, are given as hours and minutes; the other values as degrees and minutes.

[1916] *antemerid.* is given as "before noon", of a time of day; the work gives *ante Merid.* "before the meridian" elsewhere.

Reading	Instrument	Value
		23° 21⅙′

1917

On 16 December [DIE 16 DECEMBRIS.]

At 6⅓^{h} the clock was being verified. [H. 6⅓ verificabatur Horologium]

[At] 8^{h} 25⅔^{m} ☉ was beginning to rise. [8 25⅔ ☉ incipiebat oriri.]

The middle and the end could not be seen because of clouds. [Medium & finis non poterant conſpici propter nubes.][1918]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel quadrant [per Q. Chalyb.]	10° 47½′	
	by the revolving [quadrant] [per Volub.]	10° 46¾′	
Declination [Declin.]	by the armillae [per Armillas]	23° 18′	
		23° 18⅙′	with the other [altero]

1919

Note. ☉ at noon was moving slower than it should by 8 minutes; this error crept into it from the hour 6⅓. [*Nota. ☉ in Meridie 8 minutis iuſto tardius mouebatur, qui error illi ab hora 6⅓ irrepſit.*][1920]

On 22 December [DIE 22 DECEMBRIS.]

Time	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]	Declination of ☉ [Declin. ☉]
9^{h} 50½^{m}	6° 40′	29° 11′	22° 55′
9^{h} 54⅙^{m}	6° 55′	28° 20′	22° 54⅔′
10^{h} 7½^{m}	7° 42′	25° 35′	22° 55½′

1921

[1917]"Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

[1918]*H. 6⅓* is given as hours; *8 25⅔*, printed without marks, as hours and minutes.

[1919]"Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. No ☉ is printed in the declination label. *altero* stands before the second declination; no *vno* is printed. The values, printed without unit marks, are given as degrees and minutes.

[1920]the note is set in italic. The page prints ☉ as the subject of *mouebatur*, where the other notes on this page name the clock (*Horologium*); it is given as printed.

[1921]the last three heads are the page's, printed in smaller type; "Time" is this edition's head, the page printing nothing over the first column. The times, printed without unit marks, are given as hours and minutes; the other values as degrees and minutes.

At noon the clock was moving faster than it should by $4\frac{5}{6}^{m}$; but it had been moderately well corrected by the Sun at the hour 9 before noon. [Horologium in Meridie 4⅚′ iuſto citius mouebatur, fuit autem Hora 9 antemerid. mediocriter correctum ad Solem.][1922]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel quadrant [per Q. Chalyb.]	11° 9½′
	by the revolving quadrant [per Q. Volub.]	11° 8¾′
	by the mural quadrant [per Q. Mural.]	11° 8⅓′
Declination of ⊙ [Declin. ⊙]		22° 56⅙′
	with the other [alt.]	22° 56½′

1923

On 26 December [DIE 26 DECEMBRIS.]

The clock was being corrected by Spica at the hour 7¼. [Horologium emendabatur ad Spicam hora 7¼.]

___[1924]

Time	Event
$8^{h}\ 27^{m}\ 10^{s}$ [H. 8 27′10″]	⊙ was seen to rise [viſus eſt ⊙ oriri]
$8^{h}\ 29^{m}\ 58^{s}$	Half-way [Medius]
$8^{h}\ 32^{m}\ 20^{s}$	Entirely risen [Totus ortus]

1925

According to the calculation ⊙ will rise at $8^{h}\ 32^{m}$. [Secundum calculum orietur ⊙ H. 8 32′.][1926]

[1922] *4⅚′*, printed with a mark like a minute sign, is a time and is given as minutes of time. *mediocriter* is given as "moderately well"; "only moderately" is the other construal.

[1923] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. No instrument is named for the declination; *alt.*, standing before the second declination, is given in the second column as "with the other", as the work gives *alt. pin.*; no *vno* is printed. The values, printed without unit marks, are given as degrees and minutes.

[1924] the upper part of the page is set in two columns divided by a vertical rule; the English gives the left column first. The left column opens with no date line, continuing the 26 December entry that ends the previous page.

[1925] "Time" and "Event" are this edition's heads; the page prints none. The first time is printed with *H.* and minute and second marks; the others, printed without marks, are given as hours, minutes and seconds. *Medius* and *Totus ortus* stand alone, without ⊙ or a verb; *Medius* is given as "Half-way", as the work gives *Medius* ⊙ *oriebatur* "⊙ was rising half-way".

[1926] *32′*, printed with a mark like a minute sign, is a time and is given as minutes of time.

Time [Tempus]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]	Declination of ☉ [Decl. ☉]
$8^h\ 55^m$	2° 0′	42° 53′	22° 21½′
$8^h\ 56⅙^m$	2° 6′	42° 36′	22° 22′
$8^h\ 57⅔^m$	2° 16′	42° 15′	22° 22′
$8^h\ 59½^m$	2° 22′	42° 2′	22° 22⅔′
$9^h\ 1⅓^m$	2° 33′	41° 38′	22° 23′
$9^h\ 3^m$	2° 44′	41° 12′	22° 24′
$9^h\ 4½^m$	2° 51′	40° 55′	22° 24⅓′

1927

On 28 December [DIE 28 DECEMBRIS.]

Time	Event
$8^h\ 21^m\ 20^s$ [H. 8 21′20″]	the top of ☉ was rising [oriebatur ſupremum ☉]
$8^h\ 23^m\ 40^s$	the middle was rising [medium oriebatur]
$8^h\ 25^m\ 50^s$	entirely risen [totus ortus]

1928

Time	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]	Declination of ☉ [Decl. ☉]
$9^h\ 5^m$	3° 25′	40° 8′	22° 12′
$9^h\ 8^m$	3° 42′	39° 30′	22° 12′
$9^h\ 13^m$	4° 4′	38° 25′	22° 12½′

1929

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Mer.]	by the steel quadrant [per Q. Chalyb.]	11° 48′ nearly [fere]	
	by the sextant [per Sext.]	11° 47⅚′	
	by the revolving [quadrant] [per Volub.]	11° 47′	
	by the mural [quadrant] [per Mural.]	11° 47′	
Declination of ☉ [Declin. ☉]	by the armillae [per Armillas]	22° 17½′	

[1927] the four heads are the page's, printed in smaller type. The times, printed without unit marks, are given as hours and minutes; the other values as degrees and minutes.

[1928] "Time" and "Event" are this edition's heads; the page prints none. The first time is printed with *H.* and minute and second marks; the others, printed without marks, are given as hours, minutes and seconds. *ſupremum* ☉ is given as "the top of ☉"; "the uppermost [limb] of ☉" is the other construal.

[1929] the last three heads are the page's, printed in smaller type; "Time" is this edition's head, the page printing nothing over the first column. The times, printed without unit marks, are given as hours and minutes; the other values as degrees and minutes.

Reading	Instrument	Value	Remark
		22° 18′	with the other [altero]

1930

Places of the Sun [LOCA SOLIS.]

Day [Die]	Observed altitude of ☉ [Alt. ☉ obſerv.]	Parallax [Parall.]	True altitude [Vera Alt.]	Declination of ☉ [Decl. ☉]	Longitude of ☉ [Long. ☉]	Our ephemerides [Ephemerides noſtræ]	Value
19 February [19 Feb.]	26° 19′ 5″	2′ 40″	26° 21′ 45″	7° 43′ 15″	10° 19′ 29″ ♓	10° 13′ 57″	Mästlin [Mæſt.] 9° 41′ 0″
	26° 18′ 50″		26° 21′ 30″	7° 43′ 30″	10° 18′ 44″ ♓	*But the refraction of the Sun is still the cause.* [*Sed refractio Solis*] [*adhuc in cauſa eſt*]	
27 March [27 Mart.]	40° 41′ 30″	2′ 14″	40° 43′ 44″	6° 38′ 44″	16° 51′ 34″ ♈	16° 52′ 0″	Mästlin [Mæſt.] 16° 23′ 0″
	40° 41′ 20″		40° 43′ 34″	6° 38′ 34″	16° 51′ 5″ ♈		Cyprian [Cyp.] 17° 4′ 12″
14 August [14 Aug.]	45° 9′ 30″	2′ 6″	45° 11′ 36″	11° 6′ 36″	1° 7′ 22″ ♍	1° 8′ 51″	Mästlin [Mæſt.] 1° 5′ 0″
	45° 9′ 15″		45° 11′ 21″	11° 6′ 21″	1° 8′ 0″ ♍		

1931

[1930] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *fere* is set in smaller type after *48* and is given as "nearly", as the work gives *ferme*. *altero* stands before the second declination; no *vno* is printed. The values, printed without unit marks, are given as degrees and minutes.

[1931] The first seven column heads are the page's; the eighth head cell is empty on the page, and "Value" is this edition's head for it. In the eighth column *Mæſt.* and *Cyp.* each stand on a line of their own above their figures. The italic remark *Sed refractio Solis adhuc in cauſa eſt* runs across the seventh and eighth columns, over two lines, beside the second 19 February row. The zodiac signs are printed with the longitudes only; the seventh and eighth columns print none, and none is supplied. Every value is printed as bare figures, without unit marks; the parallaxes are given as minutes and seconds, all other values as degrees, minutes and seconds. No north or south mark is printed with the declinations. The table has no foot label row.

Observations of the Moon [OBSERUATIONES LUNÆ.][1932]

On 25 February [DIE 25 FEBRUARIJ.]

N.B.[1] The following observation of ☾ was made at the beginning of ♋, not far from the greatest southern latitude. Therefore it is useful in examining the latitude and parallax of ☾. [N.B.[1] Sequens obſeruatio in ☾ facta eſt in principio ♋ non longe a latitudine maxima meridionali. Quare vtilis eſt in examinanda ☾ latitudine & paralaxi.]

Reading	Value
Meridian altitude of the centre [Altitudo centri meridiana]	*51° 50′ 15″*
Longitude of ☾ [Long. ☾]	*in 1° 9′ ♋*
Our declination [Declinatio noſtra]	*23° 31′ 15″*
The altitude of the equator would be [Eßet alt. æquat.]	*28° 19′ 0″*
which nevertheless is [quæ tamen eſt]	*34° 5½′*
Apparent latitude of ☾ [Latitudo ☾ viſa]	*5° 46½′ south [M.]*
But our true [latitude] was [At vera erat noſtra]	*5° 9′ 0″*
Therefore the parallax sought [Ergo Paralaxis quæſita]	*37½′*

[1933]

[1] From codex V, as far as "which still seems too great". [E codice V, usque ad »quæ adhuc nimia videtur«.]

___[1934]

Alternatively [*Aliter*]

Reading	Value
Observed altitude of ☾ [Altitudo ☾ obſeruata]	*51° 50′ 15″*
Altitude of the equator [Altitudo æquatoris]	*34° 5′ 30″*
Distance from the equator [Diſt. ab æquatore]	*17° 44′ 45″*
Declination of ☾ without latitude [Declin. ☾ absque lat.]	*23° 31′ 15″*
Apparent latitude of ☾ [Latitudo ☾ viſa]	*5° 46′ 30″*
But the true [latitude] from ours [At vera ex noſtra]	*5° 9′ 0″*

[1932] below the title the page is again set in two columns divided by a vertical rule; the English gives the left column first.

[1933] "Reading" and "Value" are this edition's heads; the page prints none. The lines are set in italic; a horizontal rule stands under the figures of the declination, of *quæ tamen eſt* and of *At vera erat noſtra*. The altitude of the centre and the longitude are printed with degree, minute and second marks; the other values are printed as bare figures and are given as degrees, minutes and seconds, or degrees and minutes where two figures are printed. *37½*, printed alone, is given as minutes: the page's own figures 5 46½ and 5 9 0 differ by 37½′. *Paralaxis* is printed with one *l*. *vera* is feminine and refers to the latitude of the line above; "[latitude]" is supplied.

[1934] the page is set in two columns divided by a vertical rule; the English gives the left column first. The left column opens with no date line, after the 25 February computation that ends the previous page. The words *quæ adhuc nimia videtur*, with which the footnote on the previous page closes the passage it assigns to codex V, stand in the ninth line of this column.

Reading	Value
Parallax of ☾ [Paralaxis ☾]	*37′ 30″*

which still seems too great [*quæ adhuc nimia videtur*][1935]

N.B. ☾ was near the beginning of ♋ and had nearly the greatest latitude. [*N.B. ☾ erat iuxta initium ♋ & habuit fere latitudinem maximam.*]

At 7^h 2^m ☾ was in the 90th degree [from the] ascendant according to the computation, and ☾ was about most remote from the earth. [H. 7 M. 2 fuit ☾ in 90 Gr. Aſc. iuxta ſupputationem, eratque quaſi ☾ remotißima a terris.][1936]

Observation of ☾ [Obſeruatio ☾.]

At 6^h 42^m there was in the meridian 4 or 3⅝ degrees of ♋, [H.6 42′ erat in merid. 4 vel 3⅝ Grad. ♋,]

Time	Reading	Value
	☾ from the eye of ☿ [☾ ab oculo ☿]	26° 37½′
	Declination of the upper horn of ☾ [Declin. ſuper. cornu ☾]	18° 1′
6^h 47^m 20^s [6 47′20″]	Western limb of ☾ from the eye of ☿ [Occ. limb. ☾ ab] [oc. ☿]	26° 38¼′
6^h 52^m 42^s	*☾ passed through the meridian; altitude of the upper horn by the revolving [quadrant]* [*tranſiuit ☾ per merid., alt.*] [*ſup. cornu per Volub.*]	*52° 5′*
	of the lower [horn] [*inferioris*]	*51° 35′*
	by the steel [quadrant] [*per Chalyb.*]	*52° 5½′*
		51° 35½′
6^h 54⅔^m	*Distance of the western limb from the eye of ☿* [*Diſt. occ. limb. ab oc. ☿*]	*26° 40′*

[1935] "Reading" and "Value" are this edition's heads; the page prints none. The lines are set in italic; a horizontal rule stands under the figures of the altitude of the equator, of the declination and of *At vera ex noſtra*. The observed altitude is printed with degree, minute and second marks; the other values are printed as bare figures and are given as degrees, minutes and seconds. *37 30*, two figures printed alone, is given as minutes and seconds: the page's own figures 5 46 30 and 5 9 0 differ by 0 37 30. *vera* is feminine and refers to the latitude of the line above; "[latitude]" is supplied. *noſtra* stands without a noun and is given as "ours". *Paralaxis* is printed with one *l*. *quæ adhuc nimia videtur* stands on a line of its own below the parallax.

[1936] *in 90 Gr. Aſc.* is printed without a preposition; "[from the]" is supplied, as the next page prints *in 90 Gr. ab Aſc. a terris* (plural) is given as "from the earth".

1937

Time	Distance of the western limb from the eye of ☉ [Diſt. occ. limbi ab oculo ☉]	Declination [Declinatio]: upper horn [ſuper. cornu]	Declination: lower horn [infer. cornu]
6^h $57½^m$	26° 41′	18° 0½′	
7^h 2^m	26° 42⅓′	18° 0½′	
7^h 5^m 35^s [7 5 35″]	26° 45′	18° 0⅔′	17° 31′
7^h $8¾^m$	26° 45½′	18° 0⅔′	17° 30¾′
7^h 11^m 40^s	26° 46′	18° 0¾′	17° 30¾′
7^h 14^m	26° 47′	18° 0¾′	17° 31′
7^h $16½^m$	26° 47¾′	18° 1′	17° 31′
7^h 19^m	26° 47¾′	18° 1′	17° 31′

1938

☾ was observed again [Denuo obſeruabatur ☾] *to establish its parallax* [*pro parallaxi ſua conſtituenda*]

Time	Between the western limb of ☾ and the heart of ☌ [Inter occ. limb. ☾ & cor ☌]	Altitude of the upper horn of ☾ [Alt. ſuper. cornu ☾]	Declination [Declin.]: upper horn [ſup. cornu]	Declination: lower horn [infer. cornu]
10^h 23^m	52° 10¾′	36° 14′	17° 59½′	17° 28⅙′
10^h 27^m	52° 9½′	35° 40′		
10^h $30½^m$	52° 8¼′	35° 17′	17° 59′	

1939

[1937] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The sentence *H.6 42′ erat in merid. 4 vel 3⅚ Grad.* ♋, ends in a comma and runs into the first two lines of the table, which are set under it with no time of their own. The label *Occ. limb.* ☾ *ab / oc.* ☉ runs over two lines and is given whole on its row. The fourth to seventh rows are set in italic except the hour *6*, which is roman; the eighth row's *Diſt. …* ☉ and *26 40* are italic, its time upright. The second value by the steel quadrant stands alone below the first, as the second value by the revolving quadrant stands below *inferioris*; the page does not name it. The times are printed with *H.*, or with minute and second marks, or as bare figures, and are given as hours, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes.

[1938] the heads other than "Time" are the page's, printed in smaller type; *Declinatio* stands over both declination columns. "Time" is this edition's head, the page printing nothing over the first column. The times are given as hours and minutes, or hours, minutes and seconds where three figures are printed; the other values, printed without unit marks, as degrees and minutes. The first two rows print no declination of the lower horn.

[1939] the heads other than "Time" are the page's, printed in smaller type; *Declin.* stands over both declination columns. "Time" is this edition's head, the page printing nothing over the first column. *Denuo obſeruabatur* ☾ is roman and *pro parallaxi ſua conſtituenda* italic, each on a line of its own, centred; *parallaxi* is printed with two *l*s. The times, printed without unit marks, are given as hours and minutes; the other values as degrees and minutes.

Time	Event
$10^h\ 35^m\ 12^s$ [10 35 12″]	the heart of ♌ passed the meridian [Tranſiuit Merid. cor ♌]
$10^h\ 45^m\ 44^s$	The bright [star] of the neck of ♌ passed [the meridian] [Tranſiuit luc. ceruicis ♌.]

1940

From this the clock can be corrected and *compared with the transit of the earlier fixed [stars] and* ♃. [Hinc poteſt horologium corrigi &] [*conferri cum tranſitu priorum*] [*fixarum &* ♃.][1941]

N. B. The assigned times have been verified. [N. B. Tempora aßignata ſunt verificata.][1942]

On 27 February [DIE 27 FEBRUARIJ.]

There follows the observation of ☾ *near the 90th degree.* [*Sequitur obſeruatio* ☾ *iuxta 90 gradum.*]

Time	Reading	Instrument	Value
$8^h\ 30^m\ 4^s$ [H.8 30′ 4″]	*The western limb of* ☾ *passed through the meridian and had an altitude* [*Tranſiuit occ. limb.* ☾] [*per Merid. habuitque altit.*]		
	upper limb [*ſuper. limbus*]	*by the revolving [quadrant]* [*perVolub.*]	*50° 31′*
	lower [*infer.*]		*50° 0′*
	upper [*ſuper.*]	*by the steel [quadrant]* [*per Chalub.*]	*50° 31′*
	lower [*infer.*]		*50° 0⅙′*
	Declination by the armillae [*Declin. per Armillas*]		*16° 28′*
			15° 55′
	Declination of the centre of ☾ [*Declin. centri* ☾]		*16° 11′*
	Declination from the altitude [*Declin. ex altit.*]		*16° 10½′*
	Distance by the sextant [*Diſtantiaper Sextantem*]		
$8^h\ 39^m$	*Between Aldebaran and the western limb of* ☾ [*Inter Aldeb. & occ.*] [*limb.* ☾]		*52° 3½′*
	Declination of the upper horn [*Declin. ſuper. cornu*]		*16° 26′*

[1940] "Time" and "Event" are this edition's heads; the page prints none. The times are given as hours, minutes and seconds. The second line prints no word for the meridian; "[the meridian]" is supplied from the line above.

[1941] the first line of this sentence is roman, the second and third italic. *priorum fixarum* is given as "the earlier fixed [stars]"; "the preceding fixed [stars]" is the other construal.

[1942] this sentence stands at the head of the right column, before the date line of 27 February.

1943

Time	In the meridian ♌ [In merid. ♌]	Between Aldebaran and the western limb of ☾ [Inter. Aldeb. & occ. limb. ☾]	Declination [Declin.]: upper horn [ſuper. cornu]	Declination: lower horn [infer. cornu]
$8^h\ 44^m$		52° 4′	16° 25′	15° 53½′
$8^h\ 51½^m$	0¼°	52° 6¼′	16° 24′	
$8^h\ 57¾^m$	1° 45′	52° 8′	16° 23⅙′	15° 53′
$9^h\ 7^m$		52° 10½′	16° 22½′	15° 53′
		Between the heart of ♌ and the western limb of ☾ [Inter cor ♌] [& occ. limb. ☾]		
$9^h\ 13¼^m$	5½°	28° 5½′	16° 22⅙′	15° 53′
$9^h\ 17⅔^m$	6° 35′	28° 4′	16° 21½′	15° 51′
$9^h\ 23^m$		28° 2½′		
$9^h\ 26⅙^m$	8° 40′	28° 1¼′		
$9^h\ 29½^m$	9½°	28° 0′		
$9^h\ 32½^m$	10⅙°	27° 58½′	16° 21′	15° 51′
		From the eye of ♉ [Ab oculo ♉]		
$9^h\ 36^m$	11° 5′	52° 24′	16° 20′	15° 50′
$9^h\ 39^m$		52° 25′		
$9^h\ 41⅙^m$	12° 25′	52° 25′	16° 20′	15° 50′
		From the heart of ♌ [A corde ♌]		
$9^h\ 45½^m$	13° 30′	27° 51¾′	16° 20′	
$9^h\ 49⅙^m$	14° 25′	27° 51′	16° 19½′	15° 48½′
$9^h\ 52⅙^m$	15° 10′	27° 50′	16° 18½′	15° 48½′
$9^h\ 56½^m$	16° 15′	27° 49′	16° 18½′	15° 48½′
$9^h\ 58½^m$	16¾°	27° 48½′	16° 18′	15° 48½′
$10^h\ 1½^m$	17½°	27° 48′	16° 17′	15° 48′

1944

N.B. All these observations on ☾ were fairly good; you can safely build on them and compare [them] with those that were taken two days before, which were also

1943 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. These lines are set in italic. *perVolub.* is printed with no space, *Chalub.* with *u*, and *Diſtantiaper* with no space before *per*. *perVolub.* stands before *ſuper. limbus* on its line, and *ſuper.* after *per Chalub.* on its line. The second declination by the armillae stands alone below the first; the page does not name it. The label *Inter Aldeb. & occ. / limb.* ☾ runs over two lines and is given whole on its row. The first time is printed with *H.* and minute and second marks, the second as bare figures and given as hours and minutes; the values, printed without unit marks, are given as degrees and minutes.

1944 the heads other than "Time" are the page's, printed in smaller type; *Inter.* is printed with a point, and *Declin.* stands over both declination columns. "Time" is this edition's head, the page printing nothing over the first column. *Inter cor* ♌ */ & occ. limb.* ☾, *Ab oculo* ♉ and *A corde* ♌ are printed in smaller type over the distance column, each on a line of its own between the rows, and head the distances below them. The times, printed without unit marks, are given as hours and minutes. In the second column a single figure, with or without a fraction, is given as degrees, and two figures as degrees and minutes; the other values as degrees and minutes. Empty cells are empty on the page.

fairly exact. [*N.B. Omnes hæ obſeruationes in* ☾ *erant ſatis bonæ, quibus potes tuto te fundare & conferre cum ijs, quæ ante biduum accipiebantur, quæ etiam erant ſatis exquiſitæ.*]

The assigned times have also been corrected. [Tempor.aßignata ſunt etiam correcta.]

___[1945]

On 28 February [DIE 28 FEBRUARIJ.]

At $10^h\ 46^m$ P. M. ☾ [was] in the 90th degree from the ascendant according to the calculation. [H. 10 46′ P. M. ☾ in 90 Gr. ab Aſc. iuxta calculum.]

At $9⅓^h$ the clock was verified from the transit of ♃ through the meridian: the difference of transit between the western limb of ☾ and ♃ was 50^s; between the eastern part of ☾ and ♃ the difference of transit in time was also 50^s. [H. 9⅓ Horologium a tranſitu ♃ per Merid. verificatum eſt: Differentia tranſitus inter occ. limbum ☾ & ♃ fuit 50″; inter orientalem partem ☾ & ♃ erat differentia tranſitus in tempore etiam 50″ ſecundorum.][1946]

Reading	Instrument	Value
Altitude of the upper limb of ☾ in the meridian [Alt. ſuper. limbi ☾ in Merid.]	by the revolving quadrant [per Q. Volub.]	48° 21′
of the lower limb [infer. limbi]	by the revolving quadrant [per Q. Volub.]	47° 49′

[1947]

At $10^h\ 22^m\ 57^s$ the heart of ☌ passed through the meridian. From this and from the azimuth and altitude of Arcturus the following times have been verified. [H. 10 22′ 57″ tranſiuit cor ☌ per Merid. Hinc et ex Azim. & Alt. Arcturi tempora ſequentia ſunt verificata.]

Observation of ☾ *approaching the 90th degree [Obſeruatio* ☾ *appropinquantis 90 Gr.]*

Time [Tempus]	Between the western limb of ☾ and the lower head of ♊ [Inter occ. limb. ☾] [& infer. caput ♊]	Declination, north [Declinatio Bor.]: of the upper limb [ſuper. limbi]	Declination, north: of the lower limb [infer. limbi]	Of Arcturus [Arcturi]: azimuth, east [Azim. or.]	Of Arcturus: altitude [Altit.]
$10^h\ 30^m\ 13^s$ [H. 10 30′ 13″]	24° 41½′	14° 10′	13° 37½′	78° 20′	33° 37½′
$10^h\ 36^m\ 35^s$	24° 43′	14° 9½′	13° 37′	76° 55′	34° 30½′
$10^h\ 40⅙^m$	24° 45⅙′	14° 9⅓′		75° 57′	34° 53′
$10^h\ 43¼^m$	24° 46½′	14° 9′		75° 35′	35° 18′

[1945] the page is set in a single full-width column, in roman type.

[1946] *50″* is printed with a double stroke in both places; the second is followed by *ſecundorum* ("of seconds") and stands with *in tempore* ("in time"), so both are given as seconds of time.

[1947] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

Time [Tempus]	Between the western limb of ☾ and the lower head of ♊ [Inter occ. limb. ☾] [& infer. caput ♊]	Declination, north [Declinatio Bor.]: of the upper limb [ſuper. limbi]	Declination, north: of the lower limb [infer. limbi]	Of Arcturus [Arcturi]: azimuth, east [Azim. or.]	Of Arcturus: altitude [Altit.]
	Between the western limb of ☾ and the heart of ♌ [Inter occ. limb. ☾] [& cor ♌]				
10h 49m	14° 51⅙′	14° 8½′		74° 2′	36° 8′
10h 51m	14° 49′	14° 8′		73° 31′	36° 26½′
10h 53m 40ſ	14° 47′ nearly [fere]	14° 7′		72° 57′	36° 49′
10h 56m 40ſ	14° 45⅚′	14° 6½′	13° 35′	72° 0′	37° 12½′

1948

N. B. The times assigned to the observations of ☾ have been verified. [N. B. Tempora obſeruationibus ☾ aßignata ſunt verificata.]

On 29 February [DIE 29 FEBRUARIJ.]

At 12h 7m P. M. ☾ [was] in the 90th degree according to the computation. [H. 12 7′ P. M. ☾ in 90 Gr. iuxta ſupputationem.]

[At] 10h 23m 20s the western limb of ☾ passed through the meridian, having an altitude of the upper horn of 45° 21′, of the lower 44° 50′. [10 23 20″ tranſiuit occ. limbus ☾ per Merid., habens altitudinem ſuper.] [cornu 45 21, infer. 44 50.][1949]

Time [Tempus]	Between the western limb of ☾ and the lower head of ♊ [Inter occ. limb. ☾] [& infer. caput ♊]	Declination, north [Declinatio Bor.]: of the upper limb [ſuper. limbi]	Declination, north: of the lower limb [infer. limbi]	Of Arcturus [Arcturi]: azimuth, east [Azim. or.]	Of Arcturus: altitude [Altit.]	Remark
11h 26m	37° 3′					among clouds (for both times, 11h 26m and 11h 29m). N.B. In the following [it] was clearer. [inter nubes. N.B. In ſequentibus erat ſerenius]

1948 all the heads are the page's, printed in smaller type; *Declinatio Bor.* stands over both declination columns and *Arcturi* over the azimuth and altitude columns. *Inter occ. limb. ☾ / & cor ♌* is printed in smaller type over the distance column, on two lines between the rows, and heads the distances below it. The first time is printed with *H.* and minute and second marks; the others, printed without marks, are given as hours and minutes, or hours, minutes and seconds where three figures are printed. The other values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

1949 the time is printed without *H.*, with a double stroke after the seconds, and is given as hours, minutes and seconds; the altitudes, printed without unit marks, as degrees and minutes.

Time [Tempus]	Between the western limb of ☾ and the lower head of ♊ [Inter occ. limb. ☾] [& infer. caput ♊]	Declination, north [Declinatio Bor.]: of the upper limb [ſuper. limbi]	Declination, north: of the lower limb [infer. limbi]	Of Arcturus [Arcturi]: azimuth, east [Azim. or.]	Of Arcturus: altitude [Altit.]	Remark
11h 29m	37° 3¾′					
11h 29m	37° 4′			62° 57′	41° 56½′	
11h 33m	37° 5½′	11° 7½′	10° 36′	61° 42′	42° 27½′	
11h 36m	37° 8′	11° 7′	10° 35½′	60° 46′	42° 56′	
11h 40m	37° 11′	11° 7′		59° 7′	43° 42½′	
	Between the western limb and Spica ♍ [Inter occ. limb. & Spicam ♍]					
11h 53m	54° 29¾′	11° 5⅙′	10° 33½′	57° 5′	44° 34′	
11h 55m	54° 28½′			56° 1′	44° 57½′	
11h 57m	54° 26′			55° 19′	45° 20½′	
	Between the western limb and the lower head of ♊ [Inter occ. limb. & inf. cap. ♊]					
12h 3m	37° 17′	11° 3′		53° 57′	45° 53′	
12h 6½m	37° 19′	11° 2′	10° 31⅓′			
	Between the western limb and Spica [Inter occ. limb. & Spicam]					
12h 9m	37° 21′			51° 45′	46° 38′	
12h 12m	37° 19′				46° 59′	

1950

On 1 March, P. M. [DIE 1 MARTIJ, P. M.]

At 1h 21m P. M. N. ☾ [was] in the 90th degree [from the] ascendant according to the reckoning. [H. 1 21′ P. M. N. ☾ in 90 Gr. Aſcend. iuxta computum.]

1950 the first six heads are the page's, printed in smaller type, as in the 28 February table; "Remark" is this edition's head. A brace encloses the first two rows (11h 26m and 11h 29m); to its right, on a line set between those two rows, stands *inter nubes*., which the brace joins to both rows, followed on the same line by *N.B. In ſequentibus erat ſerenius*. *Inter occ. limb. & Spicam* ♍, *Inter occ. limb. & inf. cap.* ♊ and *Inter occ. limb. & Spicam* are printed in smaller type over the distance column, each on one line between the rows, and head the distances below them; the last prints no sign after *Spicam*, and none of the three prints ☾. The times, printed without unit marks, are given as hours and minutes, or hours, minutes and seconds where three figures are printed; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[At] $9^h\ 7^m\ 25^s$ the western limb of ☾ passed through the meridian, and the altitude was [9 7 25″ Tranſiuit occ. limbus ☾ per merid. & fuit altitudo]

Reading	Instrument	Value
of the upper limb [ſuperioris limbi]	by the revolving [quadrant] [per Volub.]	41° 37′
	by the steel [quadrant] [per Chalyb.]	41° 37⅚′
of the lower [inferioris]		41° 4′
		41° 7⅙′

1951

___1952

Time [Tempus]	Between the heart of ♌ and the western limb of ☾, by the sextant △ [Inter cor ♌ & occ.] [limb. ☾ per Sext. △]	Declination by the armillae [Declinatio per Arm.]: upper limb [ſuper. limbi]	Declination by the armillae: lower limb [infer. limbi]	The heart of ♌, west [Cor ♌ occ.]	Spica, east [Spica or.]
$12^h\ 50^m\ 3^s$ [12 50′ 3″]	[13° 40¾′	7° 14½′		39° 12′	
$12^h\ 53^m\ 30^s$	13° 42′	7° 13½′	6° 39′		
$12^h\ 58^m\ 30^s$	13° 43½′			40° 31½′	
	Between Spica and the western limb [Inter Spicam & occ. limb.]				
$1^h\ 1^m\ 0^s$	40° 28½′	7° 11′			8° 4′
$1^h\ 5^m\ 14^s$	40° 27′	7° 9′			7° 7′
	Between the heart of ♌ and the western limb [Inter cor ♌ & occ.limb.]				
$1^h\ 27^m\ 0^s$	13° 59½′	7° 8′		47° 51′	
$1^h\ 30^m\ 2^s$	14° 0½′	7° 6½′		48° 25½′	
$1^h\ 34^m\ 4^s$	14° 2′			49° 24′	
	Between Spica and the western limb [Inter Spicam & occ.limb.]				
$1^h\ 36^m\ 6^s$	40° 14¼′		6° 34′		
$1^h\ 39^m$	40° 12′				1° 21′

[1951] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The instruments are named only on the line of the upper limb, where *41 37* follows *per Volub.* and *41 37⅚* follows *per Chalyb.*; on the line of *inferioris* the page sets *41 4* under *41 37* and *41 7⅙* under *41 37⅚*, naming no instrument. The time is printed without *H.*, with a double stroke after the seconds, and is given as hours, minutes and seconds; the values, printed without unit marks, are given as degrees and minutes. *in 90 Gr. Aſcend.* is printed without a preposition; "[from the]" is supplied, as on 28 February the page prints *in 90 Gr. ab Aſc.*

[1952] the page is set in a single full-width column. It opens with the table below, under the running head, with no date line.

1953

These observations of ☾ were made among clouds that kept coming back. The assigned times have been verified. [Inter nubes ſubinde recurrentes factæ ſunt hæ ☾ obſeruationes. Tempora] [aßignata ſunt verificata.]

On 2 March — Eclipse of the Moon *[*DIE 2 MARTIJ -- ECLIPSIS LUNÆ.*]*

In the evening, before the eclipse of ☾: the following observations of ☾ by the greater armillae, rectified. [*Veſperi ante Eclipſin ☾ ſequentes obſeruationes ☾ per Armillas maiores*] [*rectificatas.*][1954]

Time [Tempus]: of the clock [Horol.]	*Time: verified [verifica-tum]*	*Canis Minor [Canis] [minor]*	*Western limb of ☾ [Occ.] [limb. ☾]*	*Equatorial distance [Diſt.] [æquat.]*	*Declination [Declin.]: upper limb [ſuper. limb.]*	*Declina-tion: lower [infer.]*	*Altitude of the upper limb [Alt.] [ſup. limbi]*
$8^h\ 30\frac{1}{3}^m$	$8^h\ 30^m\ 30^s$	101° 21¼′	40° 52½′	60° 29′	3° 53′ north [B.]		24° 50′
$8^h\ 33^m\ 50^s$	$8^h\ 34^m\ 0^s$	102° 13¼′	41° 42⅓′	60° 31′	3° 52½′		25° 13′
$8^h\ 36^m\ 45^s$	$8^h\ 37^m\ 4^s$	102° 59′	42° 28⅓′	60° 31′	3° 51½′	3° 18′	25° 32′
$8^h\ 40^m\ 45^s$	$8^h\ 40^m\ 57^s$	103° 57½′	43° 24′	60° 33½′	3° 50′	3° 17′	25° 57′
$8^h\ 44½^m$	$8^h\ 44^m\ 40^s$	104° 53¼′	44° 17′	60° 36¼′	3° 48½′	3° 15½′	26° 20⅓′
$8^h\ 47^m\ 52^s$	$8^h\ 47^m\ 56^s$	105° 44′	45° 7¼′	60° 36¾′	3° 47½′	3° 15′	
$8^h\ 54\frac{1}{6}^m$	$8^h\ 54^m\ 0^s$	107° 10½′	46° 30⅚′	60° 39⅔′	3° 46′	3° 13⅔′	

1955

N.B. ☾ was in rather scattered clouds, and a great halo [was] around it. [N.B. ☾ erat in rariuſculis nubibus & magnus halo circa ipſam.]

At 11^h 53½^m ☾ passed through the meridian as regards [its] eastern limb, and had an altitude [*11 53½ Tranſiuit ☾ quoad orientalem limbum per Merid. habuitque*] [*altitudinem*]

[1953] all the heads are the page's, printed in smaller type; *Declinatio per Arm.* stands over both declination columns. The head *Inter cor ♌ & occ. / limb. ☾ per Sext.* △ runs over two lines and is given whole. *Inter Spicam & occ. limb.*, *Inter cor ♌ & occ.limb.* and *Inter Spicam & occ.limb.* are printed in smaller type over the distance column, each on one line between the rows, and head the distances below them; none of the three prints ☾. The first time is printed with *H.* and minute and second marks; the others, printed without marks, are given as hours, minutes and seconds, or as hours and minutes where two figures are printed. The other values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[1954] the line prints no verb; *ſequentes obſeruationes* is accusative. *rectificatas* is given with *Armillas maiores*, the nearer noun ("the greater armillae, rectified"); it can also be taken with *obſeruationes* ("the following observations of ☾, rectified by the greater armillae").

[1955] all the heads are the page's, set in smaller italic; *Tempus* stands over both time columns and *Declin.* over both declination columns. *Horol.* is given as "of the clock". *Diſt. æquat.* is given as "Equatorial distance", as on earlier pages. The table is set in italic. The times, printed without unit marks, are given as hours, minutes and seconds, or as hours and minutes where two figures are printed; the other values, printed without unit marks, as degrees and minutes. *B.* follows the first upper-limb declination only. Empty cells are empty on the page.

Reading	*by the revolving [quadrant] [per Volubilem]*	*by the steel [quadrant] [per Chalyb.]*	*by the mural [quadrant] [per Muralem]*
of the upper limb [ſuperioris limbi]	*37° 14′*	*37° 18′*	*37° 19⅓′*
of the lower [inferioris]	*36° 48′*	*36° 47′*	*36° 47′*

1956

At 11^{h} 57½^{m} the declination of the upper limb of ☾ was 3° 12¾′, of the lower 2° 42′, the diameter 0° 30¾′. [*11 57½ Fuit Declin. ſuper. limbi ☾ 3 12¾, inferioris 2 42, diameter 0 30¾.*][1957]

Time [Tempus]: of the clock [Horol.]	*Time: verified [verificatum]*	*Declination [Declin.]: upper limb [ſuper. limbi]*	*Declination: lower [infer.]*	*Between the western limb of ☾ and ♃ [Inter occ.] [limb.] [☾ & ♃]*	*Arcturus, from the meridian toward the east [Arcturus] [a merid.] [verſ. ort.]*	*Altitude of the upper limb [Alt.] [ſuper.] [limbi]*	*Azimuth of the western limb from the meridian toward the west [Azim. limbi] [occ. a Mer.] [verſ. occ.]*
12^{h} 17⅔^{m}	*12^{h} 16^{m}*	*3° 38′ 9″*	*2° 37½′*	*43° 9′*	*31° 46′*	*37° 1′*	*7° 2′*
12^{h} 23⅔^{m}	*12^{h} 22^{m}*	*3° 7¾′*	*2° 37′*	*43° 11¼′*		*36° 52′*	*8° 42′*
12^{h} 30^{m} 55^{s}	*12^{h} 29^{m} 30^{s}*	*3° 6½′*	*2° 35′*	*43° 14½′*	*28° 30′*		
				Western limb of ☾ from the east [Occ. limb. ☾] [ab ortu]	*Arcturus from the east [Arcturus] [ab ortu]*	*Equatorial distance [Diſt.] [æquat.]*	
12^{h} 36^{m} 55^{s}	*12^{h} 35^{m} 15^{s}*	*5¼′*		*100° 28¾′*	*62° 57⅔′*	*37° 31′*	
12^{h} 40^{m} 30^{s}	*12^{h} 38^{m} 45^{s}*	*5′*		*101° 21′*	*63° 50′*	*37° 31′*	
12^{h} 44¼^{m}	*12^{h} 42^{m} 42^{s}*			*102° 17′*	*64° 48½′*	*37° 28½′*	
12^{h} 50⅔^{m}	*12^{h} 50^{m} 20^{s}*			*104° 8¾′*	*66° 43′*	*37° 25¾′*	
	12^{h} 53^{m} 30^{s}	*3′*					

1958

[1956] "Reading" is this edition's head; the instrument heads are the page's, printed on the line that begins with *altitudinem*. These lines are set in italic. The time *11 53½*, printed at the left without unit marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[1957] the time, printed at the left without unit marks, is given as hours and minutes; the three values, printed without unit marks, as degrees and minutes. The page prints no word between *2 42,* and *diameter*.

[1958] all the heads are the page's, set in smaller italic; *Tempus* stands over both time columns and *Declin.* over both declination columns. *Occ. limb. ☾ / ab ortu*, *Arcturus / ab ortu* and *Diſt. / æquat.* are printed in smaller italic over the fifth, sixth and seventh columns, on two lines between the rows, and head the values below them; the eighth column prints nothing below them. The table is set in italic. The times, printed without unit marks, are given as hours, minutes and seconds, or as hours and minutes where two figures are printed (the second verified time prints two figures, *12 22*); the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

___[1959]

Time (clock)	Time (verified)	Value	Remark
1h 12m 30s	*1h 13m 9s* [*1 13 9*]		*First notice.* ☾ seemed to be eclipsed a little. [*Prima animadverſio.* ☾ videbatur aliquantulum defi-] [cere.]
		Arcturus from the east [*Arcturus ab ortu*]	
		72° 26½′	
1h 18m 57s	*1h 19m*	*73° 56½′*	
1h 23m 5s	*1h 23m 11s*	*75° 0′*	*Approximately a sixth part was missing from* ☾ [*Quaſi ſexta pars aberat de* ☾]
1h 25¾m	*1h 25m 55s*	*75° 40′*	*Approximately a fourth part was darkened* [*Fuit quaſi quarta pars offuſcata*]
1h 30¼m	*1h 30m 22s*	*76° 47½′*	*Approximately a third part of* ☾ *was missing* [*Quaſi tertia pars* ☾ *aberat*]
1h 38m	*1h 38m 6s*	*78° 43′*	*Half the moon laboured in the shadow, as far as could be seen.* [*luna media laborauit in vmbra,*] [*quantum videre licuit.*]
1h 49m	*1h 49m 11s*	*81° 30′*	*A third part remaining* [*Tertia pars reſidua*]
1h 52¼m			*Declination of the upper limb of* ☾ *2° 52′* [*Declin. ſuper. limbi* ☾ *2 52*]
			of the lower limb 2° 27′ [*inferioris limbi 2 27*]
1h 54⅚m	*1h 54m 56s*	*82° 59′*	*A fourth part remaining.* [*Quarta pars reſidua.*]
1h 56½m			*The western limb of* ☾ *was 27° 44′ distant from the heart of* ♌. [*diſtabat* ☾ *occ. limbus a corde* ♌ *27 44.*]

1960

Time (clock)	Time (verified)	*Arcturus from the east* [*Arcturus ab ortu*]	*Declination of the upper limb* [*Declin. ſuper.limbi*]	*lower* [*infer.*]	☾ *from Spica* [☾ *a Spica*]	Remark
			2° 49½′	*2° 24′*		
1h 59½m	*1h 59m 48s*	*84° 9½′*	*2° 49′*	*2° 26′*		

[1959] the page is set in a single full-width column. It opens with no date line and no head over the two time columns; the observations of the eclipse begun on the previous page run on.

[1960] "Time (clock)", "Time (verified)", "Value" and "Remark" are this edition's heads; the page prints none over these columns, and the two time heads follow *Horol.* and *verificatum* of the table on the previous page. *Arcturus ab ortu* is printed in smaller type over the third column, on a line between the first row and *72 26½*, and heads the values below it; *72 26½* stands on a line of its own with no time. The figures are set in italic; in the first row *Prima animadverſio.* is italic and ☾ *videbatur aliquantulum defi- / cere.* roman. *deficere* is given as "to be eclipsed"; it can also be taken more generally, "to fail". *luna media* is given as "half the moon", the phase between the third part missing and the third part remaining; "the middle of the moon" is the other construal. The line *diſtabat* ☾ *occ. limbus …* begins at the left of the third column. The times, printed without unit marks, are given as hours, minutes and seconds, or as hours and minutes where two figures are printed; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time (clock)	Time (verified)	*Arcturus from the east [Arcturus] [ab ortu]*	*Declination of the upper limb [Declin.] [ſuper.limbi]*	*lower [infer.]*	*☾ from Spica [☾ a Spica]*	Remark
2h 4m			*2° 49′*	*2° 28′*	*26° 17½′*	*Approximately a sixth part remained* [*Quaſi ſexta pars*] [*reſtabat*]
2h 7½m	*2h 7m 44s*	*86° 11½′*	*2° 48′*	*2° 33′*	*26° 15′*	
					☾ from the heart of ♌ [*☾ a corde ♌*]	
2h 11½m	*2h 11m 48s*	*87° 8½′*	*2° 47′*	*2° 35½′*	*27° 54⅚′*	
2h 15m	*2h 15m 18s*	*88° 2′*			*27° 57′*	
						Declination of the middle of the bright part of ☾ 2° 45½′ [*Decl. Medij de ☾ parte lucid. 2 45½*]
2h 20⅝m	*2h 21m 25s*					*The whole ☾ ſeemed immerſed in the ſhadow, or rather one minute before. Spica 102° 50′ nearly.*[2] [*Videbatur tota ☾ vmbræ immerſa vel potius vno mi-*] [*nuto ante. Spica 102 50 fere*[2].]
2h 26m						*Declination of the upper limb 2° 44½′; the lower could not be ſeen.* [*Decl. ſup. limb. 2 44½, inferior videri non potuit.*]
						Spica and the weſtern limb of ☾ 26° 2⅓′. [*Spica & occ. limb. ☾ 26 2⅓.*]

1961

Time (clock)	Time (verified)	*Spica from the east [Spica] [ab ortu]*	*Declination of the upper limb [Decl. ſuper.] [limbi]*	*Weſtern limb of ☾ from Spica [☾ occ. limb.] [a Spica]*
2h 29⅙m	*2h 30m 3s*		*2° 41′*	*26° 2′*
2h 32⅙m	*2h 33m 13s*	*105° 47′*	*2° 40′*	*25° 59′*
2h 35m	*2h 35m 53s*	*106° 26½′*	*2° 38½′*	*25° 57′*
				from the heart of ♌ [a corde ♌]
2h 39m	*2h 39m 57s*	*107° 28′*	*2° 38′*	*28° 1′*
2h 42⅙m	*2h 43m 1s*		*2° 38′* about [circiter]	*28° 3⅔′*
2h 45¾m	*2h 46m 31s*	*109° 9′*	*2° 37′*	*28° 5′*

[1961] the heads of the third to sixth columns are the page's, printed in smaller type; "Time (clock)", "Time (verified)" and "Remark" are this edition's, the page printing nothing over those columns. *Declin.* stands over the upper-limb column only, and *infer.* over the next. *☾ a corde ♌* is printed in smaller type over the sixth column, on a line between the rows, and heads the values below it. The first row prints *2 49½* and *2 24* with no time. The line *Decl. Medij de ☾ parte lucid. 2 45½* begins at the left of the third column and prints no time; *Medij de ☾ parte lucid.* is given as "of the middle of the bright part of ☾", and *de ☾ parte lucid.* can also be taken with *Decl.* ("declination of the middle, from the bright part of ☾"). The line *Spica & occ. limb. ☾ 26 2⅓.* prints no time. The figures and the remarks are set in italic. The times, printed without unit marks, are given as hours, minutes and seconds, or as hours and minutes where two figures are printed; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time (clock)	Time (verified)	*Spica from the east [Spica] [ab ortu]*	*Declination of the upper limb [Decl. ſuper.] [limbi]*	*Western limb of ☾ from Spica [☾ occ. limb.] [a Spica]*
$2^h\ 49\frac{1}{2}^m$	$2^h\ 51^m\ 13^s$	*110° 8¾′*	*2° 38′*	*28° 8′*
$2^h\ 56\frac{3}{4}^m$	$2^h\ 57^m\ 33^s$	*111° 55′*	*2° 41′*	*28° 9′ perhaps doubtful [forte dubia]*
	$3^h\ 3^m$			*28° 15′*

1962

N.B. The middle has already passed, because ☾ was brighter toward the east. This time is uncertain; yet it cannot be one minute more or less. [*N.B. Iam præterijt medium, quia ☾ erat lucidior verſus ortum. Hoc tem-*] [*pus eſt incertum, non tamen poteſt vnius minuti eße plus vel minus.*]

At $3^h\ 8^m$ the declination of the upper limb was 2° 39′. [*H. 3 8′ fuit declin. ſuper. limbi 2 39.*][1963]

Note. The later observations on ☾ have been taken from its eastern limb, because it was successively becoming brighter and the western was being darkened. [*Nota. Poſteriores obſeruationes in ☾ ſunt ſumptæ ab ipſius orientali lim-*] [*bo, quia is ſucceßiue fiebat lucidior & obſcurabatur occidentalis.*]

[1] Added in codex V: "Here let half of one minute be added everywhere to the times, for the correction of the equatorial circle; otherwise the times are most correct." [Adſcriptum eſt in codice V.: »Addatur hic vbique temporibus dimidium vnius minuti pro correctione] [circuli æquatorij, alias tempora ſunt correctißima«.]

[2] Tycho added later: ☾ *was entering [at] $2^h\ 20^m$, was leaving [at] $3^h\ 44^m$.* [Adſcripſit Tycho poſtea:] [☾ *ingrediebatur 2H 20M*] [*egrediebatur 3 44*][1964]

---[1965]

At $3^h\ 14\frac{1}{2}^m$,[1] ☾ and the neck of ☊ 30° 32′. [*3 14½[1] ☾ & ceruix ☊ 30 32*][1966]

[1962] the heads of the third to fifth columns are the page's, printed in smaller type; "Time (clock)" and "Time (verified)" are this edition's. *a corde* ☊ is printed in smaller type over the fifth column, on a line between the rows, and heads the values below it. *circiter*, in roman, stands between *2 38* and *28 3⅔*; *forte dubia*, in italic, after *28 9*. The last row prints only *3 3*, under the verified times, and *28 15*. The times, printed without unit marks, are given as hours, minutes and seconds, or as hours and minutes where two figures are printed; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[1963] the declination, printed without unit marks, is given as degrees and minutes.

[1964] in the second footnote the two italic lines stand one above the other to the right of *Adſcripſit Tycho poſtea:*, with ☾ before the first only; the first time prints raised *H* and *M*, the second, *3 44*, prints no letters and is given, like the first, as hours and minutes. The page does not say what ☾ was entering and leaving.

[1965] the page is set in a single full-width column. It opens with no date line; the observations of the eclipse of 2 March begun on the previous pages run on.

[1966] this line stands above the column heads below: the time at the left, the rest from the position of the second column. The line prints no verb. The time, printed without unit marks, is given as hours and minutes; the distance, printed without unit marks, as degrees and minutes.

Time (clock)	Time (ver-i-fied)	*Spica*	*Decli-nation of the upper limb [Decl.] [ſuper. limbi]*	*Eastern limb of ☾ and the heart of ♌ [Or. limb. ☾] [& cor. ♌]*	Remark
3h 18m	*3h 18m 57s*	*117° 12¾′*	*2° 39′*	*28° 57′*	
3h 21m		*118° 2¼′*	*2° 39′*	*28° 58¾′*	
3h 25½m [3 25½2]	3h 26m 37s	119° 17′	2° 41′	29° 3½′	
				Eastern limb and Spica [Or. limb. & Spica]	
3h 32⅓m			*2° 37′*	*24° 57½′*	
3h 39m	*3h 40m 51s*	*122° 35′*	*2° 35½′*	*24° 55½′*	
3h 43m	*3h 43m 45s*	*123° 30′*			☾ *began to come out of the shadow* [*Incepit ☾ egredi ex vmbra*]
3h 47½m					*Arcturus was 111° 22′ from the east, for correcting the clock. The time corresponds to 3h 48m 31s. If you set the first total ingress at 2h 19m and the egress at 3h 43m, you will err imperceptibly.* [*ſuit Arcturus P. 111 22′ ab ortu pro corrigendo horo-*] [*logio. Tempus reſpondet 3H 48′ 31″. Si ponas primum*] [*totalem ingreßum H. 2 19′ & egreßum H. 3 43′, inſenſi-*] [*biliter aberrabis.*]
3h 53m	*3h 53m 59s*				*Then approximately an eighth part of ☾ had come out of the shadow. Arcturus 112° 44′.* [*Tunc quaſi octaua pars ☾ erat vmbram egreßa. Arctu-*] [*rus 112 44.*]
3h 55½m					*The altitude of the upper horn of ☾ was 18° 48′.* [*Fuit alt. ſuper. cornu ☾ 18 48.*]
3h 59m	*3h 59m 51s*				☾ *recovered light by about a sixth part.* [☾ *recuperauit quaſi ſexta parte lumen.*]
4h 19⅔m	*4h 20m 31s*				*Very nearly half the Moon recovered light. Arcturus from the east 119° 25′.* [*Luna proxime media recuperauit lumen. Arcturus ab*] [*ortu 119 25.*]
4h 21m	*4h 21m 59s*				*Dawn was first seen when Arcturus was 119¾° distant from the east. You can set the first beginning of dawn at 4h 20m, with the time of the clock corrected to the transit of Arcturus.* [*Primum Aurora viſa eſt, cum Arcturus abeßet 119¾ ab*] [*ortu. Potes ponere primum initium auroræ H. 4 20, cor-*] [*recto tempore Horologij ad tranſitum Arcturi.*]
4h 27½m	*4h 28m 43s*				*The Moon recovered light, approximately over two thirds of the whole body. Arcturus 121° 27′* east. [*Recuperauit luna lumen, quaſi per duas tertias totius*] [*corporis. Arcturus 121 27* orient.]

Time (clock)	Time (verified)	*Spica*	*Declination of the upper limb [Decl.] [ſuper. limbi]*	*Eastern limb of ☾ and the heart of ♌ [Or. limb. ☾] [& cor. ♌]*	Remark
$4^h\ 35^m$	$4^h\ 36^m\ 10^s$				*Arcturus 123° 18′. The Moon then seemed to labour in darkness with only a fourth part of itself, so that ¾ was illuminated, as far as could be seen through the small clouds lying in between, through which the body of ☾ appeared at the end of the whole duration.* [*Arcturus 123 18. Luna tunc ſaltem quarta ſui parte vi-*] [*debatur laborare in tenebris. Ita vt ¾ eßet illuminata,*] [*quantum videre licuit per nubeculas interpoſitas, per*] [*quas ☾ corpus in fine totius durationis apparuit.*]
$4^h\ 45^m$					*Something was still lacking, but not very much; ☾ was in clouds, and therefore it could not be well discerned.* [*Aliquid adhuc deſiderabatur, ſed non admodum mul-*] [*tum, ☾ erat in nubibus, ideoque id non bene diſcerni*] [*poterat.*]

1967

From the beginning and in the middle [it] was sufficiently clear, up to the total egress and a little after. And all these observations are sufficiently good and certain; the restoration of the lunar course can safely be founded on them. [*Ab initio & in medio erat ſatis ſerenum, vſque ad totalem egreßionem &*] [*paulo poſt. Suntque hæ omnes obſeruationes ſatis bonæ & certæ, quibus*] [*lunaris curſus reſtitutio tuto fundari poteſt.*]

1967 "Time (clock)", "Time (verified)" and "Remark" are this edition's heads; the page prints none over those columns, and the two time heads follow *Horol.* and *verificatum* of the eclipse table two pages earlier. The heads of the third to fifth columns are the page's, set in smaller italic; *Spica* stands on a level between the two head lines. *Or. limb. & Spica* is printed in smaller italic over the fifth column, on a line between the rows, and heads the values below it. The rows are set in italic, except the third row, which is set in roman throughout, and *orient.* (in the row at $4^h\ 27½^m$), which is roman. Each remark begins at the left of the third column; the remark at $3^h\ 43^m$ follows the value *123 30* and ends without a point, and the next remark begins with a lower-case *fuit*. *primum totalem ingreßum* is given as "the first total ingress"; *primum* can also be taken as an adverb ("if you first set the total ingress"). *correcto tempore Horologij ad tranſitum Arcturi* is given as "with the time of the clock corrected to the transit of Arcturus" (*ad* can also be taken as "by"). *Luna proxime media* is given as "very nearly half the Moon", the phase between a sixth part and two thirds recovered; "the Moon very nearly in the middle" is the other construal. *ſaltem* is given as "only"; it can also be taken as "at least" ("with at least a fourth part of itself"). *Arcturus abeßet 119¾* prints the figure with a fraction and no unit marks, given as degrees. *P.* before *111* is given as degrees. The times, printed without unit marks, are given as hours, minutes and seconds, or as hours and minutes where two figures are printed; *3H 48′ 31″*, *H. 2 19′*, *H. 3 43′* and *H. 4 20* as hours, minutes and seconds or hours and minutes. The other values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

By estimation, and as far as could be seen through the denser clouds, by conjecturing that [it] was spreading equal light on all sides, [it] was wholly full at about 4^h 50^m. [*Per æſtimationem & quantum per denſiores nubes videri potuit, conijci-*] [*endo quod æquale lumen vndique ſpargeret, fuit iuxta H. 4 M. 50 tota plena.*]

Time	Value	Corresponding time
4^h 3^m 39^s [H. 4 3′ 39″]	Arcturus from the east [Arcturus ab ortu] 115° 27′	corresponds to [reſpondet] 4^h 4^m 51^s [H. 4 4′ 51″]
4^h 5^m 0^s	115° 47′	4^h 6^m 11^s
4^h 5^m 42^s	115° 57′	4^h 6^m 51^s
4^h 54^m 10^s	128° 9′	4^h 55^m 23^s
4^h 55^m 6^s	128° 20′	4^h 56^m 11^s
4^h 55^m 50^s	128° 33′	4^h 57^m 3^s

1968

1 Added: *Iohannes does not have this time.* [Adſcriptum eſt: *hoc tempus non habet Iohannes.*]

2 Added: *Iohannes does not have [it].* [Adſcriptum eſt: *Non habet Iohannes.*][1969]

In the Southern Observatory [IN OBSERUATORIO AUSTRALI.]

Time of the clock [Tempus Horol.]	☌ from the meridian, west [☌ a merid. occ.]	True time [Verum tempus]	Remark
1^h 15^m 27^s [H. 1 15′ 27″]	4^h $5½^m$ [H. 4 5½]	1^h $15½^m$	And then ☾ perceptibly appeared to enter the shadow of the earth. [Tuncque ſenſibiliter appare-] [bat ☾ vmbram terræ ingredi.]
1^h 21^m 18^s	4^h 11^m 35^s	1^h 21^m 35^s	and then about a fifth part of the semidiameter of ☾ was seen darkened. [atque viſa eſt tunc quaſi quin-] [ta pars ☾ ſemidiametri obſcu-] [rata.]
1^h 27^m 40^s	4^h 18^m	1^h 28^m	And then approximately a little more than a third part of the semidiameter of ☾ seemed to have departed. [Tuncque quaſi paulo plus] [tertia parte ſemidiametri ☾] [deceßiße videbatur.]
1^h 37^m 33^s	4^h 27^m 40^s	1^h 37^m 40^s	And now a little more than about a third part of the whole ☾ appeared to be in the shadow. [Iamque paulo plus tertia quaſi] [parte totius ☾ in vmbra ver-] [ſari apparebat.]
1^h 45^m 10^s	4^h $35½^m$ The heart of ☋, west [Cor ☋ occ.]	1^h $45½^m$	Half of ☾ was seen to be immersed. [☾ Media immergi viſa eſt.]

[1968] "Time", "Value" and "Corresponding time" are this edition's heads; the page prints no head line over these figures. *Arcturus ab ortu* and *reſpondet* are printed in the first row only, before the first value and the first right-hand time. The table is set in roman. The first times on the left and on the right print *H.* with minute and second marks, and the first value degree and minute marks; the other figures, printed without unit marks, are given in the same units.

[1969] the page does not say who Iohannes is.

Time of the clock [Tempus Horol.]	☌ from the meridian, west [☌ a merid. occ.]	True time [Verum tempus]	Remark
$2^h\ 30^m\ 49^s$	$4^h\ 18^m$	$2^h\ 31^m\ 15^s$	☾ seemed wholly immersed in the shadow (*slower than it should*).[1] [☾ penitus immerſa in vm-] [bram videbatur (*iuſto tar-*] [*dius)*[1].]
	The tail of ☋, west [Cauda ☋ occ.]		
$3^h\ 40^m\ 38^s$	$3^h\ 46½^m$	$3^h\ 41^m\ 6^s$	☾ [was] now brighter on the other side, which appeared soon to emerge from the shadow. [☾ iam altera parte lucidior] [quæ mox emerſura ex vm-] [bra apparebat.]
$3^h\ 46^m\ 37^s$	$3^h\ 52^m\ 40^s$	$3^h\ 47^m\ 16^s$	And then ☾ seemed perceptibly to leave the shadow. [Atque tunc ☾ ſenſibiliter egre-] [di vmbram videbatur.]

1970

Diagram. Eight circles of equal size stand in a vertical column at the right of the page, one to the right of each of the eight remarks of the table above, in order. They carry no letters, labels or numbers.

- 1 (beside the remark at $1^h\ 15^m\ 27^s$): an open circle with a small, densely hatched sliver on its lower left edge.
- 2 (beside the remark at $1^h\ 21^m\ 18^s$): the same, the hatched sliver slightly longer.
- 3 (beside the remark at $1^h\ 27^m\ 40^s$): a hatched segment at the lower left, bounded by a curve, hatched in one direction.
- 4 (beside the remark at $1^h\ 37^m\ 33^s$): a larger hatched segment of the same kind at the lower left.
- 5 (beside the remark at $1^h\ 45^m\ 10^s$): a cross-hatched area over the left part of the disc, bounded by a curve running from the upper left to the bottom; the right part open.

[1970] "Remark" is this edition's head; the page prints none over the text. The other three heads are the page's, in smaller roman; *Horol.* is given as "of the clock" and *Verum tempus* as "True time", as on earlier pages. *Cor* ☋ *occ.* and *Cauda* ☋ *occ.* are printed in smaller roman over the second column, each on a line between the rows, and head the values below them. The table is set in roman; *iuſto tardius)* is italic. The first time prints *H.* with minute and second marks and the first value of the second column *H.*; the other figures, printed without unit marks, are given as hours, minutes and seconds, or as hours and minutes where two figures are printed. *iuſto tardius* is given as "slower than it should", as elsewhere in this edition; said of the moment of immersion it can also be taken as "later than correct". ☾ *Media* (capital *M*, as printed) is given as "half of ☾", the phase between the third part and the whole; "the middle of ☾" is the other construal. In the third and fourth rows *paulo plus* is taken as the subject ("a little more than a third part … seemed to have departed"); it can also be taken with ☾ understood as subject ("☾ seemed to have lost a little more than a third part …"). *quæ* in the eighth row is given with "the other side"; it can also refer to ☾ ("☾, which appeared soon to emerge"). The first remark begins with *Tuncque*, and the second with a lower-case *atque*. Empty cells are empty on the page.

- 6 (beside the remark at $2^h\ 30^m\ 49^s$): the whole disc hatched, cross-hatched over most of it; a narrow band at the right edge, from the middle upward, is hatched in one direction only.
- 7 (beside the remark at $3^h\ 40^m\ 38^s$): the whole disc cross-hatched.
- 8 (beside the remark at $3^h\ 46^m\ 37^s$): the whole disc cross-hatched, with a narrow open crescent at the left edge.

[1] Tycho added [this] afterwards. [Poſtea adſcripſit Tycho.]

In the Northern Observatory [IN OBSERUATORIO BOREALI.]

I. Beginning of the ingress of ☾ into the shadow. Time by the armillae, gathered from the time of the transit of ☊ through the meridian and the equatorial distance, $13^h\ 17^m\ 0^s$. *Therefore [it] would have begun at $1^h\ 12^m$.*[1] [I. Principium ingreßus ☾ in vmbram. Tempus per Armillas] [ex tempore tranſitus ☊ per Mer. & diſtantia æquatoria col-] [lectum H. 13 M. 17. 0 *Ergo incepißet H. 1 M. 12*[1]][1971]

Time from the clock [Tempus] [ex Horol.]	From the removal of ☊ from the meridian, in equatorial distance [Ex remotione ☊] [a mer. in diſt. æquat.]	Remark
…	$13^h\ 21^m$	*[It] would have begun at $1^h\ 12^m$* [*Incepißet H. 1 12*]
…	$13^h\ 24^m\ 0^s$	*[It] would have begun at $1^h\ 9^m$* [*Incepißet 1 9*]
$1^h\ 28^m\ 4^s$	$13^h\ 28^m$	*[It] would have begun at $1^h\ 8^m$* [*Incepißet 1 8*]
$1^h\ 34^m\ 10^s$	$13^h\ 34^m\ 30^s$	
$1^h\ 45^m\ 22^s$		II. Half of ☾ seemed darkened. [II. Videbatur media pars ☾ obſcurata] *[It] would have begun at $1^h\ 14^m$* [*Incepißet 1 14*]
$1^h\ 48^m\ 55^s$	$13^h\ 48^m\ 30^s$	
…		I could not get the time; it was, however, about the middle, as I believe, of the immediately preceding and following eclipse of ☾. [Tempus habere non potui, fuit tamen circa me-] [dium, vt opinor, præcedentis & ſequentis proxime] [eclipſeos ☾.]

[1971] *Ergo incepißet H. 1 M. 12* is set in italic, the rest of the paragraph in roman. *0*, printed after a point with no unit mark, is given as seconds. *per Mer.* is given as "through the meridian". *incepißet* (pluperfect subjunctive) is given as "would have begun"; its subject is left in the verb ending.

1972

Diagram. Eight circles of equal size stand in a vertical column at the right of the page, the first beside the opening paragraph and the others beside the rows of the table above, in order. They carry no letters, labels or numbers; each circle carries small drawn strokes and patches within it.

- 1 (beside the paragraph I.): a small cross-hatched patch on the left edge.
- 2 (beside the first row, $13^h\ 21^m$): a cross-hatched crescent along the lower left edge, larger.
- 3 (beside the second row, $13^h\ 24^m\ 0^s$): a hatched area at the left, bounded by a curve, larger.
- 4 (beside the row at $1^h\ 28^m\ 4^s$): a larger hatched area at the left and lower left, bounded by a curve.
- 5 (beside the row at $1^h\ 34^m\ 10^s$): a hatched area over the left part, bounded by a curve running from the upper left to the bottom; a curved line drawn inside the lower right edge.
- 6 (beside the row at $1^h\ 45^m\ 22^s$, II.): a cross-hatched area over the left part, larger, bounded by a curve from the upper left to the bottom.
- 7 (beside the row at $1^h\ 48^m\ 55^s$): a cross-hatched area over most of the disc, the right part open.
- 8 (beside the last remark): the whole disc hatched, cross-hatched over the left part and hatched in one direction over the right; a small open sliver at the upper right edge.

[1] Tycho added [this] afterwards. [Poſtea adſcripſit Tycho.]

1972 "Remark" is this edition's head; the page prints none over the third position. The other two heads are the page's, in smaller roman, each set on two lines; *diſt. æquat.* is expanded after *diſtantia æquatoria* in the paragraph above, and *a mer.* is given as "from the meridian". The three spaced points in the first column are the page's; no clock time is printed in those rows. The *Incepißet* lines are italic; *Incepißet 1 14* is printed on its own line under *II. Videbatur …*. The remark at $1^h\ 45^m\ 22^s$ begins to the right of the second column, and the last remark at the second column's position. The figures, printed without unit marks (the first remark prints *H.* before *1*), are given as hours, minutes and seconds, or as hours and minutes where two figures are printed. *media pars* is given as "half"; "the middle part of ☾" is the other construal. In the last remark *præcedentis & ſequentis proxime* is taken with *eclipſeos* ("the immediately preceding and following eclipse"); it can also be taken on its own ("of the immediately preceding and following [time]"), with *eclipſeos* ☾ depending on *medium* ("about the middle of the eclipse of ☾"). Empty cells are empty on the page.

Time from the clock	From the removal of ☌ from the meridian, in equatorial distance	Remark
…		III. For the time, the heart of ☋ was taken here from the meridian, in equatorial distance 4^h 8½^m; the time 14^h 25^m 45^s corresponds. [It] seemed wholly darkened. [III. Pro tempore hic accipiebatur cor ☋ a Mer. in] [diſtantia æquatoria H. 4 8½, reſpondet tempus] [14 25 45 Tota obſcurata videbatur.]
2^h 31^m 10^s	4^h 31^m 15^s	from the heart of ☋ [ex corde ☋]
…	15^h 28^m 35^s	from the heart of ☋ [ex corde ☋]
3^h 40^m 8^s	15^h 40^m 16^s	IV. The tail of ☋ was 3^h 45⅔^m distant from the meridian. [It] seemed to come out of the shadow, but dimly. [IV. Cauda ☋ diſtabat a Meridiano 3 45⅔.] [Videbatur egredi ex vmbra ſed obſcure.]
3^h 53^m 35^s	15^h 53^m 16^s	Time from the distance of Arcturus from the meridian. [It] obtained the usual light. [Tempus ex diſtantia Arcturi a Meridiano.] [Conſuetum obtinuit lumen.]
4^h 26^m 28^s	V. 16^h 27^m 45^s [V. 16 27 45]	Arcturus. Half illuminated. [Arctur. Media pars illuminata.]

1973

Time	Remark	Value
11^h 53^m 26^s	The western limb of ☾ through the meridian, having the altitude by the Tychonic quadrant: of the lower limb 36° 47′, of the upper 37° 19⅓′, diameter 0° 32⅓′. [Occ. limb. ☾ per Merid. habens Alt. per Q. Tychon. inferioris] [limbi 36 47, ſuperioris 37 19⅓, diameter 0 32⅓.]	
1^h 55^m 22^s	Between the western limb of ☾ and the heart of ☋ [Inter occ. limb. ☾ & cor ☋]	27° 41⅙′
2^h 0^m 0^s	Between the western limb of ☾ and the heart of ☋ [Inter occ. limb. ☾ & cor ☋]	27° 46′
2^h 5^m 9^s	Repeated [Repetita]	27° 47′
2^h 7^m 25^s	Between Spica and the western limb of ☾ [Inter Spicam & occ. limb. ☾]	26° 10′
2^h 8^m 58^s	The same, repeated [Eadem repetita]	26° 8′

[1973] the page prints no head line; the column heads repeat those of the table on the previous page, whose first two groups these figures continue in the same positions ("Remark" is this edition's head there). The three spaced points in the first column are the page's; no clock time is printed in those rows. The remark at the head of the table begins at the second column's position, and *14 25 45* is printed inside it, at the start of its third line; *ex corde* ☋, *IV. …* and *Tempus …* follow the second-column figures on the same line. *V.* is printed at the second column's left edge, before *16 27 45*. The figures in the first two columns, printed without unit marks, are given as hours, minutes and seconds. *H. 4 8½* prints *H.* and is given as hours and minutes; *3 45⅔*, printed without unit marks, is given in the same units, as the distance of a star from the meridian, which the remark above it states in hours. *cor* ☋ is given as "the heart of ☋", and *ex corde* ☋ as "from the heart of ☋". *Tota obſcurata videbatur* is given as "[It] seemed wholly darkened" (*Tota* agreeing with the understood subject; "the whole [Moon] seemed darkened" is the same reading). *obſcure* is given as "dimly"; "obscurely" is the other rendering. *Arctur.* is expanded after *Arcturi* in the row above. *Media pars illuminata* is given as "Half illuminated" ("the half part illuminated"); "the middle part illuminated" is the other construal. Empty cells are empty on the page.

Time	Remark	Value
$2^h\ 11^m\ 41^s$	The same, repeated [Eadem repetita]	26° 9′
$2^h\ 13^m\ 28^s$	Repeated [Repetita]	26° 7¾′
$2^h\ 43^m\ 20^s$	Between the western limb of ☾ and the heart of ♌ [Inter occ. limb. ☾ et cor ♌]	28° 3′
$2^h\ 45^m\ 40^s$	The same [Eadem]	28° 5′
$2^h\ 47^m\ 5^s$	Repeated, the same [Repetita eadem]	28° 5′

1974

Diagram. Six circles of equal size stand in a vertical column at the right of the page, one beside each of the six entries of the first table above, in order; none stands beside the second table. They carry no letters, labels or numbers.

- 1 (beside the remark III.): the whole disc cross-hatched.
- 2 (beside the row at $2^h\ 31^m\ 10^s$): the whole disc cross-hatched, the cross-hatching denser at the left.
- 3 (beside the row at $15^h\ 28^m\ 35^s$): the whole disc hatched in one direction, diagonally, with a few darker marks.
- 4 (beside the row at $3^h\ 40^m\ 8^s$, IV.): the whole disc hatched, with crossing strokes.
- 5 (beside the row at $3^h\ 53^m\ 35^s$): the whole disc hatched, with a narrow open crescent at the left edge.
- 6 (beside the row at $4^h\ 26^m\ 28^s$, V.): the left part open, with small drawn strokes and patches; the right part cross-hatched, bounded by a curve from top to bottom.

Time	Remark	Value
$2^h\ 50^m\ 30^s$	Repeated [Repetita]	28° 7′
$2^h\ 56^m\ 54^s$	Between the western limb of ☾ and Spica [Inter occ. limb. ☾ & Spicam]	25° 47½′
$2^h\ 58^m\ 44^s$	The same distance [Eadem diſtantia]	25° 40′
$2^h\ 59^m\ 52^s$	Repeated [Repetita]	25° 41½′
$3^h\ 1^m\ 25^s$	Repeated [Repetita]	25° 42¼′
$3^h\ 2^m\ 58^s$	Between the eastern limb of ☾ and Spica [Inter orient. limb. ☾ & Spicam]	25° 12′
$3^h\ 4^m\ 0^s$	Between the eastern limb of ☾ and Spica [Inter orient. limb. ☾ & Spicam]	25° 15′
$3^h\ 6^m\ 35^s$	The same distance, repeated [Eadem diſt. repetita]	25° 16′

1974 "Time", "Remark" and "Value" are this edition's heads; the page prints no head line, date line or heading over these rows, which stand below the rows above after a space. The table is set in roman. The first remark runs from the second column's position to the right margin, with no value in the third column. The row at $2^h\ 43^m\ 20^s$ prints *et* where the rows at $1^h\ 55^m\ 22^s$ and $2^h\ 0^m\ 0^s$ print &. The times, printed without unit marks, are given as hours, minutes and seconds; the altitudes, the diameter and the values, printed without unit marks, are given as degrees and minutes. *per Q. Tychon.* is given as "by the Tychonic quadrant". Empty cells are empty on the page.

1975

These observations above were made by the new trigonal sextant. [Factæ ſunt obſeruationes hæ ſuperius per Sextantem nouum Trigonicum.][1976]

Mechanical examination of the lunar eclipse [EXAMINATIO ECLIPSIS LUNARIS MECHANICA.]

The Alphonsine calculation puts ☊ in 19° 46′, but the Prutenic in 19° 36′; difference 0° 10′. I assumed the place of ☊ in 19° 40′, and the place of ☉ from my calculation 22° 50′ ♓, the semidiameter of ☾ 16′ 45″, the semidiameter of the shadow 45′ 30″. [*Alphonſinus calculus ponit ☊ in 19 46, Prutenicus vero in 19 36, diffe-*] [*rentia 0 10. Aßumſi locum ☊ in 19 40 & locum ☉ ex meo calculo 22 50 ♓,*] [*ſemidiam. ☾ 16′ 45″, ſemid. vmbræ 45′ 30″.*]

From the half ingress to the central [one]: 43⅓′, 1ʰ 22ᵐ [*A dimidio ingreßu ad centralem 43⅓′ H. 1 M. 22*]

From the central [one] to the middle: 40¼′, 1ʰ 16ᵐ [*A centrali ad Medietatem 40¼ 1 16*][1977]

Hence by the mechanical practice: [*Hinc per mechanicam praxin.*]

Remark	Value	Difference [Differentia]
When ☾ first touched the shadow [*Quando ☾ primum vmbram attigit*]	♍ *21° 48′ 35″*	*37′ 10″*
When [it was] first wholly in the shadow [*Quando primum tota in vmbra*]	*22° 25′ 45″*	*24′ 15″*
When [it was] in the middle, in ☌ of the Sun [*Quando media in ☌ Solis*]	*22° 50′ 0″*	*21′ 20″*
When [it] was first coming out [*Quando primum egrediebatur*]	*23° 11′ 20″*	*36′ 55″*
When [it] had wholly come out [*Quando tota egreßa eſt*]	*23° 48′ 15″*	

[1975] These rows continue the unheaded table at the foot of the previous page (from the row at $11^h\ 53^m\ 26^s$ to the row at $2^h\ 47^m\ 5^s$), in the same three groups; the page break falls between rows, and the page prints no head line, date line or heading over them. "Time", "Remark" and "Value" are this edition's heads, as on the previous page. The table is set in roman. The times, printed without unit marks, are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes. *diſt.* is expanded after *diſtantia* two rows above it.

[1976] *ſuperius* is given as "above", of the observations listed above it on the page; "were made higher up" (of the place of observation) is the other construal.

[1977] The heading and these lines are set in italic. *vero* is given as "but". The figures for ☊ and ☉, printed without unit marks, are given as degrees and minutes; the semidiameters print their marks. *ſemidiam.* and *ſemid.* are expanded as "semidiameter". *centralem* and *centrali* are adjectives whose noun the page does not print, given as "the central [one]". *Medietatem* is given as "the middle"; "the half" is the other rendering. *43⅓′* prints a minute mark; *40¼*, printed without one, is given in the same unit. The figures after them print *H.* and *M.* in the first line only; *1 16* is given as hours and minutes, standing under *1* and *22*.

1978

If the daily motion of ☾ from the Sun is assumed [to be] 12¾°, [there] correspond: [*Si aßumatur motus diurnus ☾ a Sole 12¾ Gr. reſp.*]

Remark	Time	Value
from the beginning to the middle [*ab initio ad medium*]	$1^h\ 55½^m$	1° 1′ 30″
from the total [obscuration] to the middle [*a tota ad medium*]	$0^h\ 46^m$	0° 24′ 25″
from the middle to the 1st egress [*a medio ad 1 egreßum*]	$0^h\ 40^m$	0° 21′ 5″
from the middle to the end [*a medio ad finem*]	$1^h\ 49^m$	0° 57′ 55″
from the beginning to the total obscur. [*ab initio ad totam obſcur.*]	$1^h\ 9½^m$	0° 37′ 0″
from the first egress to the end [*a primo egreßu ad finem*]	$1^h\ 9^m$	0° 37′ 0″

1979

N.B. Of ☾ there was eclipsed, according to our reckonings, p.mta 16. [*N. B. Eclipſabatur de ☾ iuxta noſtras rationes p.mta 16.*][1980]

According to the calculation [IUXTA CALCULUM]

	Prutenic [Prutenicum]	Alphonsine [Alphonſinum]	Peurbach's [Purbachij]	Mästlin's own [Mæſtlini ipſius]	*Ours* [*Noſtrum*]	*Ours, more correct* [*Noſt. correctior.*]
First ingress [Primus ingreßus]	$0^h\ 41^m$	$2^h\ 36^m$	$1^h\ 43^m$	$2^h\ 15^m$	$1^h\ 47^m$	$1^h\ 42^m$
Total obscuration [Totalis obſcuratio]	$1^h\ 48^m$	$3^h\ 47^m$	$2^h\ 54^m$	$3^h\ 25^m$	$2^h\ 56^m$	$2^h\ 51^m$
Middle of the eclipse [Medium Eclipſeos]	$2^h\ 35^m$	$4^h\ 24^m$	$3^h\ 31^m$	$4^h\ 7^m$	$3^h\ 40^m$	$3^h\ 35^m$

[1978] "Remark" and "Value" are this edition's heads; the page prints only *Differentia*, at the end of the line *Hinc per mechanicam praxin.*, over the third column. The table is set in italic. ☊ is printed in the first row only. The values, printed without unit marks, are given as degrees, minutes and seconds; the differences, printed without unit marks, as minutes and seconds — each is the difference between its row's value and the next row's value. *tota* (twice) agrees with the subject the verb leaves understood, given as "wholly". *media* is given as "in the middle" (agreeing with the understood subject), the phase between total immersion and the first coming out; "half", the rendering of *media* in the earlier phase descriptions, is the other construal. *egrediebatur* (imperfect) is given as "was first coming out"; *egreßa eſt* as "had come out". The last row prints no difference.

[1979] "Remark", "Time" and "Value" are this edition's heads; the page prints none. The table is set in italic. The first row prints *H. 1 M. 55½* and *1° 1′ 30″*; the figures below, printed without unit marks, are given in the same units. *reſp.* is given as "[there] correspond" (*respondent*); "respectively" is the other expansion. *tota* in the second row is an adjective whose noun the page does not print; "[obscuration]" is supplied from *totam obſcur.* in the fifth row, where *obſcur.* stays abbreviated. *1 egreßum* prints the figure *1*.

[1980] *p.mta* is left as printed; the page does not expand it. *Eclipſabatur de ☾* (impersonal, with *de*) is given as "Of ☾ there was eclipsed".

	Prutenic [Prutenicum]	Alphonsine [Alphonſinum]	Peurbach's [Purbachij]	Mästlin's own [Mæſtlini ipſius]	*Ours [Noſtrum]*	*Ours, more correct [Noſt. correctior.]*
First egress [Primus Egreßus]	$3^h\ 22^m$	$5^h\ 1^m$	$4^h\ 8^m$	$4^h\ 49^m$	*$4^h\ 24^m$*	*$4^h\ 19^m$*
Total liberation [Totalis liberatio]	$4^h\ 29^m$	$6^h\ 12^m$	$5^h\ 19^m$	$5^h\ 59^m$	*$5^h\ 33^m$*	*$5^h\ 28^m$*
Digiti Ecliptici	17° 19′	15° 7′	15° 11′	15° 28′		

1981

True middle of this eclipse $3^h\ 5^m$ [Verum Medium huius eclipſis $3^H\ 5^M$]

The place of the Sun from the modern tables, at 3^h complete from midnight, in 22° 49½′ ♓ [Locus Solis e neotericis tabulis ad horam 3] [completam a media nocte in 22.49½ ♓]

☾ in the 90th degree $2^h\ 28^m$ [☾ in 90 gr. 2^H28^M]

The Sun rises $6^h\ 16^m$ [Sol oritur 6 16][1982]

On the day[1] 2 March, A. M., at $3^h\ 5^m$, was the middle time of the eclipse of ☾. The place of ☉ was then in 22° 50′ ♓. For this time its longitude was sought from the observations of ☾ and the fixed [stars], account being taken of the parallax when [it] was observed outside the 90th degree, in which [it] was at 2^h 31^m A. M. on the same day. [Die[1] 2 Martij A. M. H. 3.5 fuit medium Tempus Eclipſeos ☾.Fuit tunc locus] [☉ in 22.50 ♓. Ad hoc tempus ex obſeruationibus ☾ & fixis inquirebatur eius] [Longitudo, habita ratione parallaxeos quando extra 90 G. obſeruabatur, in] [quo fuit H. 2.31 A. M. eodem die.][1983]

[1] Written on a loose leaf of codex D. [In folio ſoluto codicis D conſcriptum.]

[1981] The page prints the six column heads in smaller type and no head over the row labels. *Noſtrum* and *Noſt. correctior.* and the figures under them are set in italic, the rest in roman. The first row prints the superior letters *H* and *M* in the first five columns; *1 42* in the sixth column prints none and is given as hours and minutes, as are the figures in the rows below, which print no unit marks. The last row prints ° and a minute mark in the first four columns; the last two columns are empty there. *Noſt.* is expanded after *Noſtrum* beside it; *correctior.* is given as "more correct" ("more corrected" is the other rendering). *Digiti Ecliptici* is kept as printed. Empty cells are empty on the page.

[1982] These lines are set in italic, in two parts: ☾ *in 90 gr. …* stands at the right of the line *Verum Medium …*, and *Sol oritur 6 16* at the right of the line *Locus Solis …*; the left part is given first. *ad horam 3 completam* is given as "at 3^h complete" ("at the completed third hour"). *22.49½*, printed with a point and no unit marks, is given as degrees and minutes; *6 16*, printed without unit marks, as hours and minutes. *neotericis* is given as "modern".

[1983] *H. 3.5* and *H. 2.31* print *H.* and a point; the second figure is given as minutes. *22.50*, printed with a point and no unit marks, is given as degrees and minutes. *eius* ("its") refers back to ☾. *in quo* is given as referring to *90 G.* ("the 90th degree"); "at which [time]" is the other construal. *inquirebatur* (imperfect) is given as "was sought". *& fixis* is given as "and the fixed [stars]", governed with ☾ by *obſeruationibus*; "and from the fixed [stars]" is the other construal. *A. M.* stays abbreviated. The footnote cue is printed after *Die*.

Remark	Time	Quantity	Value
From the distance of ☾ from ♃ [Ex diſtantia ☾ a ♃]	$0^h\ 16^m$	the place of ☾ came out [proueniebat locus ☾]	22° 46 1/12′ ♍
	$0^h\ 29½^m$	longitude of ☾ [longit. ☾]	22° 46¼′
From the equatorial distance of ☾ and Arcturus [Ex diſt. æquat. ☾ & Arcturi]	$0^h\ 35^m$		22° 44⅙′
	$0^h\ 50^m$	place of ☾ [locus ☾]	22° 43 1/12′
From the distance of ☾ and Spica [Ex diſtantia ☾ & Spicæ]	$2^h\ 30^m$		22° 39½′
[From the distance of] ☾ and the heart of ♌ [☾ & cordis ♌]	$2^h\ 40^m$		22° 38⅙′
	$3^h\ 18^m$		22° 42½′
	$3^h\ 21^m$		22° 44⅚′
[From the distance of] ☾ and Spica ♍ [☾ & Spicæ ♍]	$3^h\ 32^m$		22° 42¾′
	$3^h\ 40^m$		22° 40½′

1984

On 23 April, P. M. [DIE 23 APRILIS P. M.]

Meridian altitude of ☾ [Altit. Merid. ☾]	Value
of the upper horn [ſuperioris cornu], by the steel [quadrant] [per Chalyb.]	48° 15′
by the revolving [quadrant] [per Volub.]	48° 15½′
of the lower [inferioris], by the revolving [quadrant] [per Volub.]	47° 46′

1985

1984 "Remark", "Time", "Quantity" and "Value" are this edition's heads; the page prints none. The table is set in roman, full measure, at the head of the page, where the last paragraph of the previous page ends (its longitude was sought from the observations of ☾ and the fixed [stars]). The times print a point between the figures and *H.* only in the first row (*H. 0. 16*); all are given as hours and minutes. The first value prints *22° 46′ 1/12* ♍, the minute mark before the fraction; the other values, printed without unit marks, are given as degrees and minutes. *proueniebat* (imperfect) is given as "came out" ("resulted"). The labels at $2^h\ 40^m$ and $3^h\ 32^m$ are set in under *Ex diſtantia* in the row above and print only ☾ *&* ♌ *cordis* and ☾ *&* ♍ *Spicæ*; "[From the distance of]" is supplied from that row. *cor* ♌ is given as "the heart of ♌". Empty cells are empty on the page.

1985 "Value" is this edition's head; *Altit. Merid.* ☾ is printed as a centred line over these rows. The lower part of the page is set in two columns divided by a vertical rule, in roman; the left column is given first. *per Volub.* in the second row is set under *per Chalyb.* and prints no label of its own; it is read with *ſuperioris cornu* above it. The values, printed without unit marks, are given as degrees and minutes.

Canis Minor, west [Canis min.] [occid.]	Between the western limb of ☾ and the southern head of ♊, by the sextant △ [Inter ☾ occ. limb. &] [mer. cap. ♊ per. Sext. △]	Altitude of the upper horn of ☾ [Altit. ſup.] [cornu ☾]
60° 0′	26° 27¾′	39⅔[°]
61° 20′	26° 30′	
61° 48′	26° 31½′	

At the same instant (as the row at 61° 48′), declination [eodem inſtanti Declin.]	Value
of the upper horn [ſuper. cornu]	13° 53½′
of the lower [inferioris]	13° 23′

1986

On 25 April [DIE 25 APRILIS.]

Observation of ☾ about the 90th degree. [Obſeruatio ☾ circa 90 Gradum.]

Canis Minor from the meridian [Canis min.] [a Merid.]	Declination, upper [Declin ſup.]: upper horn [ſup. cor.]	Declination: lower [infer.]	Western limb of ☾ from the heart of ♌ [☾ occ. limb.] [a corde ♌]	Altitude: upper horn [Altit.] [ſup. cor.]
73° 46′			14° 5¾′	38° 0′
75° 17′	7° 14′ (for both)	6° 45½′ (for both)	14° 10′	37° 20′
75° 54′			14° 11⅓′	37° 12′
76° 28′	7° 10½′	6° 42½′		

The heart of ♌ from the meridian [Cor. ♌] [a Mer.]	Western limb of ☾ from Spica [☾ occ. limb.] [a Spica]	Value
40° 45′	39° 56⅓′	36° 40′
41° 21′	39° 55¾′	36° 15′
41° 46′	39° 54¾′	36° 0′

[1986] The heads of the first of these two tables are printed in smaller type over its three columns. A brace at the left of the column joins the row *61 48* with the line *eodem inſtanti Declin.*, so the declinations below are those taken at the time of that row. "Value" is this edition's head. *mer. cap.* ♊ is given as "the southern head of ♊" (*mer.* as *meridionale*); "the head of ♊ in the meridian" is the other construal. *per. Sext.* △ prints a point after *per.* The pairs of figures, printed without unit marks, are given as degrees and minutes; *39⅔*, a single figure with a fraction and no mark, is given as degrees, the unit supplied in brackets. *Canis min. occid.* follows the earlier rendering "Canis Minor, west". Empty cells are empty on the page.

1987

On 23 May [DIE 23 MAIJ.]

[At] 8^h 57^m P. M. ☾ [was] in the 90th degree from the Ascendant. [H. 8 M. 57 P. M. ☾ in 90 Gr. ab Aſcen-] [dente.]

Time	Remark	Value
4^h $50½^m$	Declination of the upper limb [Declin. ſuper. limbi]	5° 34′
	of the lower [inferioris]	5° 5′
	Diameter of ☾ [Diameter ☾]	0° 29′

Time	Western limb of ☾, east [Occ. limb.] [☾ or.]	☉, west [☉ occ.]	Difference of right ascension [Diff. Aſc. R.]	Altitude of ☉ [Alt.] [☉]
4^h $54½^m$	21° 47½′	73° 19′	95° 6½′	27⅔°
4^h 59^m	20° 50′	74° 19′	95° 9′	
5^h 1^m 35^s	20° 16½′	74° 53½′	95° 10′	
5^h $3⅚^m$	19° 46½′	75° 24½′	95° 11′	26° 10′
5^h $6⅚^m$	19° 10⅓′	76° 1¾′	95° 12′	

1988

Time	Remark	Value
5^h $8⅚^m$	Declination of the upper horn of ☾ [Declin. ſup. cornu ☾]	5° 31½′
5^h $10⅙^m$	of the lower [inferioris]	5° 2′
		0° 29½′
	Altitude of the upper limb, by the lesser quadrant [Alt. ſuper. limbi per Q. min.]	37½[°]

[1987]The heads are printed in smaller type: over the first table in two lines (*Declin ſup.* without a point, over *ſup. cor. infer.*, one head over both declination columns); over the second table only over its first two columns. A brace after *75 17* and *75 54* points to *7 14 6 45½*, set once between those two rows; the two declinations are given once, on the first row, for both. "Value" is this edition's head; its figures stand in the column headed *Altit. / ſup. cor.* above, and the page prints no head over them here. *Declin ſup.* is given as "Declination, upper". *Cor.* ♌ prints a point after *Cor*; *cor* ♌ is given as "the heart of ♌". All the figures, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[1988]"Time", "Remark" and "Value" are this edition's heads in the first of these tables; "Time" in the second, whose other heads the page prints in smaller type. The row at 5^h $6⅚^m$ opens the right-hand column, with no head line, in the same four groups as the rows above it. *Aſcen- / dente.* is hyphenated across two lines. *P. M.* stays abbreviated. *Occ. limb.* stands over ☾ *or.*; the head is given as "Western limb of ☾, east". *H.* and *M.* are printed in the first line only; the times, printed without unit marks, are given as hours, minutes and seconds (*5 1 35*) or hours and minutes. The pairs of figures, printed without unit marks, are given as degrees and minutes; *27⅔*, a single figure with a fraction, is given as degrees, as *26 10* in the same column is. Empty cells are empty on the page.

Time	☾, east [☾ or.]	☉, west [☉ occ.]	Value	Altitude of ☉ [Alt. ☉]
5^h $15½^m$	17° 21′	77° 53⅔′	95° 14⅔′	24⅚°
5^h $17¾^m$	16° 51⅚′	78° 23½′	95° 15⅓′	24½°

Time	Remark	Value
5^h 20^m	Declination of the upper limb [Declin. ſuper. limbi]	5° 29¾′
	of the lower [inferioris]	5° 0¼′
		29½[′]
	Altitude of the upper limb, by the lesser quadrant [Alt. ſuper. limbi per Q. min.]	37⅔[°]
10^h $5⅓^m$	Declination of the upper horn [Decl. ſuper. cornu]	4° 50′
	of the lower [inferioris]	4° 19′
		31[′]

1989

Time	Distance of ♃ and the western limb of ☾, by the sextant [Diſt. ♃ &] [occ. limb.] [☾ per Sext.]	♃ from the meridian, by the equatorial armillae [♃ a Mer.] [per. Arm.] [æquat.]	Altitude by the lesser quadrant [Altit. per Q. min.]: upper horn of ☾ [ſup.cor.]	Altitude by the lesser quadrant: ♃
10^h 8^m	34° 20¼′			
10^h $13¾^m$	34° 21′	77° 33′		
10^h $17⅙^m$	34° 21½′		27[°]	
10^h $20⅓^m$	34° 22½′			20½[°]
10^h $23¼^m$	34° 24′		26[°]	
10^h 26 $1/12^m$	34° 24½′	80° 0′		20[°]

Time	Remark	Value
10^h $36⅙^m$	Declination of the upper horn of ☾ [Declin. ſuper. cornu ☾]	4° 46½′ north [B.]
	of the lower [inferioris]	4° 14′
	Diameter of ☾ [Diameter ☾]	0° 32½′

1989 "Time", "Remark" and "Value" are this edition's heads; in the middle table the page prints ☾ *or.*, ☉ *occ.* and *Alt.* ☉ in smaller type and no head over the fourth column, whose figures stand in the column headed *Diff. Aſc. R.* in the left-hand column. Three rows print a figure with no time and no label: *0 29½* under *5 31½* and *5 2*; *29½* under the minutes of *5 0¼*; *31* under the minutes of *4 19*. *29½* and *31* are given as minutes, the unit supplied in brackets from their position. The two altitudes by the lesser quadrant (*37½*, *37⅔*) are printed without a time, their figures set to the left of the column of values; as single figures with a fraction they are given as degrees, the unit supplied in brackets. *24⅚* and *24½* stand in the column of *27⅔* and *26 10* and are given as degrees. The times, printed without unit marks, are given as hours and minutes; the pairs of figures as degrees and minutes. *Q. min.* is given as "the lesser quadrant". Empty cells are empty on the page.

1990

On 24 May [DIE 24 MAIJ.]

Time	The heart of ☋, west [Cor ☋] [occ.]	Declination: upper horn [Declin.] [ſup. cor.]	Declination: lower [infer.]	Diameter [Diam.]
10h 31m 38s	73° 30′	0° 30′	0° 2′	0° 28′1 [0 28′]

Time	The heart of ☋, west	Between the heart of ☋ and the western limb of ☾ [Inter cor ☋ & occ. limb. ☾]
10h 38m 15s	75° 0′	36° 14½′
10h 43m 22s	76° 11′	36° 15′
10h 46m 20s	76° 54′	36° 17½′
10h 51m 57s	78° 2′	36° 18¾′

Time	Declination: upper horn [Declin.] [ſup. cornu]	Declination: lower [infer.]	Diame-ter
10h 54m 25s	0° 28′ north [B.]	0° 3½′ south [M.]	0° 31½′

1991

1 Codex D has 28, which in codex V is corrected to 32. [Codex D habet 28, quod in cod. V in 32 correctum eſt.]

On 6 November[1] *[DIE 6 NOUEMBRIS[1].]*

1990 The heads of the first of these tables are printed in smaller type in three lines; *Altit. per Q. min.* stands over two sub-heads, *ſup.cor.* / ☾ and ☊, and is given in both English heads. *per. Arm.* prints a point after *per*. "Time" in the first table and "Time", "Remark" and "Value" in the second are this edition's heads. The figures under *ſup.cor.* ☾ (*27*, *26*) and under ☊ (*20½*, *20*) are single figures printed without unit marks; they are given as degrees, the unit supplied in brackets. The times, printed without unit marks, are given as hours and minutes; the pairs of figures as degrees and minutes. *B.* after a declination is "north". Empty cells are empty on the page.

1991 The heads are printed in smaller type; "Time" is this edition's head in all three tables. In the second table "The heart of ☋, west" repeats the head of the first, whose column its figures continue; the page prints only *Inter cor ☋ & occ. limb.* ☾, over the third column. In the third table the page prints *Declin.* over *ſup. cornu* and *infer.*; "Diameter" repeats *Diam.* of the first table, under which *0 31½* stands. The footnote cue is printed after *28* in the first table. *cor ☋* is given as "the heart of ☋". The times, printed without unit marks, are given as hours, minutes and seconds; the pairs of figures as degrees and minutes. *B.* is "north", *M.* "south".

Time	♀ *and the eastern limb of* ☾ [♀ & ☾] [*or. limb.*]	*Declination of* ☾*, upper and lower horn* [*Decl.*☾] [*ſup. &*] [*inf.cor.*]	*Altitude of* ☾*, lower horn* [*Alt.* ☾] [*inf. cornu*]	*Azimuth of* ☾*, eastern limb* [*Azim.* ☾] [*or. limb.*]
7^h 32½^m	10° 38½′	5° 47′ 6° 10′	20° 46′	40° 16′
7^h 36½^m	10° 39′	5° 48′ 6° 10′	21° 5′	39° 20′
7^h 39⅚^m	10° 40′	5° 49′ 6° 11′		

1992

And you can safely use these three observations for ☾*, its parallax and refraction being applied.* [Atque his tribus obſeruationibus] [ad ☾ potes tuto vti, adhibita ipſius] [parallaxi & refractione.]

On 29 November, in the morning[1] *[DIE 29 NOUEMBRIS MANE*[1]*.]*

Note. ☾ was near the 90th degree, not far removed from the greatest distance by the epicycle. [Nota. ☾ fuit iuxta 90 gradum non] [longe remota a maxima diſtantia per] [epicyclum.]

Time	Reading	Value
7^h 58¼^m	Between the eastern limb of ☾ and Jupiter [Inter ☾ limb. orient.] [& Iouem]	21° 46½′
8^h 0¾^m		21° 45⅔′
8^h 2½^m	The declination of the upper limb was [Fuit Decl. limbi ſuper.]	11° 55′ north [B.]
	lower [infer.]	11° 29′
8^h 3^m	Between the eastern limb and Jupiter [Inter or. limb. & Iouem]	21° 44⅓′
	The declination of the upper [limb] was then [Fuit tunc. Decl. ſuper.]	11° 54′
	of the lower limb [infer. limbi]	11° 28′
8^h 10½^m	Declination of the upper limb [Decl. ſuper. limbi]	11° 53′
	of the lower [inferioris]	11° 26′

1993

1992 "Time" is this edition's head; the page prints none over the times. The other heads are printed in smaller type, in italic, *Decl.*☾ standing above *ſup. &* and *inf.cor.*, all over the third column. Under each time the third column carries two figures, one below the other, in the order of its head (*ſup. & inf. cor.*); the rows of the second figure carry nothing else. The times, printed without unit marks, are given as hours and minutes; the pairs of figures as degrees and minutes. Empty cells are empty on the page.

1993 "Time", "Reading" and "Value" are this edition's heads; the page prints none. These lines are set in roman. The label *Inter* ☾ *limb. orient. / & Iouem* runs over two lines, each with its own time and figures; it is given whole on the first row, and *& Iouem* stands on the line of 8^h 0¾^m. *tunc.* is printed with a point. *B.* after a declination is "north". The times, printed without unit marks, are given as hours and minutes; the pairs of figures as degrees and minutes.

On 28 December, in the morning *[DIE 28 DECEMBRIS MANE.]*

This morning ☾ *was approaching very close to Jupiter.* [Hoc mane ☾ admodum prope Ioui] [applicabat.]

Time	Reading	Value
$7^h\ 44½^m$	*Between the limb in the moon nearest Jupiter and* ♃ [*Inter limbum Ioui proximum*] [*in luna &* ♃]	*1° 20′*
$7^h\ 48^m$	*The same distance of* ☾ *and* ♃ [*Eadem* ☾ *&* ♃ *diſtantia*]	*1° 19′*
$7^h\ 51^m$	*Between the nearest limb of* ☾ *and* ♃ [*Inter* ☾ *limb. prox. &* ♃]	*1° 20′*
	Altitude of the lower limb of ☾ [*Alt. infer. limbi* ☾]	*23° 54½′*
	Azimuth of the eastern limb [*Azim. orient. limbi*]	*65° 16′*
	Declination of the uppermost limb [*Decl. ſupremi limbi*]	*6° 2½′ good* [*bona*]
	with the other pinnule [*alt. pin.*]	*6° 2⅝′*
$7^h\ 58½^m$	*Between* ♃ *and* ☾ *as before* [*Inter* ♃ *&* ☾ *vt prius*]	*1° 15′*
	Altitude 21° 17′, azimuth [*Alt. 21 17, Azim.*]	*67° 45′*
	Declination of the lower limb of ☾ [*Decl. infer. limbi* ☾]	*5° 34′*
	with the other pinnule [*alt. pin.*]	*5° 34′*
$8^h\ 4^m$	*Between* ♃ *and* ☾ *as before* [*Inter* ♃ *&* ☾ *vt prius*]	*1° 5′*
	Declination of the upper limb [*Decl. ſuper. limbi*]	*6° 0′*
	of the lower [*inferioris*]	*5° 30½′*
$8^h\ 10^m$	*Declination of the upper limb* [*Decl. ſuper. limbi*]	*5° 59¾′*
	of the lower [*inferioris*]	*5° 30′*
	of the centre of ☾ [*centri* ☾]	*5° 45′*

1994

But this variation in the distance from ♃ *occurred because the observation was made with the radius and at daybreak, and there were two observers.* [Sed hæc varietas in diſtantia a ♃] [accidit quia per radium fiebat obſer-] [uatio & in diluculo, erantque bini ob-] [ſeruatores.]

Places of the Moon[2] [LOCA LUNÆ[2].]

Demonstration of the place of ☾ from observation [Demonſtratio loci ☾ ex obſeruat.]

On 25 February [DIE 25 FEBRUARIJ.]

N.B. ☾ *near the greatest latitude, in* ♋. [N.B. ☾ iuxta max. lat. in ♋.]

1994 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The whole of this entry is set in italic. The label *Inter limbum Ioui proximum / in luna &* ♃ runs over two lines, the time on the first and the figures on the second; it is given whole on its row. *luna* is printed in lower case. In the rows of the uppermost limb and of the other pinnule the degree figure *6* stands to the left of the column of degree figures, the minutes in their column; *bona* follows *2½* on its line. In the row at $7^h\ 58½^m$ the altitude *21 17* is printed inside the label, and *67 45* stands in the column of values, after *Azim.*; it is given as the azimuth. *alt. pin.* is "with the other pinnule". The times, printed without unit marks, are given as hours and minutes; all the pairs of figures as degrees and minutes. Empty cells are empty on the page.

Equation of time 4⅖ᵐ add. [Æquatio temp. 4⅖ᵐ add.]

Time	Letters	Value	Reading	Value
7ʰ 2½ᵐ [H. 7 M. 2½]			Distance of the western limb of ☾ from Aldebaran [Diſt. occ. limb. ☾ ab Aldeb.]	26° 42⅓′
			Semidiameter of ☾ [Semidiameter ☾]	15[′]
			Distance of the centre [Diſt. centri]	26° 57⅓′
			Declination of the centre of ☾ [Declin. centri ☾]	17° 45′
	BA	74° 23′	Declination of Aldebaran [Declin. Aldeb.]	15° 37′
	CA	72° 15′	Right ascension of Aldebaran [Aſc. rect. Aldeb.]	63° 5¾′
	BC	26° 57⅓′	Right ascension of ☾ [Aſc. rect. ☾]	91° 10′ 25″
	BAC	28° 4⅔′	Corresponding longitude [Reſp. Longitudo]	1° 8′ 36″ ♋ [1° 8′36″♋]
			Latitude [Latitudo]	5° 46′ 13″ south [M.]
			From the Prut. Tables, corr. med. mot., longitude [Ex Tabulis Prut. corr. med. mot. Longitudo]	1° 52′ 26″
			From our Tables, latitude [Ex noſtr. Tab. Latitudo]	5° 9′ 3″ south [M.]

1995

Therefore the parallax [is] 37′ 10″, *provided that this latitude of ☾ is correct.* [Ergo Parallaxis 37′ 10″, modo ea latitudo ☾ recte ſe habeat.]

1 For the correction of the clock see below, among the observations of Venus. [Pro correctione horologii vide infra inter obſeruationes Veneris.]

2 From codex V. [E codice V.][1996]

On 27 February [DIE 27 FEBRUARIJ.]

Time	Letters	Value	Reading	Value
9ʰ 7ᵐ [H. 9 M. 7]			Distance of the centre of ☾ from Aldebaran [Diſt. centri ☾ ab Aldeb.]	52° 26′ [52°26′]

[1995] "Time", "Letters", "Value" (both), and "Reading" are this edition's heads; the page prints none. These lines are set in roman. The letters *BA*, *CA*, *BC*, *BAC* stand at the left, each with a pair of figures, level with the rows they are given on; no diagram is printed with them. The figures from *26 42⅓* to *91 10 25* stand in a column at the right edge of the measure, and a rule is printed under *15*, above *26 57⅓*. The figures of the corresponding longitude, the latitude and the two lines *Ex Tabulis …* and *Ex noſtr. Tab. …* stand in a second column to the left of that one; the two *Ex* lines begin at the left edge of the measure. *15*, printed without a unit mark under the minutes of *26 42⅓*, is given as minutes, since *26 42⅓* and *15* make the *26 57⅓* printed below the rule. The other values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). *Prut.*, *corr.*, *med.* and *mot.* are left abbreviated. *M.* is "south". Empty cells are empty on the page.

[1996] Footnote cue 1 is printed twice on this page, at *DIE 6 NOUEMBRIS* and at *DIE 29 NOUEMBRIS MANE*; footnote 1 is printed once.

Time	Letters	Value	Reading	Value
	BA	74° 23′	Declination of the centre of ☾ [Declin. centri ☾]	16° 8′ north [B.]
	CA	73° 52′	The semidiameter is assumed [Aßumitur ſemid.]	15
	BC	52° 26′	Right ascension of ☾ [Aſc. rect. ☾]	117° 46½′
	BAC	54° 40¾′		

Time	Letters	Value	Reading	Value
9^{h} 26^{m} [H. 9 M. 26]			when ☾ was near the 90th degree [quando ☾ fuit iuxta 90 grad.]	
			Distance of the centre of ☾ from the heart of ♌ [Diſt. centri ☾ a corde ♌]	27° 46′
	DA	76° 3′	Declination of ☾ [Declin. ☾]	16° 6′ north [B.]
	CA	73° 54′	Declination of the heart of ♌ [Declin. cord. ♌]	13° 57′
	DC	27° 46′	Right ascension of the heart of ♌ [Aſc. rect. cord. ♌]	146° 35⅙′
	DAC	28° 41⅙	Right ascension of the centre of ☾ [Aſc. rect. centri ☾]	117° 54′
			Corresponding longitude [Reſp. Longitudo]	26° 49⅓′ ♋
			Latitude [Latitudo]	4° 51⅓′ south [M.]
			Equation of time 4⅓^{m} add. [Æquat. temp. 4⅓^{m} add.]	
			From the Prut. Tables, corr., longitude of ☾ [Ex Tabulis Prut. corr. Long. ☾]	27° 47′ 35″
			Difference [Differentia]	58[′] 15[″]

1997

On 28 February [DIE 28 FEBRUARIJ.]

Time	Reading	Value
10^{h} 45^{m} [H. 10 M. 45]	when ☾ was in the 90th degree [cum ☾ eßet in 90 grad.]	
	Declination [Declin.]	13° 53′ [13°53′]

1997 "Time", "Letters", "Value" (both) and "Reading" are this edition's heads in both tables; the page prints none. These lines are set in roman. The letters and their pairs of figures stand at the left, level with the rows they are given on; *BAC 54 40¾* stands alone on its line. In the second table the figures of the corresponding longitude and the latitude stand in a column to the left of the column of the other values. *15*, printed without a unit mark under the minutes of *52°26′*, is given bare. *58 15* stands under the last two groups of *27 47 35* and is given as minutes and seconds, since *27 47 35* less *26 49⅓* (26° 49′ 20″) is 58′ 15″. The other values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). *cor* ♌ is given as "the heart of ♌". *Prut.* and *corr.* are left abbreviated; *add.* stays abbreviated. *B.* is "north", *M.* "south". Empty cells are empty on the page.

Time	Reading	Value
	Hence the longitude of ☾, observed [Hinc Longitudo ☾ obſer.]	10° 15′ 0″ [10°15′ 0″]
	Latitude [Latitudo]	4° 0′ 0″
	Arc of inclination ſubt. 6[′] 50[″] [Arcus inclinationis] [ſubt. 6 50]	10° 8⅙′ ♌

1998

Calculation of the true place of ☾ on 2 March from the fixed stars, in the eclipse of ☾ [Calculus veri loci ☾ DIE 2 MARTIJ ex ſtellis fixis in Eclipſi ☾.]

Time	Reading	Value
2^{h} 36^{m} [H. 2 M. 36]	when ☾ was near the 90th degree of the ecliptic from the Ascendant [cum ☾ eßet iuxta 90 grad. Eclipticæ ab Aſcendente.]	
	Distance of the centre of ☾ from the heart of ♌ [Diſt. centri ☾ a] [corde ♌]	28° 15′ [28°15′]
	from Spica ♍	25° 45′
	Declination of ☾ [Declin. ☾]	2° 25′

Star	Right ascension [Aſc. rect.]	Declination [Declin.]
the heart of ♌ [Cordis ♌]	146° 34½′	13° 57′
Spica ♍ [Spicæ ♍]	195° 53′ 50″	8° 57′ south [M.]

Reading	Value	Remark
Angle of the difference of ascension [Angulus diff. aſcenſ.]	26° 5¼′	from the heart of ♌ [a corde ♌]
	23° 10′ 58″	from Spica [a Spica.]
Hence the right ascension of ☾, lim. [Hinc. Aſc. rect. ☾ lim.]	172° 42½′ [172°42½′]	
Corresponding longitude [Reſp. Longitudo]	22° 20′ 40″ [22 20 40″]	
for the latitude add. [pro lat. add.]	45[″]	
Therefore the true longitude [Ergo vera Longit.]	22° 21⅖′ ♍	

1998 "Time", "Reading" and "Value" are this edition's heads; the page prints none. These lines are set in roman. The declination stands in a column to the left of the column of the other values. *Arcus inclinationis / ſubt. 6 50* runs over two lines, the figures *6 50* inside the label on the second, and *10 8⅙* ♌ at the right of that line; it is given whole on one row. *6 50* is given as minutes and seconds, since *10°15′ 0″* less 6′ 50″ is the *10 8⅙* (10° 8′ 10″) printed beside it. *ſubt.* stays abbreviated. The other values, printed without unit marks, are given as degrees, minutes and seconds. Empty cells are empty on the page.

1999

Time	Reading	Value
3^h 3^m [H. 3 M. 3]	Distance of the centre of ☾ from the heart of ♌ [Diſt. centri ☾ a corde ♌]	28° 34′
	Declination of ☾ [Declin. ☾]	2° 28′
	Hence the place of ☾ [Hinc. locus ☾]	22° 40′
	Parallax [Parall.]	3[′]
	For the latitude [Pro latit.]	1[′]
	True longitude [Vera longit.]	22° 44′

2000

On 23 May [DIE 23 MAIJ]

when ☾ was around almost the greatest remoteness in [Greek: προσθαφαιρ. (prosthaphair., "prosthaphaeresis", the correction added or subtracted)] [quando ☾ fuit circa maximam fere remotionem in προσθαφαιρ.]

Time	Reading	Value
5^h 14^m [H. 5 M. 14]	Distance of the western limb of ☾, æquat., from ☉ [Diſt. occid. limbi ☾ æquat. a ☉]	95° 15⅓′ [95°15⅓′]
	Distance of the centre [Diſt. centri]	95° 31⅓′
	Right ascension of ☉ [Aſc. rect. ☉]	70° 33′
	Right ascension of ☾ [Aſc. rect. ☾]	166° 4′ 20″ [166 4 20″]
	Declination of ☾ [Declin. ☾]	5° 16′ north [B.]

1999 "Time", "Reading", "Value", "Star" and "Remark" are this edition's heads; the page prints only *Aſc. rect.* and *Declin.*, in smaller type, over the two columns of the star table, which stand in the middle of the measure. These lines are set in roman. *Diſt. centri ☾ a* is printed once, level between its two lines, and a large curly brace after it joins *corde* ♌ and *Spica* ♍; the label is given whole on the first row and its second part on the second. In the same way *Angulus diff. aſcenſ.* is printed once, and a large curly brace after it joins the two lines *26 5¼ a corde* ♌ and *23 10 58 a Spica.*; the label is given on the first row and holds for both. The values from *172°42½′* to *22 21⅖* ♍ stand in the column of *Declin.*, to the left of the right edge; a rule is printed under *45*, above *22 21⅖* ♍. *45*, printed without a unit mark under *40″*, is given as seconds, since 22° 20′ 40″ and 45″ make 22° 21′ 25″, the *22 21⅖* printed below the rule within a second. *Hinc.* is printed with a point. *lim.* and *add.* are left abbreviated. The other values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). *M.* is "south". The printed right ascension *172°42½′* follows from neither line above it: *146 34½ + 26 5¼* gives 172° 39¾′ (from the heart of ♌), *195 53 50 − 23 10 58* gives 172° 42′ 52″ (from Spica); the figure is given as printed. Empty cells are empty on the page.

2000 "Time", "Reading" and "Value" are this edition's heads; the page prints none. These lines are set in roman, the values at the right edge of the measure; a rule is printed under *1*, above *22 44. 3* and *1*, printed without unit marks under the minutes of *22 40*, are given as minutes, since 22° 40′, 3′ and 1′ make the *22 44* printed below the rule. *Hinc.* is printed with a point. The other values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
	Corresponding longitude [Reſp. Longitudo]	15° 8¾′ ♍
	Latitude [Latitudo]	0° 39½′ south [M.]
	From the Prut. Tables, corr. mot., longitude [Ex Tabulis Prut. corr. mot. Long.]	14° 59¼′ ♍

2001

N.B. The parallax and refraction of ☉ at this altitude, 24½, cancel each other out. [N. B. Parallaxis et] [refractio ☉ in hac] [alt. 24½ mutuo ſe] [elidunt.][2002]

Now ☾ was near the 90th degree from the Ascendant at $8^h\ 57^m$, and therefore at this place [it] had sufficiently notable parallaxes of longitude. These were worked out in the following way. [Fuit autem ☾ iuxta 90 grad. ab Aſcendente H. 8 M. 57] [ideoque parallaxes longit. hoc loco obtinuit ſatis notabiles.] [Quæ ſequenti modo enucleabantur.]

Diagram. A line figure at the left of the page, beside the computation that follows. A large circle with a horizontal diameter. A straight line runs from the circle at the upper left down to the right, crossing the horizontal diameter near the middle, to the circle at the lower right. In the upper left part, close inside the circle, two further arcs run from a point on the circle at the upper right leftward and downward, the lower one closer in, and end on the slanting line. A third arc rises from the horizontal diameter, left of the middle, crosses the slanting line and joins the arcs near D. A short straight line runs from the top of the circle down to the left toward C and D. Near C and D the lines and arcs crowd together, and not all of their junctions can be separated on the scan.

- B (above the circle, at its top): B
- C (inside the circle at the upper left, below and to the left of B, beside the upper arc): C
- D (below C, inside the arcs): D
- A (outside the circle at the upper right, where the arcs meet it): A

Reading	Value	Remark
In the triangle BAD are given [In Triangulo BAD dantur]		
BA	34° 5′ 30″ [34° 5′ 30″]	(for both) of the elevation of the pole [compl.] [Eleuat. poli]
DA	84° 44′ 0″	of the declination of ☾ [Declin. ☾]

[2001] "Time", "Reading" and "Value" are this edition's heads; the page prints none. These lines are set in roman, the figures at the right edge of the measure. *æquat.*, *Prut.*, *corr.* and *mot.* are left abbreviated. *B.* is "north", *M.* "south". The values printed without unit marks are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). Empty cells are empty on the page.

[2002] This note is set in four short lines of smaller type at the left of the text block, beside the last four rows of the table above. *24½* is printed without a unit mark and is given bare.

Reading	Value	Remark
BAD	17° 0′ 0″	distance of ☾ from the meridian [dist. ☾ a Merid.]
BD	52° 25⅗′	compl. of the altitude of ☾ [compl. altit. ☾]
Parallax in the circle of altitude from the Prut. Tables [Parallaxis in circulo altit. ex Tab. Prut.]	46′ 15″	
Angle DBA [Angulus DBA]	158° 27⅖′	compl. of the right ascension to 180 [compl. Asc. R. ad 180.]
In the triangle CBA are given [In Triangulo CBA dantur.]		
BA	34° 5½′	
CB	51° 39½′	
CBA	158° 27⅖′	
Therefore CA [Ergo CA]	83° 59′	compl. of the true declination [compl. veræ declinationis]
BAC	16° 49⅙′	distance of ☾ from the meridian [dist. ☾ a meridie.]

2003

Reading	Value
True right ascension of ☾ [Vera Asc. R. ☾]	165° 53½′ [165°53½′]
True declination, north [Vera Declin. Borea]	6° 1′
Corresponding longitude [Resp. Longitudo]	14° 41′ 16″ ♍
Latitude [Latitudo]	0° 2′ 2″ south [M.]
Therefore the parallax [Ergo Parallaxis]: of longitude [Longit.]	27′ 30″
of latitude [Latit.]	37′ 28″

2004

[2003] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. These lines are set in roman, to the right of the figure. After the figures of BA and DA a large curly brace joins the two lines, and *compl.* is printed once, level between them; after it a second large curly brace joins *Eleuat. poli* and *Declin.* ☾, each on the line of its figures, so that *compl.* holds for both. *compl.*, *Prut.* and *Tab.* (the page prints *Tabulis* in full above) are rendered as the earlier lines; *compl.* is left abbreviated. *a Merid.* and *a meridie* are both given as "from the meridian"; the other construal is "from the south". The values printed without unit marks are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures). Empty cells are empty on the page.

[2004] "Reading" and "Value" are this edition's heads; the page prints none. These lines are set in roman, the figures in a column to the left of the right edge of the measure. *Ergo Parallaxis* is printed once, level between its two lines, and a large curly brace after it joins *Longit.* and *Latit.*; it is given on the first row. *27 30* and *37 28* are given as minutes and seconds, since 15° 8¾′ less 14° 41′ 16″ is 27′ 29″ and 0° 39½′ less 0° 2′ 2″ is 37′ 28″, the longitudes and latitudes printed on this page. *Borea* is "north", *M.* "south". The other values, printed without unit marks, are given as degrees and minutes (two figures) or degrees, minutes and seconds (three figures).

Time	Reading	Value
9^h 22^m [H. 9 M. 22]	Distance of the centre of ☾ from ♃ [Diſt. centri ☾ a ♃]	34° 37′ [34°37′]
	Declination of the centre of ☾ [Declin. centri ☾]	4° 34′ north [Sep.]
	Declination of ♃ [Declin. ♃]	17° 58′ north [B.]
	Right ascension of ♃ from recent observation [Aſc. R. ♃ e recent. obſ.]	135° 13′ 0″
	Angle of the difference of ascension [Angulus diff. aſcenſ.]	32° 38¾′
	Therefore the right ascension of ☾ [Ergo Aſc. R. ☾]	167° 52′ 0″
	Corresponding longitude [Reſp. Longitudo]	16° 59′ 45″ ♍
	Latitude [Latitudo]	17° 4′ 0″
		0° 5′
		17° 9′ 0″

2005

In the 90th degree at 8^h 55^m. Parallax of longitude 5′, add., account being taken of the refraction. Arc of inclination, add. 20″. Therefore the true place of ☾ [is] 17° 9′ ♍ in [its] own orbit. [In 90 gradu H. 8 M. 55. Parallaxis longit. 5′ add.] [habita ratione refractionis. Arcus inclinationis] [add. 20″. Igitur verus locus ☾ 17° 9′ ♍ in propria] [orbita.][2006]

Observations of Saturn [OBSERUATIONES SATURNI.]

On 10 January, P. M. [DIE 10 JANUARIJ P. M.]

Reading	Value
Between ♄ and the bright [star] of ♈ by the sextant △, when ♄ was near the meridian [Inter ♄ & Luc. ♈ per Sext. △ cum eßet] [♄ prope Merid.]	I
	14° 23′
	II
	14° 22¾′
A little before the meridian, *declination of* ♄*, north, by the greater armillae* [Paulo ante Merid.] [*Declin.*♄ *Borea per*] [*Armillas maiores*]	*12°30¼′*
with the other pinnule [*alt. pinnacid.*]	*12°30¾′*
Meridian altitude of ♄ by the revolving [quadrant] [Alt. Merid. ♄ per Volub.]	46° 35′

2005 "Time", "Reading" and "Value" are this edition's heads; the page prints none. These lines are set in roman, the figures at the right edge of the measure; a rule is printed under *32 38¾*, above *167 52 0*. The page prints *17 4 0* on the line of *Latitudo*. The last two figures stand in the same column beside the paragraph below: *0 5* level with its first line and *17 9 0* level with its second, with a rule between them; *0 5* is given as 0° 5′ and *17 4 0* and *17 9 0* as degrees, minutes and seconds, since the paragraph adds a parallax of longitude of 5′ and gives the true place as 17° 9′. *Sep.* and *B.* are "north". *obſ.* is given as "observation"; the page does not show the number. The printed sum *135 13 0 + 32 38¾* gives 167° 51′ 45″, against the *167 52 0* printed below the rule; the figure is given as printed. Empty cells are empty on the page.

2006 *add.* is left abbreviated. *in propria orbita* is given as "in [its] own orbit", the orbit of ☾.

2007

On 15 January[1] [DIE 15 JANUARIJ[1].]

Reading	Value
Declination of ♄, north [Declin. ♄ Borea], with one [vno]	12° 33¼′
with the other [altero]	12° 33′
Meridian altitude of ♄ by the revolving [quadrant] [Altit. ♄ Merid. per Volub.]	46° 38¾′

2008

On 16 January [DIE 16 JANUARIJ.]

Reading	Value
Between ♄ and the eye of ♉ by the sextant △ [Inter ♄ & oculum] [♉ per Sext. △]	24° 33½′
	24° 33½′
Its declination by the armillae [*Declin. eius per Armill.*]	*12° 33′ north* [*B.*]
Now ♄ was then near the meridian. Meridian altitude by the revolving [quadrant] [*Fuit autem ♄$^{nu^s}$ tunc iuxta*] [*meridianum. Alt. Merid.*] [*per Volub.*]	*46° 38¾′*

2009

On 19 January[1] [DIE 19 JANUARIJ[1].]

Reading	Value
Altitude of ♄ by the revolving [quadrant], maximum [Alt. ♄ per Volub. max.]	46° 42¼′
by the revolving quadrant [per Q. Volub.]	46° 41⅓′
by the mural [quadrant] [per Muralem]	46° 42′
Declination of ♄ by the armillae [Declin. ♄ per Armillas]	12° 35½′
	12° 35⅚′

2007 "Reading" and "Value" are this edition's heads; the page prints none. The page is set in two columns divided by a vertical rule; the left column is given first. *I* and *II* stand at the left of their figures. *Paulo ante Merid.* is set in roman, the rest of that label, the line *alt. pinnacid.* and their figures in italic. The values, printed without unit marks, are given as degrees and minutes.

2008 "Reading" and "Value" are this edition's heads; the page prints none. *vno* and *altero* stand before the figures, the label printed once. The values, printed without unit marks, are given as degrees and minutes.

2009 "Reading" and "Value" are this edition's heads; the page prints none. The label *Inter ♄ & oculum / ♉ per Sext.* △ runs over two lines, each line with its own figures; it is given whole on the first row. The last two rows are set in italic. ♄$^{nu^s}$ is printed with the letters *nus* raised after the sign. *B.* is "north". The values, printed without unit marks, are given as degrees and minutes.

2010

On 24 January [DIE 24 JANUARIJ.]

Reading	Value
Meridian altitude of ♄ by the revolving quadrant [Alt. Merid. ♄ per Q. Volub.]	46° 47¼′

2011

On 25 February, P. M. [DIE 25 FEBRUARIJ P. M.]

Time	Reading	Value
7^h 37^m [7 37]	Between ♄ and the eye of ♉ *by the sextant* [Inter ♄ & oculum ♉] [*per Sext.*]	*22° 9′*
	17¼ ♋ was in the meridian, *altitude of* ♄ [Erat in Merid. 17¼ ♋,] [*Alt.* ♄]	*27° 1′*
	Declination of ♄ [*Declin.* ♄]	*13° 31½′*
7^h 41^m [*7 41′*]	*The same distance of* ♄ *and Aldebaran* [*Eadem diſt.* ♄ *&* *Aldeb.*]	*22° 8⅚′*
	Declination of ♄*, north* [*Declin.* ♄ *Bor.*]	*13° 31⅓′*
7^h 57^m 32″ [*7 57′ 32″*]	*The northern head of* ♊ *passed through the meridian; from this you can verify the clock; [it] had been corrected at noon to the Sun.* [*Tranſiuit Boreale caput* ♊] [*per Merid., hinc potes verificare*] [*horologium, erat in Meridie ad*] [*Solem correctum.*]	
8^h 9^m 16″ [8 9 16]	*the lower head of* ♊ *passed through the meridian, and from this you can also verify the preceding times; the time, however, was observed more exactly in the seconds than before.* [tranſiuit inferius caput ♊ per] [Merid., & hinc etiam potes ve-] [rificare antecedentia tempora,] [erat autem tempus exactius ob-] [ſeruatum in ſecundis quam antea.]	

2012

2010 "Reading" and "Value" are this edition's heads; the page prints none. *per Q. Volub.* and *per Muralem* are set in under *per Volub.*; the second declination stands alone, with no label. The values, printed without unit marks, are given as degrees and minutes.

2011 "Reading" and "Value" are this edition's heads; the page prints none. The value, printed without unit marks, is given as degrees and minutes.

2012 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The first line is set in roman up to ♉, *per Sext.* and the figures in italic; in the second line *Erat in Merid. 17¼ ♋,* is roman and the rest italic; everything after is italic. This entry runs from the foot of the left column into the head of the right column: the line beginning *8 9 16* is the first line of the right column. *22 9* stands alone on the line below the first label. *17¼ ♋* is printed inside the line, without a unit mark, and is given bare; the line is taken as "17¼ ♋ was in the meridian", with *17¼ ♋* as the subject; the other construal is "[♄] was in the meridian at 17¼ ♋". *7 41′* and *7 57′ 32″* are printed with minute and second marks and given as hours, minutes and seconds; *8 9 16*, printed without marks, is given as hours, minutes and seconds. *erat … correctum* is given as "had been corrected"; "was corrected" is the other rendering. *in Meridie* is "at noon". *Bor.* is "north". The other values, printed without unit marks, are given as degrees and minutes.

On 5 November *[*DIE 5 NOUEMBRIS.*]*

Acronychal observation of Saturn in the ☌ of the Sun. [*Obſeruatio Saturni Achronychia*] [*in Solis ☌.*]

In the evening, when clear weather had been restored after rains and winds, ♄ was observed around [the place] opposite ☉, in this way, which follows. [*Veſperi ſerenitate poſt pluuias &*] [*ventos reſtituta obſeruabatur ♄ circa*] [*☉ oppoſitum in hunc qui ſequitur*] [*modum.*]

The clock was being corrected to the stars at 8½ʰ P.M., so that it corresponded to them exactly. [Horologium ad ſtellas emendaba-] [tur Hora 8½ P.M. ita vt exquiſite illis] [correſponderet.][2013]

Time	Reading	Value
8ʰ 39ᵐ [*H. 8 39′*]	*Between the bright [star] of ♈ and ♄* [*Inter Lucid. ♈ & ♄*]	*27° 47¾′*
	Altitude of ♄ 34½ [*Altit. ♄ 34½*]	
8ʰ 41⅙ᵐ [*8 41⅙*]	*The same distance was* [*Eadem diſtantia fuit*]	*27° 47⅝′*
8ʰ 44¼ᵐ [*8 44¼*]	*The same distance* [*Eadem diſtantia*]	*27° 47⅙′*
	Declination of ♄ around these times [*Declinatio ♄ circa hæc*] [*tempora*]	*17° 22′ north* [*B.*]
8ʰ 47¾ᵐ [*8 47¾*]	*The same distance of ♄ and the bright [star] of ♈* [*Eadem diſt. ♄ & Luc. ♈*]	*27° 47′*
	The declination of ♄, north, was then [*Fuit tunc declin. ♄ B.*]	*17° 22′*
	and its altitude [*& eiusdem Altitudo*]	*35° 0′*
8ʰ 50⅝ᵐ [*8 50⅝*]	*The same distance* [*Eadem diſtantia*]	*27° 47¾′*
	Now at the same instant the altitude of ♄ was [Fuit autem eodem in-] [ſtanti Alt. ♄]	*35° 30′*
8ʰ 54ᵐ [*8 54*]	*Repeated distance of ♄ from the bright [star] of ♈* [*Repet. diſt. ♄ ab ♈ Luc.*]	*27° 47¾′*
	Altitude of ♄ [*Alt. ♄*]	*35° 50′*
	The declination of ♄ was then [*Declin. ♄ tunc fuit*]	*17° 22′*
	with the other pinnule [*altero pinnacid.*]	*17° 21⅝′*

2014

Note. For the declination to be examined, Aldebaran was then 15° 38′; [it] should have been 15° 37′. [Nota. Pro declinatione examinan-] [da fuit tunc Aldeb. 15 38, debuit eße] [15 37.]

[2013] The whole right column is set in italic. *circa ☉ oppoſitum* is given as "around [the place] opposite ☉"; the other construal is "around [its] opposition to ☉". *Achronychia* is printed with *ch*.

[2014] "Time", "Reading" and "Value" are this edition's heads; the page prints none. *H. 8 39′* is printed with a minute mark; the other times, printed without marks, are given as hours and minutes. *34½* is printed inside the label, without a unit mark, and is given bare. *Repet.* is given as "Repeated". *B.* is "north". The other values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Time	Distance of ♄ from Aldebaran [*Diſt. ♄ ab*] [*Aldeb.*]	Declination of ♄ [*Declin. ♄*]	Altitude of ♄ [*Alt. ♄*]
$9^h\ 2^m$ [*9 2*]	*7° 43½′*	*17° 22′*	*36° 48′*
$9^h\ 7^m$ [*9 7*]	*7° 43⅓′*	*17° 22′*	*37° 20′*
$9^h\ 11½^m$ [*9 11½*]	*7° 43⅙′*	*17° 22′*	*37° 53′*
	Around these times the declination of Aldebaran was 15° 38′; this declination is in excess by one minute. [Fuit circa hæc tempora declin. Al-] [deb. 15 38, abundat hæc declinatio] [vno M.]		
$9^h\ 15^m$ [*9 15*]	*7° 43¼′*		*38° 17′*

2015

N.B. The clock, corrected at 8½ʰ, was running faster than it should up to the ho- [N.B. Horologium emendatum Ho-] [ra 8½ iuſto celerius ibat vsque in Ho-][2016]

[1] From codex V. [They] are missing in D. [E codice V. Deſunt in D.][2017]

ur of 9½ʰ, by three minutes over the whole hour. This error can be guarded against beforehand, although at this point it makes no perceptible difference. [ram 9½ per integram Horam tribus Mi-] [nutis, qui error præcaueri poteſt, etſi] [nihil hoc loco ſenſibiliter importet.][2018]

Nota bene. These observations of ♄ near its acronychal position with respect to the Sun are sufficiently exact. Moreover, for the distance from the bright [star] of ♈ you can use 27° 47½′; but for the distance from the eye of ♉, 7° 43¼′. Now the star ♄ was between these, approximately in one straight line, in a rather rough way: the star ♉ placed toward the east, but ♈ toward the west. But you can take the declination of ♄ as 17° 21′, because the eye of ♉, which star was near ♄ toward the east, showed a

[2015] "Time" is this edition's head; the other three heads are printed, in smaller italic type, *Diſt. ♄ ab* over *Aldeb.*; the sign ♄ in these heads is a different sort from the ♄ of the lines. The sentence *Fuit circa hæc tempora …* is printed across the column between the third and fourth rows; it is kept in its place. *vno M.* is given as "by one minute", the note above setting 15 38 against 15 37; *M.* after a declination is elsewhere "south", which does not fit *vno*. The times, printed without marks, are given as hours and minutes; *15 38*, *15 37* and the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2016] The page ends with *Ho-*, divided at the line end, the last line of the right column.

[2017] Footnote cue 1 is printed twice on this page, at *DIE 15 JANUARIJ* and at *DIE 19 JANUARIJ*; footnote 1 is printed once.

[2018] The page opens with *ram*, the remainder of the word *Horam* ("hour"), divided as *Ho- / ram* across the page break; with the end of the previous page the sentence reads "The clock, corrected at 8½ʰ, was running faster than it should up to hour 9½, by three minutes over the whole hour". *9½* is printed without a unit mark and is given as hours, as *Horam* fixes it. *per integram Horam tribus Minutis* is taken as "by three minutes over the whole hour"; the other construal is "throughout the whole hour, by three minutes".

declination greater than correct by a single minute. [Notabene. Hæ obſeruationes ♄ iuxta] [ipſius ad Solem Achronych. poſitum] [ſatis ſunt exquiſitæ: potes autem in] [diſtantia a Lucida ♈ vti P. 27 M. 47½. In] [diſtantia vero ab oculo ♉ P. 7 M. 43¼.] [Erat autem ſtella ♄ his intermedia,] [quaſi in vna linea recta großiori mo-] [do. Stella ♉ verſus ortum, ♈ vero ver-] [ſus occaſum conſtituta. Declinatio-] [nem vero ♄ aßumere potes P. 17 M. 21] [eo quod oculus ♉ vnico Minuto de-] [clinationem iuſto maiorem oſtende-] [ret, quæ ſtella ♄ verſus ortum vi-] [cina erat.]

And from these it will be possible to investigate the place of ♄ *around the* ☌ *[of]* ☉ *sufficiently certainly and safely.* [Atque ex his locum ♄ ſatis certo &] [tuto circa ☉ ☌ rimari licebit.][2019]

On 10 November, in the morning *[*DIE 10 NOUEMBRIS, MANE.*]*

Time	Reading	Value
$5^h\ 58^m$ [*H. 5 58′*]	*Between* ♄ *and Aldebaran* [*Inter* ♄ *& Aldeb.*]	*8° 0½′*
	Declination of ♄ [*Declin.* ♄]	*17° 20′*
$6^h\ 0^m$ [*6 0*]	*Repeated distance between* ♄ *and Aldebaran* [*Repet. diſt. inter* ♄] [*& Aldeb.*]	*8° 0¾′*
	Declination of ♄ [*Declin.* ♄]	*17° 19′*
$6^h\ 3^m$ [*6 3*]	*Repeated between* ♄ *and Aldebaran* [*Repetita inter* ♄] [*& Aldeb.*]	*8° 1′*
	Declination of ♄ [*Declin.* ♄]	*17° 19′*

2020

Note. ♄ *was near the* ☌ *of the Sun, having then gone a little past [it]; but it was low toward the western horizon, distant from it, as far as sight goes, by as much as the distance of the brighter [star] in the feet of* ♊ *and of the bright shoulder of Orion. From this you can investigate the refraction, which, however, could have been very small with respect to Aldebaran, because [they] did not differ much in altitude.* [Nota. ♄ erat iuxta ☌ Solis tum pau-] [lum prætergreßus, verum erat de-] [cliuis verſus Horizontem occiduum,] [diſtans ab eo quoad viſum quanta eſt] [diſtantia lucidioris in pedibus ♊ &] [lucidi humeri Orionis. Hinc potes] [rimari

[2019] The whole left column of this page is set in italic. *P.* and *M.* are printed with the figures and are given as degrees and minutes. *iuxta ipſius ad Solem Achronych. poſitum* is given as "near its acronychal position with respect to the Sun"; *Achronych.* is printed with *ch.* *großiori modo* is given as "in a rather rough way", keeping the comparative. *conſtituta* is given as "placed", applying to both stars; *vero* is "but". *quæ ſtella … vicina erat* is taken with *oculus* ♉; the other construal takes it with the declination ("which star was near toward the east"), which the gender does not exclude. *circa* ☉ ☌ is given as "around the ☌ of ☉", the genitive left in the order of the signs.

[2020] "Time", "Reading" and "Value" are this edition's heads; the page prints none. *H. 5 58′* is printed with a minute mark; *6 0* and *6 3*, printed without marks, are given as hours and minutes. The labels *Repet. diſt. inter* ♄ / *& Aldeb.* and *Repetita inter* ♄ / *& Aldeb.* each run over two lines, the figures on the second; each is given whole on its row. *Repet.* is given as "Repeated". The values, printed without unit marks, are given as degrees and minutes.

refractionem, quæ tamen re-] [ſpectu Aldeboræ perexigua eße po-] [tuit, eo quod in Altitudine non mul-] [tum diſcrepabant.][2021]

Time	Reading	Value
$6^h\ 7^m$ [*H. 6 7′*]	*Between* ♄ *and the bright foot of* ♊ [*Inter* ♄ *& luc.*] [*pedem* ♊]	*36° 49⅓′*
	Declination of ♄ [*Declin.* ♄]	*17° 18½′*
$6^h\ 10^m$ [*6 10*]	*Between* ♄ *and the bright foot of* ♊ [*Inter* ♄ *& luc. pedem* ♊]	*36° 49¼′*
	Declination of ♄ [*Declin.* ♄]	*17° 19′*

2022

The altitude of ♄ *around this last observation was approximately 11° by the least quadrant; from this its place can be verified near the* ☌ *of the Sun, if [it] cannot be had in the evening, or [they can] be compared with one another.* [Altitudo ♄ circa hanc vltimam ob-] [ſeruationem fuit quaſi partium 11 per] [minimum quadrantem, hinc poteſt] [eius locus verificari iuxta ☌ Solis ſi] [Veſperi haberi nequit, vel conferri] [inuicem.][2023]

On the same day, P. M., in the evening [EODEM DIE P. M., VESPERI.]

On account of ♄ near the ☌ of the Sun. [Ob ♄ iuxta Solis ☌.]

Here ♄ was higher than this morning, and without refraction. [♄ hic fuit altior quam hodie mane] [& ſine refractione.][2024]

Time	Distance between ♄ and the bright [star] of ♈ [Diſt. inter ♄] [& lucid. ♈]	Declination of ♄ [Declin. ♄]
$8^h\ 52⅙^m$ [8 52⅙]	27° 26′	17° 15½′
$8^h\ 55⅚^m$ [8 55⅚]	27° 25¾′	
$8^h\ 58⅓^m$ [8 58⅓]	27° 26¼′	17° 15½′
$9^h\ 1^m$ [9 1]	27° 26½′	17° 16′

[2021] *erat … prætergreßus* is taken as "was … having gone past", with *iuxta* ☌ *Solis* as "near the ☌ of the Sun"; the other construal reads the pluperfect whole, "♄ had then gone a little past, near the ☌ of the Sun". *ab eo* is taken as "from it", the horizon. *Aldeboræ* is Aldebaran.

[2022] "Time", "Reading" and "Value" are this edition's heads; the page prints none. *H. 6 7′* is printed with a minute mark; *6 10*, printed without marks, is given as hours and minutes. The first label runs over two lines, the figures on the second; it is given whole on the first row. *luc. pedem* ♊ is given as "the bright foot of ♊". The values, printed without unit marks, are given as degrees and minutes.

[2023] *partium 11* is given as "11°". *vel conferri inuicem* is taken as a second infinitive under *poteſt*, its subject left understood; the other construal keeps *locus* as its subject ("or be compared [with it] in turn").

[2024] *Ob* is printed without a point and is taken as the preposition, "on account of"; the other construal takes it as an abbreviation of *Obſeruatio* ("Observation of ♄ near the ☌ of the Sun"), which the missing point does not support. The whole right column of this page is set in roman.

Time	Distance between ♄ and the bright [star] of ♈ [Dist. inter ♄] [& lucid. ♈]	Declination of ♄ [Declin. ♄]

2025

Here put the distance of ♄ and the bright [star] of ♈ [as] 27° 26′ and the declination of ♄ [as] 17° 15½′ north. [Pone hic distantiam ♄ & lucidæ ♈] [27 26 & declinationem ♄ 17 15½ B.]

Time	Between ♄ and Aldebaran [Inter ♄ & Aldeb.]	Declination of ♄ [Decl. ♄]	Altitude of ♄ [Alt. ♄]
9^h 5^m [9 5]	8° 4⅓′	17° 16′	
9^h 8^m [9 8]	8° 5½′	17° 16′	
9^h $9½^m$ [9 9½]	8° 5¾′	17° 16′	
9^h 11^m [9 11]	8° 6′	17° 16¼′	
	Altitude of ♄ at about these [observations], 43°. [Altitudo ♄ iuxta has 43 partium.]		
9^h 14^m [9 14]	8° 5¾′	17° 16⅓′	44°
9^h $18½^m$ [9 18½]	8° 5⅚′	17° 16′	44½°

2026

Put the distance of ♄ from Aldebaran [as] 8° 5¾′ and you will err imperceptibly; but the declination [as] 17° 16′ north. For what was taken this morning — both the declination especially and the distance — were being made near the horizon and were subject to refraction. [Pone distantiam ♄ ab Aldeb. 8 5¾] [& insensibiliter aberrabis, Declinatio-] [nem vero 17 16 Boream, nam quæ ho-]

2025 "Time" is this edition's head; the other two heads are printed, in smaller roman type, *Dist. inter* ♄ over *& lucid.* ♈; the sign ♄ in these heads is a different sort from the ♄ of the lines. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The empty cell is empty on the page.

2026 "Time" is this edition's head; the other heads are printed, in smaller roman type. The head *Alt.* ♄ stands lower than the other two, above the last two rows only, and is given here in the head row; the sign ♄ in all three heads is a different sort from the ♄ of the lines. The line *Altitudo* ♄ *iuxta has 43 partium.* is printed across the column between the fourth and fifth rows and is kept in its place; *has* ("these") is feminine and its noun is left understood, taken as "[observations]"; *partium* is given as "°". The altitudes *44* and *44½*, printed without unit marks, are given as degrees, as *43 partium* above them fixes. The times, printed without marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. *B.* in the sentence above is "north". Empty cells are empty on the page.

[die mane accepta eſt, & declinatio] [præſertim, & diſtantia iuxta Horizon-] [tem fiebant & refractioni erant ob-] [noxiæ.][2027]

Time	Reading	Value
$9^h\ 24^m$ [9 24]	Between ♄ and the bright [star] of ♈ 27° 27′, declination of ♄ [Inter ♄ & lucid. ♈ 27 27, Decl. ♄]	17° 16⅓′
	The altitude of ♄ was then closest to 45°. [Altitudo ♄ fuit tunc proxima 45 part.]	
$9^h\ 26^m$ [9 26]	Between ♄ and the bright [star] of ♈ 27° 26½′, good. [Inter ♄ & lucid. ♈ 27 26½ bona.]	
	Declination of ♄ 17° 16⅓′ [Declin. ♄ 17 16⅓]	
$9^h\ 30^m$ [9 30]	Between ♄ and the bright foot of ♊ [Inter ♄ & lucid. ped. ♊]	36° 54′
	Altitude of the bright foot of ♊ 25½, doubtful. [Altitudo lucid. ped. ♊ 25½, dubia.]	
$9^h\ 32^m$ [9 32]	The same distance [Eadem diſt.]	36° 55′
$9^h\ 34^m$ [9 34]	The same repeated [Eadem repetita]	36° 54′
$9^h\ 37^m$ [9 37]	The same [Eadem]	36° 53¾′
$9^h\ 40^m$ [9 40]	The same repeated [Eadem repetita]	36° 53⅔′

2028

Around these times the altitude of the bright foot of ♊ was 25½. In all these, put the distance of ♄ from the bright foot of ♊ [as] 36° 53¾′, and you will err imperceptibly. The altitude of the star of ♊ in the feet, observed last, was 27½. Therefore [it was] without perceptible refraction. But here it will be possible to take the declination of ♄ [as] the truer [one], and [as the one] observed last, with one pinnule: 17° 16⅓′; with the other pinnule: 17° 16⅙′. [Fuit circa hæc tempora Alt. lucidi] [pedis ♊ 25½. Pone in his omnibus ♄ a] [lucido pede ♊ diſtantiam 36 53¾ & in-] [ſenſibiliter aberrabis. Altitudo ſtellæ] [♊ in pedibus erat vltimo obſeruata] [27½. Ergo citra ſenſibilem refractio-] [nem. Declinatio

[2027] *8 5¾* and *17 16*, printed without unit marks, are given as degrees and minutes. The relative *quæ … accepta eſt* is singular and the verbs *fiebant* and *erant* are plural; the English keeps both numbers.

[2028] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The figures *27 27*, *27 26½* and *17 16⅓* (fourth row) are printed inside their lines and are kept there; the *17 16⅓* of the first row stands alone on the line below, set in, and is given in the value column. *bona* ("good") and *dubia* ("doubtful") are feminine, agreeing with the distance and the altitude respectively. *proxima 45 part.* is given as "closest to 45°", keeping the superlative. *25½* is printed without a unit mark and is given bare. The times, printed without marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

vero ♄ hic aßumi po-] [terit verior & vltimo obſeruata vno] [pinnacidio 17 16⅓] [alt. pinn. 17 16⅙][2029]

You can therefore take the declination of ♄ [as] 17° 16¼′. For what was being taken this morning was too great on account of refraction, which occurred near the approach of ♄ to its setting, at an altitude of barely 15°. And from these and the preceding observations made on 5 November, the acronychal place of ♄ can be constructed exactly. [Potes itaque aßumere declinatio-] [nem ♄ 17 16¼. Nam quæ hodie mane] [accipiebatur nimis magna fuit ob re-] [fractionem, quæ contingebat iuxta ♄] [ad occaſum appropinquationem in Al-] [titud. vix 15 part. Atque ex his & ante-] [cedentibus die 5 Nouembris factis ob-] [ſeruationibus ♄ locus Acronychius] [exquiſite conſtrui poteſt.][2030]

On 25 November, in the evening [DIE 25 NOUEMBRIS, VESPERI.]

Time	Reading	Value	Remark
$8^h\ 1^m$ [8 1′]	Between ♄ and the bright [star] of ♈ [Inter ♄ &] [lucid. ♈]	26° 21⅙	Altitude of ♄ 33° (for these three rows) [Alt.] [♄] [33°]
$8^h\ 3^m$ [8 3]		26° 21′	
$8^h\ 7^m$ [8 7]	The same distance [Diſt. eadem]	26° 21½′	
	Declination of ♄, north [Declin. ♄ Bor.]	17° 1′	
	with the other pinnule [alt. pin.]	17° 0½′	

[2031]

On 1 December [DIE 1 DECEMBRIS.]

In the evening. From the recently corrected clock. [Veſperi. Ex nuper correcto horologio.]

[2029] *25½* and *27½* are printed without unit marks and are given bare. *36 53¾*, *17 16⅓* and *17 16⅙*, printed without unit marks, are given as degrees and minutes. The last two figures stand at the right of the column, *17 16⅓* on the line of *pinnacidio*, *alt. pinn. 17 16⅙* on the line below. *aßumi poterit* is future, "it will be possible to take". *alt. pinn.* is "with the other pinnule".

[2030] *17 16¼*, printed without unit marks, is given as degrees and minutes; *15 part.* as "15°". *iuxta ♄ ad occaſum appropinquationem* is given as "near the approach of ♄ to its setting"; "at the approach" is the other rendering. *accipiebatur* is imperfect, "was being taken". This column of the page is set in roman.

[2031] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The label *Inter ♄ & / lucid. ♈* runs over two lines, each line with its own figures; it is given whole on the first row. A brace after the first three figures joins them to *Alt. / ♄ / 33°*, printed one word or figure to a line; the remark is given once, on the first row, for all three. *33°* is printed with a degree mark. *8 1′* is printed with a minute mark; the other times, printed without marks, are given as hours and minutes. *Bor.* is "north". The other values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Time	Reading	Value
7^h 3½^m [7 3½]	Between ♄ and the bright [star] of ♈ [Inter ♄ &] [lucid. ♈]	5° 59⅙′
7^h 7^m [7 7]		5° 59′
	Declination of ♄ 16° 57′, altitude of ♄ [Decl. ♄ 16 57, Alt. ♄]	36° 20′

2032

On 6 December [DIE 6 DECEMBRIS.]

Time	Reading	Value
6^h 41^m [6 41]	Declination of ♄, north [Declinatio ♄ Bor.]	16° 53′
	with the other [alt.]	16° 52¾′
7^h 5^m [7 5]	The same declination repeated [Eadem decl. repetita]	16° 52¼′
	The same repeated declination [Eadem repet. declin.]	16° 52⅓′
	These latter two are more correct. [Hæ duæ poſteriores rectius ſe] [habent.]	
7^h 12⅚^m [7 12⅚]	Between ♄ and the bright [star] of ♈ [Inter ♄ & lucid. ♈]	25° 42⅓′
7^h 31½^m [7 31½]		25° 39⅚′
7^h 32¾^m [7 32¾]		25° 40⅙′
7^h 33⅓^m [7 33⅓]		25° 40⅙′
7^h 39½^m [7 39½]	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	9° 53′
7^h 40½^m [7 40½]		9° 54′
7^h 41½^m [7 41½]		9° 53½′
7^h 42¾^m [7 42¾]		9° 54′
7^h 44½^m [7 44½]		9° 54′
7^h 46½^m [7 46½]		9° 54′

2032 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The label *Inter* ♄ *&* / *lucid.* ♈ runs over two lines, each line with its own figures; it is given whole on the first row. The degrees of the first two values are the single figure *5*, standing in the units place of the degrees column, with nothing printed before it; the same distance is given on 25 November as 26° and on 6 December as 25°. They are given as printed. *16 57* is printed inside the line. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2033

Note. Up to the following morning hour 5½, the clock was moving only 1½^{m} slower than it should; this error came upon it from the immediately preceding noon, when it was being corrected to the Sun. [Nota. Horologium ad Horam 5½] [Matutinam ſequentem ſaltem ſesqui-] [alt. min. iuſto tardius mouebatur, qui] [error illi a Meridie proxime antece-] [dente quando ad Solem corrigebatur] [accidit.][2034]

To find out whether this sextant, which we used in all these distances, is in proper order, we observed the distance of the heart of ☌ and of the lower head of ♊: 37° 0′; 36° 59¾′. This agrees sufficiently with the observations found earlier for these very stars, from which it follows that this sextant [is] subject to no perceptible error. [Pro cognoſcendo an Sextans hic,] [quo in his omnibus diſtantijs vſi ſu-] [mus, recte ſe habeat, obſeruauimus] [diſtantiam cordis ☌ & inferioris ca-] [pitis ♊ 37 0] [36 59¾] [quod ſatis conuenit cum obſeruatio-] [nibus prius deprehenſis in his ipſis] [ſtellis, vnde conſequitur quod Sextans] [hic nulli ſenſibili errori obnoxius.][2035]

On 14 December [DIE 14 DECEMBRIS.]

Time	Reading	Value
8^{h} 6^{m} [8 6]	Between the bright [star] of ♈ and ♄ [Inter lucid. ♈ & ♄]	25° 16′
8^{h} 11½^{m} [8 11½]		25° 15½′
8^{h} 13½^{m} [8 13½]		25° 15½′
8^{h} 22¾^{m} [8 22¾]	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	10° 25′
8^{h} 25⅓^{m} [8 25⅓]		10° 25½′
8^{h} 29^{m} [8 29]		10° 25½′
	Declination of ♄ [Declinatio ♄]	16° 47′
	Repeated [Repetita]	16° 47′

2036

[2033] "Time", "Reading" and "Value" are this edition's heads; the page prints none. *alt.* stands alone before its figures and is given as "with the other". The sentence *Hæ duæ poſteriores …* is set in under the labels, without figures, and is kept in its place; "These latter two" are the two repeated declinations above it. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2034] *ſesqui-* / *alt. min.*, divided at the line end, is given as "1½^{m}" (one and a half minutes). *ſaltem* is given as "only", as no lower-bound word follows; "at least" is the other construal. *a Meridie* is "from noon". *corrigebatur* is imperfect, "was being corrected".

[2035] The two figures stand at the right of the column, *37 0* on the line of *pitis* ♊, *36 59¾* alone on the line below; printed without unit marks, they are given as degrees and minutes. *cordis* ☌ is given as "the heart of ☌". *Sextans hic* is given as "this sextant" both times; "the sextant here" is the other rendering. The last clause prints no verb; "[is]" is supplied.

[2036] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

On 15 December [DIE 15 DECEMBRIS.]

Time	Reading	Value
8^{h} 5^{m} [8 5]	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	10° 26⅔′
8^{h} 8^{m} [8 8]		10° 27′
	Declination of ♄ [Declinatio ♄]	16° 47′
		16° 47⅓′

2037

On 16 December, in the evening [DIE 16 DECEMBRIS, VESPERI.]

Time	Reading	Value
8^{h} $26\frac{1}{6}^{m}$ [8 26⅙]	Distance between ♄ and the bright [star] of ♈ [Diſt. inter ♄ &] [Luc. ♈]	25° 9′
8^{h} $28\frac{1}{2}^{m}$ [8 28½]		25° 9⅙′
8^{h} $32\frac{1}{2}^{m}$ [8 32½]		25° 9⅓′
8^{h} $36\frac{1}{2}^{m}$ [8 36½]	Distance between ♄ and the eye of ♉ [Diſt. inter ♄ &] [oculum ♉]	10° 29′
8^{h} $37\frac{1}{2}^{m}$ [8 37½]		10° 29¼′
8^{h} $40\frac{2}{3}^{m}$ [8 40⅔]		10° 29⅓′
8^{h} $49\frac{1}{6}^{m}$ [8 49⅙]	Declination of ♄ [Declin. ♄]	16° 46′
	Repeated declination [Repet. declin.]	16° 45¾′
8^{h} 57^{m} [8 57]	♄ passed through the meridian, having [Tranſiuit ♄ per Merid. habens]	
	altitude by the steel [quadrant] [Alt. per Chalyb.]	50° 50⅓′
	by the revolving [quadrant] [per Volub.]	50° 50⅚′

2038

2037 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The last value stands alone, with no label. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2038 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The labels *Diſt. inter* ♄ *&* / *Luc.* ♈ and *Diſt. inter* ♄ *&* / *oculum* ♉ each run over two lines, each line with its own figures; each is given whole on its first row. The sentence *Tranſiuit* ♄ *per Merid. habens* runs on into *Alt. per Chalyb.* on the next line; each line is kept in its place. *Repet.* is given as "Repeated". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Note. At noon the clock was moving 8^{m} slower than it should; this error crept into it from 6⅓^{h}. [Nota. Horologium in Meridie 8 mi-] [nutis iuſto tardius mouebatur, qui er-] [ror illi ab Hora 6⅓ irrepſit.][2039]

Investigation[1] of the apparent motions of ♄ when [it] was around the ☌ of the mean simple ☉, so that from both sides the moment of the ☌ with the mean motion of ☉ may be duly established. [Indagatio[1] apparentium motuum ♄^{ni}] [cum circa ☌^{onem} medij ☉$^{li^s}$ ſimpl. ver-] [ſaretur, vt hinc inde ☌$^{oni^s}$ cum medio] [motu ☉$^{li^s}$ momentum rite conſtet.][2040]

[1] From codex V. [E codice V.]

On 5 November [DIE 5 NOUEMBRIS.]

Time	Reading	Value
8^{h} 54^{m} [H. 8 M. 54]	Distance of ♄ from the bright [star] of ♈ [Diſt. ♄] [a lucida ♈]	27° 47½′
	Declination of ♄ [Declin. ♄]	17° 21′ north [B.]
9^{h} 2^{m} [H. 9 M. 2]	Distance of ♄ from Aldebaran [Diſt. ♄] [ab Aldeb.]	7° 43¼′
Therefore, [at] 9^{h} 0^{m} [Ergo H. 9 M. 0]		
	Right ascension of ♄, limited [Aſc. R. ♄ limitata]	55° 14′ 40″ or 50 [vel 50]
	Declination [Declinatio]	17° 21′ north [B.]
	Corresponding longitude [Reſp. Longitudo]	27° 0⅙′ ♉ or ⅓ [vel ⅓]
	Latitude [Latitudo]	2° 16$\frac{1}{12}$′ south [M.]

[2041]

On 10 November [DIE 10 NOUEMBRIS.]

Time	Reading	Value
9^{h} 0^{m} [H. 9 M. 0]	Distance of ♄ from the bright [star] of ♈ [Diſt. ♄] [a lucida ♈]	27° 26′

[2039] This note is set in italic. *8* and *6⅓*, printed without unit marks, are given as minutes and hours, as *minutis* and *Hora* fix them.

[2040] The signs ♄^{ni}, ☌^{onem}, ☉$^{li^s}$ and ☌$^{oni^s}$ are printed with Latin case endings raised after them; they are given as the signs. *ſimpl.* is given as "simple". *hinc inde* is given as "from both sides"; "on either side" is the other rendering. The page ends with this paragraph.

[2041] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The labels *Diſt. ♄ / a lucida ♈* and *Diſt. ♄ / ab Aldeb.* each run over two lines, the time on the first and the value on the second; each is given whole on one row. *27° 47½* is printed with a degree mark; the other values, printed without unit marks, are given as degrees, minutes and seconds. *vel 50* and *vel ⅓* are given bare, as printed. *B.* is "north" and *M.* after the latitude "south". *16$\frac{1}{12}$* is a two-tier fraction, 1 over 12. Empty cells are empty on the page.

Time	Reading	Value
	Declination of ♄ [Declin. ♄]	17° 15′ 30″ north [B.]
9^{h} 8^{m} [H. 9 M. 8] Therefore, [at] 9^{h} 5^{m} [Ergo H. 9 M. 5]	Distance of ♄ from Aldebaran [Diſt. ♄] [ab Aldeb.]	8° 5′ 45″
	Right ascension of ♄, limited [Aſc. R. ♄ limitata]	54° 50′
	Corresponding longitude [Reſp. Longitudo]	26° 36′ ♉
	Latitude [Latitudo]	2° $16\frac{1}{12}$′ south [M.]

2042

So, having taken the simple motion of ☉ from [our] own tables and having fitted the latter place of ♄ as the more exact, it is found, according to the working-out of the calculation, that the ☍ of ♄ with the mean motion of the simple ☉ fell on 7 November at 5^{h} 48^{m} P. M.; and the apparent place of ♄ according to the observation was 26° 51′ 18″ ♉. [Excerpto igitur ſimplici motu $☉^{l_i s}$ ex proprijs Tabulis ac poſteriori loco $♄^{ni}$] [tanquam exactiori adaptato, comperitur ſecundum Calculi ſubductionem ☍ ♄] [cum medio motu ſimplicis $☉^{l_i s}$ incidiße in diem 7 Nouembris H. 5 M. 48 P. M.,] [eratque] [Locus ♄ apparens iuxta obſeruationem 26° 51′ 18″ ♉]

From the calculation [Ex calculo]:

- Copernican: 26° 45′ 40″ ♉ [Coperniano 26 45 40 ♉]
- Alphonsine: 29° 47′ 45″ ♉ [Alphonſino 29 47 45 ♉][2043]

Weighing everything more precisely, it is gathered from the observation of 5 November, and from the longitude established there, 27° 0′ 20″ ♉, that at the time of the ☍ [it] had a longitude of 26° 50′ 40″. But from the observation of the 10th, when [it] was, according to longitude, in 26° 36′ 0″ ♉, the same [longitude] is gathered for the ☍ [as] 26° 51′ 40″. The difference is one minute; half of it, added to the smaller, gives 26° 51′ 10″, the true place observed at the time of the ☍ with ☉. But from this 2′ are to be taken away on account of the equal motion in its course; and so the true and limited place at the time of the ☍, on which you can base yourself, will come out [as] 26° 49′ 10″ ♉. [Collimatius omnia trutinando colligitur ex obſeruatione diej 5 Nouem-]

2042 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The labels run over two lines as on 5 November and are given whole on one row. *27° 26′* and *30″* are printed with their marks; the other values, printed without unit marks, are given as degrees, minutes and seconds. This entry prints no line *Declinatio* after the right ascension. *$16\frac{1}{12}$* is a two-tier fraction, 1 over 12. Empty cells are empty on the page.

2043 The signs $☉^{l_i s}$ and $♄^{ni}$ are printed with Latin case endings raised after them; they are given as the signs. *Calculi ſubductionem* is given as "the working-out of the calculation". *iuxta obſeruationem* is given as "according to the observation". The line *Locus ♄ apparens …* is centred; *Ex calculo* is printed once, with a brace joining *Coperniano* and *Alphonſino*, each with its own figures; it is given once, for both. *Coperniano* is so printed and is given as "Copernican". The figures of these two lines, printed without unit marks, are given as degrees, minutes and seconds.

[bris & longitudine illic conſtituta 27 0 20 ♉, quod tempore ☌ habuerit long.] [26 50 40. Sed ex obſeruatione diej 10, quando fuit ſecundum long. in 26 36 0] [♉, colligitur eadem iuxta ☌ 26 51 40, differentia eſt minuti vnius, cuius di-] [midium additum minori dat 26 51 10, verum locum obſeruatum tempore ☌] [cum ☉. Sed ab hoc auferenda ſunt M. 2 propter motum æqualem in ſuo] [ductu, ſicque euadet verus & limitatus locus tempore ☌, cui te potes fun-] [dare, 26ᵖ 49′ 10″ ♉.][2044]

Observations of Jupiter [OBSERUATIONES IOUIS.]

On 9 January, P. M. [DIE 9 JANUARIJ, P. M.]

Time	Reading	Value
8⅝ʰ [H. 8⅝]	Declination of ♃, north [Declin. ♃ Borea]	17° 33½′
	with the other [alt.]	17° 33¾′
9ʰ 3ᵐ [9 3′]	Between ♃ and the lower head of ♊ by the old sextant [Inter ♃ & infer.] [caput ♊ per] [Sext. veterem]	30° 44½′
9ʰ 5ᵐ [9 5]		30° 44′
9ʰ 6ᵐ [9 6]		30° 44′
9ʰ 13ᵐ [9 13]	Between ♃ and the heart of ♌ by the old sextant [Inter ♃ &] [cor ♌ per] [Sext. vet.]	10° 3′
9ʰ 15ᵐ [9 15]		10° 3⅙′
9ʰ 17ᵐ [9 17]		10° 3¼′

2045

[2044] This paragraph is set in italic. *Collimatius … trutinando* is given as "Weighing … more precisely"; *collimatius* is literally "aiming more closely". The figures, printed without unit marks, are given as degrees, minutes and seconds; *M. 2* as "2′"; *26ᵖ* is printed with a raised *p* (partes) and is given as "26°". *iuxta* ☌ is given as "for the ☌", since the value parallels the one *tempore* ☌ and the two are differenced; "near the ☌" is the literal rendering. *cui te potes fundare* is literally "on which you can found yourself". The subject of *habuerit* and *fuit* is not printed; "[it]" is supplied.

[2045] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The labels *Inter ♃ & infer.* / *caput ♊ per* / *Sext. veterem* and *Inter ♃ &* / *cor ♌ per* / *Sext. vet.* each run over three lines, each line with its own time and figures; each is given whole on its first row. *alt.* stands alone before its figures and is given as "with the other". *9 3′* is printed with a minute mark; the other times, printed without marks, are given as hours and minutes; *H. 8⅝* as hours. The values, printed without unit marks, are given as degrees and minutes. *Borea* is "north". Empty cells are empty on the page.

On 10 January [DIE 10 JANUARIJ.]

I myself observed the declination of ♃ after [it] was approximately 10° above the horizon: 17° 39½′. [Declin. ♃ ipſemet obſeruaui poſt-] [quam quaſi 10 Gr. eßet ſupra hori-] [zontem 17 39½][2046]

On 16 January, P. M. [DIE 16 JANUARIJ, P. M.]

Reading	Value
Declination of ♃, north [Declin. ♃ Borea], with one [vno]	17° 48½′
with the other [alt.]	17° 49′

[2047]

By the revolving [quadrant], of the heart of ☋ [Per Volub.] [cordis ☋]

Azimuth [Azim.]	Altitude [Alt.]	Reading	By the sextant [Per Sext.]
74° 57′	26° 35′	Between ♃ and Canis Minor [Inter ♃ &] [Canem] [minorem]	28° 20⅙′
74° 15′	26° 57′		28° 20′
73° 45′	27° 17⅓′		28° 20⅙′
72° 57′	27° 45¼′	Between ♃ and the heart of ☋ [Inter ♃] [& cor ☋]	10° 58′
72° 24′	28° 11′		10° 58′
72° 0′	28° 17′	Declination of ♃ [Declin. ♃]	17° 49⅓′
			17° 49½′

[2048]

On 22 January, in the evening [DIE 22 JANUARIJ, VESPERI.]

[2046] The heading and this note are set in italic. *17 39½* stands in the column of figures on the last line; printed without unit marks, it is given as degrees and minutes. *10 Gr.* is given as "10°".

[2047] "Reading" and "Value" are this edition's heads; the page prints none. *vno* and *alt.* stand before the figures. The values, printed without unit marks, are given as degrees and minutes.

[2048] This block stands at the head of the right column with no date heading and no times; on the page it follows the entry of 16 January at the foot of the left column. *Per Volub. / cordis* ☋ stands above the azimuth and altitude columns only and is given once, above the table. "Reading" is this edition's head; the page prints none. The labels *Inter* ♃ *& / Canem / minorem* and *Inter* ♃ */ & cor* ☋ each run over several lines, each line with its own figures; each is given whole on its first row. The last value stands alone in the last column. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Time	Reading	No.	Value
9⅓h [H. 9⅓]	Between ♃ and Canis Minor by the sextant [Inter ♃ & canem] [minorem per Sext.]	I	27° 43¼′
		II	27° 44′
		III	27° 43¼′
9½h [H. 9½]	Between ♃ and the lower head of ♊ [Inter ♃ & infer.] [caput ♊]	I	25° 24′
		II	25° 24⅙′
	Declination of ♃, north [Declin. ♃ Bor.]	with one [vno]	18° 5′
		with the other [altero]	18° 5⅙′

2049

[At] 9⅔h [H. 9⅔] the heel of the foot of ♊ was in the meridian, from which the assigned time may be examined. [Fuit calx pedis ♊ in Meridiano] [vnde tempus aßignatum exami-] [nari poßit.]

N. B. [It] was not sufficiently clear when ♃ was being observed. [N. B. Non fuit ſatis ſerenum cum ♃] [obſeruaretur.][2050]

On 24 January [DIE 24 JANUARIJ.]

When the heel of the foot of ♊ was near the meridian, ♃ was being observed. [Cum calx pedis ♊ eßet iuxta Meri-] [dianum obſeruabatur ♃.]

Reading	No.	Value
Between ♃ and Canis Minor by the sextant [Inter ♃ & canem] [minorem per Sext.]		27° 31′
		27° 31⅙′
Between ♃ and the lower head of ♊ [Inter ♃ & infer.] [caput ♊]		25° 8′
		25° 8¼′
Declination of ♃, north [Declin. ♃ Bor.]	with one [vno]	18° 9′
	with the other pinnule [altero pinn.]	18° 8½′

[2049] "Time", "Reading", "No." and "Value" are this edition's heads; the page prints none. *I*, *II*, *III*, *vno* and *altero* stand in one position before the figures and are kept in their own column. The labels *Inter ♃ & canem* / *minorem per Sext.* and *Inter ♃ & infer.* / *caput ♊* each run over two lines; each is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes. *Bor.* is "north". Empty cells are empty on the page.

[2050] These lines close the entry of 22 January, whose table stands at the foot of p. 285. *H. 9⅔*, printed without a unit mark, is given as hours. *poßit* is subjunctive, "may be examined". *Non fuit ſatis ſerenum* follows the glossary form "[It] was not sufficiently clear".

2051

On 30 January, P. M. [DIE 30 JANUARIJ P. M.]

By the old trigonal sextant. [Per Sext. Trig. veterem.]

Time	Reading	Value
$8^h\ 55^m$ [8 55]	Between ♃ and Canis Minor [Inter ♃ & canem min.]	26° 53⅔′
$8^h\ 57^m$ [8 57]	Repeated [Repetita]	26° 54′
$8^h\ 58^m$ [8 58]	Between ♃ and the lower head of ♊ [Inter ♃ & infer.] [caput ♊]	24° 22¼′
$8^h\ 59^m$ [8 59]		24° 22¼′
$9^h\ 2^m$ [9 2]	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]	12° 48′
$9^h\ 3^m$ [9 3]	The same distance [Eadem dist.]	12° 47½′
$9^h\ 4^m$ [9 4]	Repeated distance [Repetita dist.]	12° 48⅙′
$9^h\ 7^m$ [9 7]	Declination of ♃, north, by the armillae [Decl. ♃ B. per] [Armillas]	18° 23′
		18° 22⅔′

2052

On 15 February, P. M. [DIE 15 FEBRUARIJ P. M.]

Reading	Value
Between ♃ and the heart of ♌ by the sextant [Inter ♃ & cor ♌ per Sext.]	14° 44′
	14° 44⅙′
Declination of ♃ by the armillae [Decl. ♃ per Armillas]	18° 55′ north [B.]

2053

On 25 February [DIE 25 FEBRUARIJ.]

Observation of ♃ *still retrograde; and it is sufficiently careful.* [Obſeruatio ♃ adhuc retrogradi & eſt] [ſatis diligens.][2054]

[2051] "Reading", "No." and "Value" are this edition's heads; the page prints none. The labels *Inter ♃ & canem / minorem per Sext.* and *Inter ♃ & infer. / caput ♊* each run over two lines, each line with its own figures; each is given whole on its first row. *vno* and *altero pinn.* stand before the figures and are kept in their own column. *iuxta Meridianum* is given as "near the meridian". The values, printed without unit marks, are given as degrees and minutes. *Bor.* is "north". Empty cells are empty on the page.

[2052] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The labels *Inter ♃ & infer. / caput ♊* and *Decl. ♃ B. per / Armillas* each run over two lines, each line with its own figures; each is given whole on its first row. *Sext. Trig.* is given as "trigonal sextant" (glossary). The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *B.* is "north". Empty cells are empty on the page.

[2053] "Reading" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes. *B.* is "north". Empty cells are empty on the page.

[2054] *Obſeruatio* ♃ is set in roman, the rest of this line and the next in italic. *retrogradi* agrees with ♃ (genitive), "of ♃ still retrograde". The subject of *eſt* is the observation.

Time	Reading	Value
$9^h\ 36^m\ 19^s$ [9 36′ 19″]	♃ in the meridian, at an altitude [♃ Merid. in Altit.]	
	by the steel [quadrant] [per Chalyb.]	53° 14′
	by the revolving [quadrant] [per Volub.]	53° 13⅓′
	By the sextant [Per Sextantem]	
$9^h\ 44^m$ [9 44]	Between ♃ and the lower head of ♊ [Inter ♃ & infer.] [cap. ♊]	21° 36′
$9^h\ 45½^m$ [9 45½]		21° 36½′
$9^h\ 47^m$ [9 47]		21° 36¾′
$9^h\ 50^m$ [9 50]	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]	15° 41¼′
$9^h\ 52^m$ [9 52]		15° 41′
$9^h\ 54^m$ [9 54]		15° 41′
	Declination by the armillae, north [Declin. per Armill. Bor.], with one [vno]	19° 9′
	with the other [altero]	19° 9½′

2055

On 27 February [DIE 27 FEBRUARIJ.]

Time	Reading	By the sextant [Per Sext.]	Declination of ♃ [Declin. ♃]
$10^h\ 6^m$ [10 6]	*Between ♃ and the heart of ♌ [Inter ♃ &] [cor ♌]*	*15° 51′*	*19° 12¼′*
$10^h\ 8½^m$ [10 8½]		*15° 51′*	*19° 12¼′*
$10^h\ 13^m$ [10 13]	*Between ♃ and the lower head of ♊ [Inter ♃ &] [infer.cap.♊]*	*21° 26½′*	*19° 12′*
$10^h\ 16⅓^m$ [10 16⅓]		*21° 26⅔′*	*19° 12′*
$10^h\ 20^m$ [10 20]		*21° 26¾′*	*19° 12½′*
	Set [Pone]	*21° 26⅔′*	

2056

2055 "Time", "Reading" and "Value" are this edition's heads; the page prints none. *9 36′ 19″* is printed with minute and seconds marks and is given as a time. *Merid.* of ♃ at night is given as "in the meridian". *Per Sextantem* stands alone, centred in the column, and is kept as a row in its place. The label *Inter ♃ & infer. / cap. ♊* runs over two lines, each line with its own figures; it is given whole on its first row. *vno* and *altero* stand before the figures. The other times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2056 This entry, from its heading to the end of the sentence below, is set in italic, except the word *cor*, which is roman each time. "Time" and "Reading" are this edition's heads; the page prints none for them. The labels *Inter ♃ & / cor ♌* and *Inter ♃ & / infer.cap.♊* each run over two lines, each line with its own figures; each is given whole on its first row. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[At] 10^{h} 30^{m} 40^{s} [10 30 40] the heart of ☋ passed the meridian. From this all the preceding times can be verified, a comparison having been made with the transit of the heads of ☊ *noted above*[1]. [Tranſiuit cor ☋ Merid., hinc] [poßunt verificari omnia antece-] [dentia tempora, collatione facta] [cum tranſitu capitum ☊ ſuperius] [annatato[1].] [recte: annotato]

But it should have passed at 10^{h} 27^{m} 50^{s}; hence the times added to the observations of the planets have been corrected proportionally, and this verification of the time agreed with the transit of the midheaven [M. C.] by the zodiacal armillae. [Debebat autem tranſiuiße H. 10 27′] [50″, vnde tempora obſeruationibus] [planetarum aſcripta ſunt emendata] [proportionaliter, & cum tranſitu M. C.] [per Armillas Zodiacales conſentiebat] [iſta temporis verificatio.][2057]

On 28 February, P. M. [DIE 28 FEBRUARIJ P. M.]

Time	Reading	Value
	Meridian altitude of ☌ by the revolving quadrant[2] [Alt. ☌ Merid. per Q. Volub.[2]]	53° 17¼′
	By the sextant △ [Per Sext. △]	
9^{h} 53^{m} [9 53]	Between ☌ and the heart of ☋ [Inter ☌ & cor ☋]	15° 55′
9^{h} 56^{m} [9 56]		15° 54¾′
10^{h} 0^{m} [10 0]	Between ☌ and the southern head of ☊ [Inter ☌ & Mer.] [caput ☊]	21° 22′
10^{h} 3^{m} [10 3]		21° 21⅔′
	Declination of ☌, north [Declin. ☌ Borea]	19° 13′

2058

The place of ☌ from the observations on 28 February[3]. [Locus ☌ ex obſeruationibus die 28] [Februarij[3].]

Reading	Value
Meridian altitude of ☌ by the revolving [quadrant] [Altitudo ☌ mer. per Volub.]	53° 17¼′
Declination of ☌ [Declin. ☌]	19° 13′
[At] 9^{h} 53^{m} distance of ☌ from the heart of ☋ [H. 9 M. 53 Diſt. ☌ a corde ☋]	15° 55′
Declination of the heart of ☋ [Declin. cord. ☋]	13° 57′ 10″ north [B.]
Right ascension of the same [Aſc. R. eiuſdem]	146° 34′ 25″

[2057] *10 30 40*, printed without marks, is given as hours, minutes and seconds. *H. 10 27′ 50″* is printed with minute and seconds marks and is given as a time, as *H.* fixes it. *annatato* is so printed. *M. C.* is given as "midheaven", as the glossary gives it in *Aſc. R. M. C. aſcripta* is given as "added".

[2058] "Time", "Reading" and "Value" are this edition's heads; the page prints none. *Per Sext.* △ stands alone, centred over the figures, and is kept as a row in its place. The label *Inter* ☌ *& Mer. / caput* ☊ runs over two lines, each line with its own figures; it is given whole on its first row. *Mer.* before *caput* ☊ is given as "southern" (the glossary's *Meridionalis capitis* ☊); "Between ☌ and the meridian" is the other construal, which leaves *caput* ☊ on the next line without a governing word. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Reading	Value
Angle of the difference of ascension [Angulus diff. aſcenſ.]	15° 41′
Therefore the right ascension of ☌ [Ergo Aſc. R. ☌]	130° 53′ 20″
The other way round, from the lower head of ♊ [Vice verſa ab inf. cap. ♊]	
Distance from the lower head of ♊ [Diſt. ab inf. cap. ♊]	21° 22′
Declination of Pollux [Declin. Pollucis]	28° 57′ 40″
Ascension of the same [Aſc. eiuſdem]	109° 59′ 50″
Angle of the difference of ascension [Angulus diff. aſcenſ.]	20° 53⅙′
Therefore the right ascension of ☌ [Ergo Aſc. R. ☌]	130° 53′ 0″
Right ascension, limited [Aſc. R. limit.]	130° 53′ 10″
Corresponding longitude [Reſp. Longitudo]	8° 11′ 10″ ♌
Latitude [Latitudo]	0° 57′ 53″ north [B.]

2059

[1] Compare below, among the observations of Venus. [Cf. infra inter obſeruationes Veneris.]

[2] Compare above, among the observations of the Moon, p. 256. [Cf. ſupra inter obſeruationes lunæ p. 256.]

[3] From codex V. [E codice V.]

On 29 February [DIE 29 FEBRUARIJ.]

Time	Reading	Value
$9^h\ 29^m\ 5^s$ [9 29 5]	Meridian altitude of ☌ [Alt. ☌ Merid.]	
	by the revolving [quadrant] [per Volub.]	53° 19′
	by the Tychonic [quadrant] [per Tych.]	53° 18⅝′

2060

On 1 March [DIE 1 MARTIJ.]

[At] $6¾^h$ [H. 6¾], the equatorial distance between ☌ and the eye of ♉, 67° 45′, by the armillae. [Diſt. æquat. inter ☌ & oculum ♉] [67 45 per Armillas.]

2059 "Reading" and "Value" are this edition's heads; the page prints none. *53° 17¼′* is printed with degree and minute marks; the other values, printed without unit marks, are given as degrees, minutes and seconds. *Vice verſa ab inf. cap.* ♊ stands alone, centred, and is kept as a row in its place. *B.* is "north". The figures of row 7 do not close against rows 5 and 6: 146° 34′ 25″ less 15° 41′ gives 130° 53′ 25″, where the page prints 130° 53′ 20″. Row 13 closes against rows 11 and 12 (109° 59′ 50″ and 20° 53⅙′ give 130° 53′ 0″), and row 14 is the mean of rows 7 and 13 as printed. No figure has been changed. Empty cells are empty on the page.

2060 "Time", "Reading" and "Value" are this edition's heads; the page prints none. *9 29 5*, three figures printed without marks, is given as hours, minutes and seconds. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Value
Meridian altitude of ♃ by the steel [quadrant] [Alt. ♃ Merid. per Chalyb.]	53° 20′
by the revolving [quadrant] [per Volub.]	53° 19½′
by the Tychonic [quadrant] [per Tychon.], old [vet.]	53° 20′
with the new [nouo]	53° 19¾′

2061

On 2 March [DIE 2 MARTIJ.]

[At] 9^h 9⅔^m [H. 9 M. 9⅔] ♃ passed the meridian by the revolving quadrant, having an altitude of 53° 20⅓′. [tranſiuit ♃ Merid. per Q.] [Volub. habens alt. 53 20⅓]

[At] 12^h 5^m [H. 12 M. 5], the declination of ♃: 21° 23′. [Declin. ♃ 21 23][2062]

On 23 May [DIE 23 MAIJ.]

[At] 10^h 35⅙^m [10 35⅙], the declination of ♃, north [Declin. ♃ Bor.]: 17° 58½′.

Time	Between ♃ and the heart of ☋ [Inter ♃ &] [cor ☋]	Equatorial distance of ♃ [Diſt. æq. ♃]	Altitude of ♃ [Alt. ♃]
10^h 40^m [10 40]	11° 41⅚′	83° 11′	18⅓°
		Equatorial distance of the heart of ☋ [Diſt. æq. cordis ☋]	
10^h 43⅙^m [10 43⅙]	11° 40′	72° 40′	
10^h 46⅚^m [10 46⅚]	11° 40½′	73° 12′	
10^h 48⅚^m [10 48⅚]	11° 40′	73° 48′	
10^h 51⅚^m [10 51⅚]	Declination of ♃, north [Declin. ♃ Bor.]		17° 59′

2063

[2061] "Reading" and "Value" are this edition's heads; the page prints none. *H. 6¾*, printed without a unit mark, is given as hours. *vet.* and *nouo* stand before the figures, *nouo* with no label of its own. The values, printed without unit marks, are given as degrees and minutes.

[2062] This entry is set in italic. The figures *53 20⅓* and *21 23* stand at the right of their lines; printed without unit marks, they are given as degrees and minutes.

[2063] "Time" is this edition's head; the page prints none over the times. The head *Inter ♃ & / cor ☋* runs over two lines. *Diſt. æq. cordis ☋* is a second head set over the third column, and is kept as a row in its place. In the last row *Declin. ♃ Bor.* stands in the second column and its figures, *17 59*, in the last column, under *Alt. ♃*; they are given where they stand, as a declination, as the label on their line names them. *18⅓*, a single figure with a fraction, is given as degrees. The other values, printed without unit marks, are given as degrees and minutes; the times, printed without marks, as hours and minutes. *Bor.* is "north". Empty cells are empty on the page.

On 15 October, in the morning [DIE 15 OCTOBRIS MANE.]

Time	The heart of ☌, east [Cor ☌ or.]	Declination of ☽ [Decl. ☽]	Altitude of ☽ [Alt. ☽]
4^h 22⅓^m [4 22⅓]	52° 7′	8° 20′ north [B.]	18° 43′
		with the other [alt.] 8° 20⅙′	
		Between ☽ and the heart of ☌ by the sextant [Inter ☽ & cor ☌] [per Sext.]	
4^h 50⅔^m [4 50⅔]	45° 2′	17° 7¼′	
4^h 51½^m [4 51½]	44° 50′	17° 7¼′	
4^h 53⅔^m [4 53⅔]	44° 16′	17° 7½′	
		Between ☽ and Canis Minor [Inter ☽ & can. min.]	
	43° 30′	53° 13′	
		53° 13′	
4^h 56⅔^m [4 56⅔]	Declination of ☽ [Decl. ☽]	8° 20′	23° 55′
	Repeated [Repetita]	8° 20¼′	

2064

For the day of 15 October, in the morning[1]. [Ad diem 15 Octobris mane[1].]

Reading	Value
Side BA [Latus BA]	80° 54′ 30″
CA	76° 2′ 10″
BC	16° 15′ 30″
BAC	15° 48′ 52″
	146° 34′ 30″
Right ascension of ♂ [Aſc. R. ♂]	162° 23′ 22″
Equatorial distance [Diſt. æquat.]	15° 49′
Right ascension of the heart of ☌ [Aſc. R. cord. ☌]	146° 34′ 30″
Right ascension of ♂ [Aſc. R. ♂]	162° 23′ 30″
[At] 4^h 40^m [H. 4 M. 40], declination [Declin.]	9° 5′ 30″ north [B.]
Corresponding longitude [Reſp. Longit.]	10° 18′ 11″ ♍
Latitude [Latit.]	1° 28′ 32″ north [B.]

2064 "Time" is this edition's head; the page prints none over the times. *Inter ☽ & cor ☌ / per Sext.* (over two lines) and *Inter ☽ & can. min.* are heads set over the third column within the table, and are kept as rows in their places. *alt.* stands before its figures and is given as "with the other". *Decl. ☽* and *Repetita* stand in the second column, their figures in the third. *43 30* has no time. The values, printed without unit marks, are given as degrees and minutes; the times, printed without marks, as hours and minutes. *B.* is "north". Empty cells are empty on the page.

2065

Reading	Value	From Canis Minor [A Cane minore]	Value
Side BA [Latus BA]	81° 40′	BA	81° 40′
CA	76° 2⅙′	CA	83° 46½′
BC	17° 7¼′	BC	53° 13′
BAC	16° 29′ 20″	BAC	53° 38′ 37″
Ascension of the heart of ☌ [Afc.] [cord. ☌]	146° 34′ 30″	Ascension of Canis Minor [Afc.Can.] [min.]	109° 26′ 5″
Right ascension of ☌ [Afc. R. ☌]	163° 3′ 50″		163° 4′ 42″

2066

[At] 4⅚^{h} [H. 4⅚], set: right ascension of ☌, 163° 4′; declination, north, 8° 20′. [Pone Afc. R. ☌ 163° 4′, Declin. B.] [8° 20′.]

Corresponding longitude 11° 12′ 29″ ♏, latitude 1° 1′ 40″ north. [Reſp. Longitudo 11° 12′ 29″ ♏,] [Latitudo 1° 1′ 40″ Bor.]

From this, by means of their latitude relative to each other and the difference of longitude, their distance was found by computation: 1° 0′ 37″. [Hinc per eorum adinuicem latitudi-] [nem et differentiam longitudinis in-] [uenta eſt eorum diſtantia per opera-] [tionem 1° 0′ 37″.][2067]

On 17 October, in the morning [DIE 17 OCTOBRIS MANE.]

When ☌ was 32° 35′ distant from the meridian toward the east, its north declination was observed: 8° 11½′; 8° 11⅓′. [Cum ☌ diſtaret a Mer. ad ortum] [32 35 obſeruata eſt 8 11½] [eius declin. Bor. 8 11⅓][2068]

[2065] "Reading" and "Value" are this edition's heads; the page prints none. Rows 1–8 stand at the foot of the left column; rows 9–12 stand at the head of the right column, with no heading, and follow on from them. A rule is printed under the figures of row 5 and under those of row 8. *80° 54′ 30″* is printed with its marks; the other values, printed without unit marks, are given as degrees, minutes and seconds; *H. 4 M. 40* as a time. The sign ♂ is printed in rows 6 and 9, not ☌. *B.* is "north". Empty cells are empty on the page.

[2066] "Reading" and "Value" are this edition's heads; the page prints none, except *A Cane minore*, set in smaller type over the right-hand computation. The two computations stand side by side. The labels *Afc.* / *cord.* ☌ and *Afc.Can.* / *min.* each run over two lines and are given whole on one row. A rule is printed under the figures of row 5 on each side. The left-hand *81° 40* is printed with a degree mark only, the right-hand *81° 40′* with both marks, and *37″* with a seconds mark; the other values, printed without unit marks, are given as degrees, minutes and seconds. Empty cells are empty on the page.

[2067] *H. 4⅚*, printed without a unit mark, is given as hours. *Pone* is "put". *B.* and *Bor.* are "north". *eorum* names no body; the page's two reductions are those of ♂ and ☌. *eorum adinuicem latitudinem* is given as "their latitude relative to each other"; "their latitudes, [taken] together" is the other construal. *per operationem* is given as "by computation" (literally "by the operation").

[2068] The figures *8 11½* and *8 11⅓* stand at the right of the second and third lines, one value on each. The figures, printed without unit marks, are given as degrees and minutes.

On 27 October [DIE 27 OCTOBRIS.]

[At] 6^h 24^m [6 24], the declination of ☽ [Declin. ☽]: 7° 37′.

Afterwards Jupiter and the heart of ♌ were being observed, so that Venus could be better observed from Jupiter and seen on account of the dawn. [Poſtea obſeruabatur Iupiter & cor ♌] [vt Venus a Ioue melius obſeruari vi-] [derique propter Auroram poßet.][2069]

Time	Between ☽ and the heart of ♌ [Inter ☽ &] [cor ♌]	Declination of ☽ [Decl. ☽]	Altitude of ☽ [Alt. ☽]
6^h $43½^m$ [6 43½]	19° 3⅙′	7° 36′	38° nearly [fere]
6^h $48½^m$ [6 48½]	19° 2¾′	7° 36½′	38° 42′
6^h $50¾^m$ [6 50¾]	19° 2′	7° 36′	38° 53′
6^h $52¼^m$ [6 52¼]	19° 2¾′	7° 36′	38° 58′
6^h $54½^m$ [6 54½]	19° 2½′	7° 36½′	39° 6′

2070

You can rather rely on the first observation and put the distance: 19° 3′, or rather 19° 2¾′ at least. [Potes potius fidere primæ obſer-] [uationi et ponere diſtantiam 19 3 vel] [potius 19 2¾ ad minimum.][2071]

On 6 November [DIE 6 NOUEMBRIS.]

Corr.	*Distance of ☽ and of the heart of ♌ [Diſt. ☽ &] [cordis ♌]*	*Declination of ☽ [Decl. ☽]*	*Altitude of ☽ [Alt. ☽]*	*Azimuth of ☽ from the meridian toward the east [Azim. ☽] [a Mer. ad ort.]*
7^h 7^m [7 7]	*20° 26⅓′*	*7° 5¼′*		
7^h $10⅓^m$ [7 10⅓]	*20° 27′*	*7° 5¼′*		
7^h 14^m [7 14]	*20° 27′*	*7° 5⅓′*	*40° 55′*	*8° 22′*

[2069] The scope of *propter Auroram* ("on account of the dawn") is left as open as the Latin leaves it: it may govern the whole purpose clause, or only *viderique* ("and be seen").

[2070] "Time" is this edition's head; the page prints none over the times. The head *Inter ☽ & / cor ♌* runs over two lines. *38 fere*: the single figure is given as degrees, as the column's other values fix it. The other values, printed without unit marks, are given as degrees and minutes; *6 24* and the times, printed without marks, as hours and minutes.

[2071] This note is set in italic. Its figures, printed without unit marks, are given as degrees and minutes.

2072

On 10 November, in the morning [DIE 10 NOUEMBRIS MANE.]

Time verified [Temp. verif.]	*Between ♃ and ♀ [Inter ♃ & ♀]*	*Declination of ♃ [Decl. ♃]*
6^h 58^m [6 58]	*29° 23′ doubtful [dubia]*	*6° 54½′*

2073

[1] From codex V. [E codice V.][2074]

Time	*Between ♃ and the heart of ☋ [Inter ♃ & cor ☋]*	*Value*
7^h 3^m [7 3]	*20° 57½′*	*6° 54′*
7^h 5^m [7 5]	*20° 58′ doubtful [dubia]*	*6° 54′*
7^h 8^m [7 8]	*20° 57¾′*	*6° 54′*
7^h 11^m [7 11]	*20° 57′*	*6° 54′*
7^h 13^m [7 13]	*20° 58′*	*6° 54′*
7^h 16^m [7 16]	*20° 58¼′*	

2075

You can, imperceptibly, use 20° 57½′ between ♃ and the heart of ☋[1]. [Potes inſenſibiliter vti 20 57½ inter] [♃ & cor ☋ [1].]

Meridian altitude of ♃ [Altit. ♃ meridiana]: 40° 59′.[2076]

On 2 December [DIE 2 DECEMBRIS.]

Note. [It] was not clear, but the observation was being made among clouds. [Nota. Non erat ſerenum, ſed inter] [nubes fiebat obſeruatio.]

[2072] This entry is set in italic. *Corr.* is the page's head over the first column, kept abbreviated. The heads *Diſt. ♃ & / cordis ☋* and *Azim. ♃ / a Mer. ad ort.* each run over two lines. The figures of the first column, printed without marks, are given as hours and minutes, as a time column; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2073] This entry is set in italic. All three heads are the page's own. *6 58*, printed without marks under *Temp. verif.*, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2074] The footnote is printed without a numeral; its cue is the [1] after *mane* in the line *Ad diem 15 Octobris mane[1].*, the only cue on the page.

[2075] This block is set in italic, except the word *cor*, which is roman. It stands at the head of the left column with no date heading; on the page it follows the entry of 10 November at the foot of the previous page. "Time" and "Value" are this edition's heads; the page prints a head over the second column only. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2076] These lines are set in italic, except *cor*. *inſenſibiliter* is literally "imperceptibly"; the page prints no noun for what is imperceptible. The figures, printed without unit marks, are given as degrees and minutes.

Time	*Reading*	*Value*	*Remark*
5h 48m [5 48]	*Declination of ☿ [Declin. ☿]*	*6° 10¾′*	*☿ was then not far from the meridian. [Non longe a] [merid. erat] [tunc ☿]*
5h 52m [5 52]		*6° 10½′*	
5h 56m [5 56]		*6° 10¾′*	

2077

Reading	*Value*	*Remark*
Meridian altitude of ☿ [Altit. ☿ Merid.]	*40° 17½′*	
	34° 5′	
	6° 12′	*This difference [is] on account of clouds. [Hæc diuerſitas] [propter nubes.]*

2078

On 5 December [DIE 5 DECEMBRIS.]

Early in the morning the clock was being corrected to the heart of ♌ at 5h 27⅓m [H. 5 M. 27⅓], so that it would be right. [Mane primo corrigebatur Horolo-] [gium ad cor ♌ H. 5 M. 27⅓ vt illud] [recte ſe haberet.]

Afterwards ☿ was being observed in the following manner. [Poſtea obſeruabatur ☿ in hunc qui] [ſequitur modum.][2079]

Time	Reading	No.	Value
5h 37m [5 37]	Declination of ☿ [Declinatio ☿]		6° 6′
5h 38m [5 38]	Between Jupiter and the heart of ♌ [Inter Iouem & cor ♌]		23° 16⅓′
5h 40½m [5 40½]	The same distance, repeated [Eadem diſt. repetit.]		23° 15′
5h 42¾m [5 42¾]	The same distance, repeated [Eadem diſt. repet.]		23° 15⅔′

[2077] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The remark *Non longe a / merid. erat / tunc* ☿ runs over three lines, one beside each of the three rows; it is given whole on the first row and applies to all three. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2078] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. A rule is printed under *34 5*, and *6 12* stands below it. The figures do not close as printed: 40° 17½′ less 34° 5′ gives 6° 12½′, where the page prints 6° 12′. No figure has been changed. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2079] These two paragraphs are set in italic, except *cor*. *Mane primo* is given as "early in the morning"; *vt illud recte ſe haberet* as "so that it would be right".

Time	Reading	No.	Value
5^h 42⅚^m [5 42⅚]	☿ passed the meridian, having an altitude [Tranſiuit ☿ Merid. habens] [Alt.]		40° 11½′
5^h 50½^m [5 50½]	Between ☿ and the heart of ☌ [Inter ☿ & cor ☌]		23° 15½′
	At the same time the declination of ☿ was [Fuit eodem tempore decl. ☿]		6° 5⅔′
		with the other [altero]	6° 6′
5^h 54^m [5 54]	Repeated distance between ☿ and the heart of ☌ [Repet. diſt. inter ☿] [& cor ☌]		23° 15½′ *good* [bona]
7^h 10½^m [7 10½]	Between ☿ and Spica ♍ [Inter ☿ & Spicam ♍]		30° 54′
	Then the declination of ☿ was [Fuit tunc declin. ☿]	with one [vno]	6° 6½′
		with the other [alt.]	6° 6′
7^h 13^m [7 13]	Between ☿ and Spica [Inter ☿ & Spicam]		30° 54⅙′
7^h 15½^m [7 15½]	The same distance, repeated [Eadem diſt. repet.]		30° 54½′
	Declination of ☿ [Declin. ☿]		6° 6½′
		with the other [alt.]	6° 6½′

2080

Hence the place of ☿ will be able to be established with certainty by both observations, made on either side; but it will be more advisable to assume, in the distance from the heart of ☌, 23° 15½′; in the other, however, from Spica, 30° 54¼′; and from this to confirm its place the other way round. [Hinc poterit ☿ locus per vtramque] [obſeruationem vtrinque factam certo] [conſtitui, conſultius vero fuerit in di-] [ſtantia a corde ☌ aßumere partes 23] [M. 15½. In altera vero a Spica part.] [30 M. 54¼, atque hinc locum eius vice] [verſa comprobare.][2081]

[2080] "Time", "Reading", "No." and "Value" are this edition's heads; the page prints none. *repetit.*, *repet.* and *Repet.* are given as "repeated". The sentence *Tranſiuit ☿ Merid. habens / Alt.* runs over two lines, *Alt.* standing before the figures; it is given whole on one row. The label *Repet. diſt. inter ☿ / & cor ☌* runs over two lines, the figures on the second; it is given whole on one row. *bona* is set in italic on its own line below *23 15½* and is given with that value. *vno*, *altero* and *alt.* stand before the figures. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2081] This paragraph begins at the foot of the left column and ends at the head of the right column; the word *diſtantia* is divided between the two columns (*di-* / *ſtantia*). *partes 23 M. 15½* and *part. 30 M. 54¼* are given as 23° 15½′ and 30° 54¼′, as *partes* and *M.* fix them. *In altera* is given as "in the other", the noun left understood. *conſultius … fuerit* (future perfect) is given as "it will be more advisable". *vtrinque* is given as "on either side"; the page does not say on either side of what.

On 6 December [DIE 6 DECEMBRIS.]

☌ had gone just a little past the meridian. At $5\frac{1}{3}^{h}$ [Hora $5\frac{1}{3}$] the clock was being rectified. [☌ erat paululum Meridianum præ-] [tergreßus. Hora $5\frac{1}{3}$ rectificabatur Ho-] [rologium.]

Time	Reading	No.	Value
$5^{h}\ 43\frac{1}{3}^{m}$ [5 43⅓]	Between ☌ and the heart of ☋ [Inter ☌ & cor ☋]		23° 20⅙′
$5^{h}\ 48^{m}$ [5 48]	Declination of ☌ [Declin. ☌]		6° 4¾′
		with the other [altero]	6° 5′
$5^{h}\ 51\frac{1}{3}^{m}$ [5 51⅓]	Repeated distance between ☌ and the heart of ☋ [Repet. diſt. int. ☌ &] [cor ☋]		23° 19⅚′
	Declination of ☌ with both pinnules [Decl. ☌ vtroque pin.]		6° 5′
$5^{h}\ 54\frac{1}{2}^{m}$ [5 54½]	Between ☌ and the heart of ☋ [Inter ☌ & cor ☋]		23° 19½′
$5^{h}\ 57\frac{5}{6}^{m}$ [5 57⅚]	The same distance [Eadem diſt.]		23° 20⅓′
$5^{h}\ 59\frac{1}{3}^{m}$ [5 59⅓]	The same distance [Eadem diſt.]		23° 20′
$6^{h}\ 41\frac{5}{6}^{m}$ [6 41⅚]	Between ☌ and Spica ♍ [Inter ☌ & Spicam ♍]		30° 50¼′
$6^{h}\ 45\frac{3}{4}^{m}$ [6 45¾]	The same distance [Eadem diſt.]		30° 50¼′
$6^{h}\ 47\frac{5}{6}^{m}$ [6 47⅚]			30° 50′
$7^{h}\ 4^{m}$ [7 4]			30° 50⅚′
$7^{h}\ 6^{m}$ [7 6]			30° 49½′
$7^{h}\ 9\frac{1}{6}^{m}$ [7 9⅙]			30° 49⅓′
$7^{h}\ 15\frac{1}{2}^{m}$ [7 15½]			30° 50′
	The declination of ☌ around these times was [Fuit Declin. ☌ circa hæc] [tempora]		6° 5′

You can use the distance of ☌ from Spica: 30° 50′. [Potes diſtantia ☌ a Spica vti 30 50][2082]

On 7 December, in the morning [DIE 7 DECEMBRIS, MANE.]

The clock was being corrected at $5\frac{1}{2}^{h}$. [Horologium emendabatur H. 5½.]

[2082] "Time", "Reading", "No." and "Value" are this edition's heads; the page prints none. *Hora 5⅓*, printed without a unit mark, is given as hours. *paululum* is given as "just a little". *Repet.* is given as "Repeated". The label *Repet. diſt. int. ☌ & / cor ☋* runs over two lines, the figures on the second; it is given whole on one row; so is the sentence *Fuit Declin. ☌ circa hæc / tempora.* The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

At 5^h 35½^m in the morning ☽ passed the meridian, having an altitude by the steel [quadrant] of 40° 11′, by the revolving [quadrant] of 40° 10′. [H. 5 M. 35½ Mane tranſiuit ☽ Merid.] [habens Alt. per Chalyb. 40 11] [per Volub. 40 10]

Time	Between ☽ and the heart of ☌ [Inter ☽ &] [cor ☌]	Remark
7^h 35½^m [7 35½]	23° 22¼′	In all these you can use the distance 23° 22½′. [Potes in his] [omnibus vti] [diſtantia 23 22½]
7^h 39½^m [7 39½]	23° 22½′	
7^h 44^m [7 44]	23° 23′	
7^h 46⅓^m [7 46⅓]	23° 22¼′	
7^h 49½^m [7 49½]	23° 22½′	

2083

But the declination of ☽ was everywhere 6° 5′ north. [Declin. autem ☽ erat vbique 6 5 Borea.]

Afterwards we observed between ☽ and Spica: [Poſtea obſeruauimus inter ☽ & Spicam]

Time	Value	Remark
7^h 54^m [7 54]	30° 46′	You can safely use the distance 30° 46′, and the declination as before. [Potes vti diſtantia] [30 46 tuto, &] [declinatione] [vt prius.]
7^h 57^m [7 57]	30° 46¼′	
8^h 1^m [8 1]	30° 46′	
8^h 4^m [8 4]	30° 46′	

2084

2083 "Time" and "Remark" are this edition's heads; the head *Inter ☽ & / cor ☌* is the page's, set over two lines. The remark *Potes in his / omnibus vti / diſtantia 23 22½* stands at the right, beside the first, third and fourth rows; it is given whole on the first row and refers to all five ("in all these"). The sentence on 5^h 35½^m is set in italic. *H. 5½*, printed without a unit mark, is given as hours. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2084 "Time", "Value" and "Remark" are this edition's heads; the page prints none. The remark *Potes vti diſtantia / 30 46 tuto, & / declinatione / vt prius.* runs over four lines, one beside each row; it is given whole on the first row and applies to all four. *Borea* is "north". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

On 28 December, in the morning [DIE 28 DECEMBRIS MANE.]

Time	*Reading*	*Value*
7^h 48^m [H. 7 48′]	*Declination of ♃ [Declin. ♃]*	*6° 2′* *6° 2¼′*

2085

[1] You will find the distances of Jupiter and Venus below, among the observations of Venus. [Diſtantias Iouis et Veneris infra inter obſeruationes Veneris invenies.]

Observations of Mars [OBSERUATIONES MARTIS.]

On 12 February [DIE 12 FEBRUARIJ.]

♂ was observed before it set heliacally, in the evening. [Obſeruabatur ♂ antequam occide-] [ret Heliace, Veſperi.]

Time	Between ♂ and the bright [star] of ♈ [Inter ♂] [& Luc. ♈]	Declination of ♂, south [Declin. ♂] [Auſt.]	Altitude of ♂ [Alt. ♂]
6^h 20^m [6 20]	39° 51′	4° 45⅙′	about 4° [quaſi 4 G.]
6^h 32^m [6 32]	39° 50′	4° 45′	3° 18′
		Azimuth of ♂, west [Azim. ♂ occ.]	
6^h 35^m [6 35]	39° 49′	80° 5′	2° 45′
6^h 40^m [6 40]	39° 48′		

2086

For the day of 12 February[1]. [Ad diem 12 Februarij [1].]

[2085] This entry is set in italic. ”Time”, ”Reading” and ”Value” are this edition's heads; the page prints none. *H. 7 48′* is printed with a minute mark and is given as a time, as *H.* fixes it. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2086] ”Time” is this edition's head; the page prints none over the times. The heads *Inter ♂ / & Luc. ♈* and *Declin. ♂ / Auſt.* each run over two lines. *Azim. ♂ occ.* is a head set over the third column within the table, above the row of 6^h 35^m; from that row the third column gives the azimuth, not the declination. It is kept as a row in its place. *G.* (*gradus*) is ”degrees”. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. At 6^h 20^m the declination of ♂ is printed 4 45⅙ here (with 4 45 at 6^h 32^m; both confirmed on a native-resolution crop), while the reduction below, for the same time, prints the declination of ♂ as 3 15⅓ south; the figures are given as printed, and no correction is made.

To learn the minimum inclination of the latitude of ♂ near the ☌ with ☉, its place was investigated from the preceding observations of the day of 12 February. [Ad cognoſcendam inclinationem mi-] [nimam latitudinis ♂ iuxta ☌ cum ☉] [inueſtigabatur locus eius ex antece-] [dentibus obſeruationibus diei 12 Fe-] [bruarij.]

[At] 6^{h} 20^{m} in the evening [H. 6 M. 20 veſpertina]:

Reading	Value
Distance of ♂ from the bright [star] of ♈ [Diſt. ♂ a lucida ♈]	39° 51′
Declination of ♂ [Declin. ♂]	3° 15⅓′ south [M.]
Declination of the bright [star] of ♈ [Declin. luc. ♈]	21° 29¼′
Right ascension of ♈ [Aſc. R. ♈]	26° 2¼′
Angle of the difference of ascension [Angulus diff. aſcenſ.]	31° 55⅙′
Therefore right ascension of ♂ [Ergo Aſc. R. ♂]	354° 7′
Corresponding longitude [Reſp. Longitudo]	23° 18½′ ♓
Latitude [Latitudo]	0° 39′ south [M.]

2087

And this [is] without consideration of the refraction at an altitude of 4°. [et hoc ſine conſideratione refractionis] [in altit. 4 grad.]

Reading	Value
Corresponding refraction in the circle of altitude [Reſp. refractio in circulo] [altit.]	11′
Parallax [Parallaxis]	1′ 30″
Difference [Differentia]	9′ 30″
Corresponding in longitude [Reſp. in long.]	8′ subt. [8′ ſubt.]
in latitude [in latit.]	5′ add.
Therefore the true longitude [Vera itaque Longitudo]	23° 10½′ ♓
Latitude [Latitudo]	0° 44′ south [M.]

2088

2087 "Reading" and "Value" are this edition's heads; the page prints none. *iuxta ☌ cum ☉* is given as "near the ☌ with ☉" (*iuxta* with an event). *veſpertina* is given as "in the evening". *39° 51′* is printed with its marks; the other values, printed without unit marks, are given as degrees and minutes. *Aſc. R. ♈* is printed without *luc. M.* is "south". The figures close as printed: 26° 2¼′ less 31° 55⅙′, taken from 360°, gives 354° 7′.

2088 "Reading" and "Value" are this edition's heads; the page prints none. The label *Reſp. refractio in circulo / altit.* runs over two lines, the figure on the second; it is given whole on one row. *4 grad.* is given as 4°. *11′*, *8′*, *5′* and *23° 10½′* are printed with their marks. *1 30″* is printed with a seconds mark after *30* only; the *1* is given as minutes, as that mark fixes it. *9 30* is printed without marks and is given as 9′ 30″, as the figures above it fix it. *0 44* is printed without marks and is given as degrees and minutes. A rule is printed above *9 30*. *ſubt.* and *add.* are kept abbreviated. *M.* is "south". The figures close as printed: 11′ less 1′ 30″ gives 9′ 30″; 23° 18½′ less 8′ gives 23° 10½′; 0° 39′ and 5′ give 0° 44′.

On 15 October, in the morning[2] [DIE 15 OCTOBRIS MANE [2].]

The heart of ☽ from the meridian toward the east [Cor ☽ a] [Mer. ad ort.]	Correspond-ing in time [Reſp in.] [tempore]	Declination of ☌, north [Decl. ☌] [Bor.]	Alti-tude of ☌ [Alt. ☌]	Remark
53° 37′	4^h 16^m 20^s [$4^H16'20''$]	with one [vno], 9° 6½′ with the other [alt.], 9° 7′ Between ☌ and the heart of ☽, by the sextant [Inter ☌ & cor ☽] [per Sext.]	19° 5′	
50° 37′	4^h 28⅓^m [4 28⅓]	16° 14′	20° 59′	
48° 40′	4^h 36^m [4 36]	16° 13′	21° 44′	
47° 34′	4^h 40½^m [4 40½]	16° 15½′		
		16° 13′		
46° 42′	4^h 44^m [4 44]	16° 15′	22° 57′	N.B. [It] was clearer (for these four distances). [N. B. Erat] [ſerenius.]
		16° 15′		
45° 52′	4^h 47⅓^m [4 47⅓]	16° 15½′		
		16° 15½′		

2089

Repeated declination of ☌, north [Repetita declin. ☌ B.]: 9° 5½′; with the other [altero]: 9° 5′.

Equatorial distance between ☌ and the heart of ☽, 15° 49′, taken once. [Diſt. æquatoria inter ☌ & cor ☽ 15 49] [ſemel accepta.][2090]

[2089] "Remark" is this edition's head; the other four heads are the page's, each set over two lines (*Alt.* ☌ on one). *Reſp* is printed without a point. *Inter* ☌ *&* *cor* ☽ */ per Sext.* is a head set over the third column within the table, above the row of 4^h 28⅓^m; from that row the third column gives the distance between ☌ and the heart of ☽, not the declination. It is kept as a row in its place. Rows 1–7 stand at the foot of the left column; rows 8–11 stand at the head of the right column, with no heading, and follow on from them. A curly brace at the right of the four distances of rows 8–11 joins them, and *N. B. Erat / ſerenius.* stands at its right, beside the second and third of them; the remark is given once, on the first row of the group, and applies to all four. *22 57* stands at the right of the brace on the line of the first braced distance, in the position of the altitude column, and is read as the altitude of that row. *$4^H16'20''$* is printed with a superior *H* and minute and seconds marks and is given as a time. *vno* and *alt.* stand before their figures. The other times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2090] *B.* is "north". *altero* stands under *declin.*, before its figures. The values, printed without unit marks, are given as degrees and minutes.

On 17 October [DIE 17 OCTOBRIS.]

In the morning, before the rising of ☉, at about the 6th morning [hour], a visible conjunction of ♃ and ♂ appeared, for a straight line drawn through them fell on the pole star, or a little below; for [it] was not possible to attend with certainty on account of the dawn. But ♃ was more southerly than ♂ itself by the amount of the diameter of ☾, or at least by half a degree. According to the Prutenic calculation their bodily ☌ should have taken place, and ♃ should have been 4′ [4 ſcrupul.] more northerly than Mars, whereas [it] was more southerly, as I said, by the lunar diameter. [Mane ante ortum ☉ⁱˢ iuxta 6ᵗᵃᵐ ma-] [tutinam apparuit viſibilis coniunctio] [♃ & ♂, nam linea recta per eos ducta] [incidebat in ſtellam polarem, vel paulo] [infra, non enim licuit propter auroram] [certo attendere, erat autem ♃ meridio-] [nalior ipſo ♂ ad quantitatem diametri] [☾ vel ad minimum per dimidium gra-] [dum. Iuxta calculum Prutenicum de-] [buit corporalis eorum ☌ fieri & ♃ de-] [beret 4 ſcrupul. eße Marte borealior,] [cum fuerit auſtralior, vt dixi, ad dia-] [metrum lunarem.]

♃, a little more westerly than ♂, was distant from it, in the distance taken with the Radius: 0° 34′, 0° 32′, 0° 34′, 0° 29′, 0° 34′. Not sufficiently certain on account of the dawn. [♃ aliquantulum occidentalior ♂] [diſtabat ab eo in 0 34] [diſtantia per 0 32] [Radium accepta 0 34] [Non ſatis certa 0 29] [propter auroram 0 34][2091]

On 6 November [DIE 6 NOUEMBRIS.]

Time, correct. [Tempus] [correct.]	*Distance of ♂ from the heart of ♌ [Diſt. ♂ a] [corde ♌]*	*Declination of ♂ [Decl. ♂]*	*Altitude of ♂ [Alt. ♂]*	*Azimuth of ♂ [Azim. ♂]*
6ʰ 44ᵐ [6 44]	*29° 10¼′*	*4° 10′ north [4 10 B.]*	*35° 23′*	
6ʰ 48ᵐ [6 48]	*29° 9¾′*	*4° 10¼′*	*35° 38′*	*25° 40′*
6ʰ 51ᵐ [6 51]	*29° 9¾′*	*4° 10′*	*35° 50′*	*25° 0′*

2092

[2091] ☉ⁱˢ (*Solis*) is given as "of ☉". *iuxta 6ᵗᵃᵐ matutinam* is given as "at about the 6th morning [hour]", the noun left understood. *certo attendere* is given as "to attend with certainty". *erat autem* is given as "But … was". *corporalis eorum* ☌ is given as "their bodily ☌". *4 ſcrupul.* is given as 4′. *cum fuerit auſtralior* is given as "whereas [it] was more southerly"; the subject, ♃, is left in the verb ending. *aliquantulum* is given as "a little". *Non ſatis certa* is feminine and agrees with *diſtantia*. The text ♃ *aliquantulum … propter auroram* runs down the left of the column over six lines, and the five values stand at the right, one on each of its last five lines; they are given in order. The values, printed without unit marks, are given as degrees and minutes.

[2092] This entry is set in italic. All five heads are the page's; *Tempus / correct.* and *Diſt. ♂ a / corde ♌* each run over two lines. *correct.* is kept abbreviated. *B.* is "north". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The empty cell is empty on the page.

On 10 November [DIE 10 NOUEMBRIS.]

Corrected times [Tempora correcta]	Reading	Value	Reading	Value
6^h 31^m [6 31]	Between ♂ and the heart of ☋ [Inter ♂] [& cor] [☋]	31° 26¾′	Declination of ♂ [Decl. ♂]	3° 16½′
6^h 36^m [6 36]		31° 27′		3° 16½′
6^h 40^m [6 40]		31° 27′		3° 16′

Mars was high enough at about these observations, so that [it] furnished no refraction. [Mars fuit ſatis altus iuxta has ob-] [ſeruationes, ita vt nullam ſuggereret] [refractionem.]

When the Sun was one degree before the meridian, there were 57⅙ on the clock; therefore [it] was moving faster than it should by at least one single minute from 9^h, when it was being corrected in the meridian. [Quando Sol fuit vno gradu ante me-] [ridianum, erant in Horologio 57⅙, ergo] [ſaltem vnico minuto iuſto celerius] [mouebatur ab hora 9 quando corrige-] [batur in meridiano.][2093]

[1] From codex V. Cf. vol. V, p. 336. [E codice V. Cfr. T. V p. 336.]

[2] For the place of Mars on this day, see above, under the observations of Jupiter, p. 273. [De loco Martis hoc die vide ſupra ſub obſeruationibus Iouis p. 273.]

---[2094]

On 5 December, in the morning [DIE 5 DECEMBRIS, MANE.]

At 5^h 27⅓^m [H. 5 M. 27⅓] the clock was being corrected to the heart of ☋. [H. 5 M. 27⅓ corrigebatur Horologium] [ad cor ☋.]

[2093] "Reading" and "Value" are this edition's heads; *Tempora correcta* is printed on its own line above the times and is given as the head of the time column. The label *Inter* ♂ / *&* *cor* / ☋ runs over three lines, one beside each row; it is given whole on the first row. *Decl.* ♂ stands on the first row only. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *iuxta has obſeruationes* is given as "at about these observations"; "according to these observations" is the other construal. *ſuggereret* is given as "furnished". The sentence *Quando Sol … in meridiano.* begins in the last two lines of the right column of this page and ends in the first three lines of the left column of the next page; it is given once, here. *57⅙*, printed without a unit mark, is given bare. *ſaltem* is given as "at least": the Sun one degree, that is 4^m of time, before the meridian while the clock read 57⅙ implies an error of $1⅙^m$, more than the one minute stated; "only" is the other construal. *vnico* is given as "one single". *ab hora 9* is given as "from 9^h". Empty cells are empty on the page.

[2094] The first three lines of the left column (*ſaltem vnico minuto iuſto celerius* / *mouebatur ab hora 9 quando corrige-* / *batur in meridiano.*) complete the sentence that begins at the foot of the previous page; the whole sentence is given there.

Time	Reading	Value
5^h 57½^m [5 57½]	Between ♂ and the heart of ♌ [Inter ♂ & cor ♌]	45° 17½′
6^h 3½^m [6 3½]	Declination of ♂ toward the south [Declin. ♂ ad Auſt.]	2° 4½′
6^h 3⅝^m [6 3⅝]	Distance between ♂ and the heart of ♌ [Diſt. inter ♂ & cor ♌]	45° 17¼′
6^h 7¾^m [6 7¾]	Declination of ♂, Repeated, with the other pinnule [Decl. ♂ repet. alt. pin.]	2° 4⅝′
6^h 12½^m [6 12½]	Distance of ♂ and of the heart of ♌ [Diſt. ♂ & cordis ♌]	45° 16¾′
6^h 15^m [6 15]	The same distance [Diſt. eadem]	45° 17⅙′
6^h 15½^m [6 15½]	Declination of ♂ [Declin. ♂]	2° 5′

2095

Calculation[1] of the longitude and latitude of Mars for 5 December, to learn the inclination of the planes of its place. For Mars was at a nearly equal remove from the Sun and from the Earth. [Calculus [1] longitudinis et latitudinis] [Martis ad 5 Decembris pro cognoſcen-] [da inclinatione planorum eius loci.] [Nam Mars propemodum in æquali] [remotione fuit a Sole et a Terra.]

At 6^h in the morning: altitude of ♂ 31½, parallax 1½, longitude 1, latitude 1⅓. [H.6 mane. Alt. ♂ 31½, Parall.1½, Long. 1,] [Lat. 1⅓.]

Reading	Value
Distance of ♂ from the heart of ♌ [Diſtantia ♂ a corde ♌]	45° 16′
Declination of the heart, corrected for parallax [Declin. cordis per] [parallaxin correcta]	13° 58′ north [S.]
Declination [Declinatio]	2° 3′ south [M.]
Right ascension of the heart of ♌ [A. R. cordis ♌]	146° 55′
Angle of the difference of ascension [Angulus diff. aſcenſ.]	42° 43′ 30″
Therefore right ascension of Mars [Ergo Aſc. R. Martis]	189° 38′ 30″
Corresponding longitude [Reſp. Longitudo]	9° 40′ ♎
Latitude [Latitudo]	1° 57′ north [Sept.]

2095 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The clock sentence is set in italic, except *cor. H. 5 M. 27⅓* is given as a time, as *H.* and *M.* fix it. *repet.* is given as "Repeated". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2096

On 7 December [DIE 7 DECEMBRIS.]

At 5½^{h} the clock was being corrected. [Hora 5½ Horologium emendabatur.]

On this day ♂ was also observed, at about 7¼^{h} in the morning, and it was 46° 23′ distant from the heart of ☌, having a declination of 2° 29½′ south. [Obſeruabatur etiam hoc die ♂ circa] [horam 7¼ matutinam & diſtabat a] [corde ☌ partib. 46 Min. 23, habens] [declin. 2 29½ mer.][2097]

On 15 December, in the morning [DIE 15 DECEMBRIS, MANE.]

At 5½^{h} the clock was being verified. [Hora 5½ verificabatur Horologium.]

Time	Reading	Value
6^{h} 4⅙^{m} [6 4⅙]	Between ♂ and the heart of ☌ [Inter ♂ & cor ☌]	50° 30′
6^{h} 9½^{m} [6 9½]	The same distance [Eadem diſt.]	50° 30⅓′
6^{h} 17⅓^{m} [6 17⅓]	The same [Eadem]	50° 30⅓′
6^{h} 40^{m} [6 40]	The star ♂ passed the meridian, having an altitude [Tranſiuit ♂ ſtella Meridianum,] [habens altitudinem]	30° 3′
	with the other [altero]	30° 1½′
6^{h} 46⅚^{m} [6 46⅚]	Spica ♍ passed the meridian. [Tranſiuit Spica ♍ Merid.]	

2098

[2096] "Reading" and "Value" are this edition's heads; the page prints none. *propemodum in æquali remotione* is given as "at a nearly equal remove". *inclinatione planorum eius loci* is given word for word, "the inclination of the planes of its place". In the line *H.6 mane …* the four figures are printed without unit marks and are given bare; *H.* fixes *6* as an hour. *per parallaxin correcta* is given as "corrected for parallax"; literally "corrected by parallax". The label *Declin. cordis per / parallaxin correcta* runs over two lines, the figures on the second; it is given whole on one row. *45° 16′* is printed with its marks; the other values, printed without unit marks, are given as degrees, minutes and seconds. *S.* and *Sept.* are "north", *M.* "south". A rule is printed above *189 38 30*. The figures close as printed: 146° 55′ and 42° 43′ 30″ give 189° 38′ 30″.

[2097] *Hora 5½* and *horam 7¼*, printed without marks, are given as hours. *partib. 46 Min. 23* is given as 46° 23′, as *partib.* and *Min.* fix it. *2 29½*, printed without unit marks, is given as degrees and minutes. *mer.* after a declination is "south".

[2098] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The first row stands at the foot of the left column; the other rows stand at the head of the right column, with no heading, and follow on from it. *Hora 5½*, printed without a mark, is given as hours. The sentence *Tranſiuit ♂ ſtella Meridianum, / habens altitudinem* runs over two lines, the figures on the second; it is given whole on one row. *altero* stands before its figures. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The empty cells are empty on the page.

On 16 December, in the morning [DIE 16 DECEMBRIS, MANE.]

At $6\frac{1}{3}^{h}$ the clock was being verified. [H. 6⅓ verificabatur Horologium.]

Time	Reading	Value
$6^{h}\ 37\frac{1}{3}^{m}$ [6 37⅓]	Meridian altitude of ♂ by the mural quadrant [Alt. ♂ Merid. per Q. Mural.]	
	with one [vno]	29° 50½′
	with the other [altero]	29° 50¼′
	by the steel [quadrant] [per Chalyb.]	29° 50′ 35″
	by the revolving [quadrant] [per Volub.]	29° 50′ 20″
$6^{h}\ 42\frac{1}{2}^{m}$ [6 42½]	Spica passed the meridian, having an altitude by the revolving [quadrant] [tranſiuit Spica Merid.,] [habens Alt. per Volub.]	25° 8′
	by the steel [quadrant] [per Chalyb.]	25° 8½′
	by the mural [quadrant] [per Mural.], with one [vno]	25° 7′ 40″
	with the other [altero]	25° 8′

2099

On 18 December [DIE 18 DECEMBRIS.]

At $6^{h}\ 32\frac{1}{2}^{m}$ in the morning ♂ [was] in the meridian; altitude by the steel [quadrant]: 29° 27′ 45″. [H. 6 32½′ Mane ♂ in Merid.,] [Alt. per Chalyb. 29 27 45][2100]

On 27 December, A. M. [DIE 27 DECEMBRIS A. M.]

In the morning ♂ was observed passing the meridian, and it had an altitude [Mane obſeruabatur ♂ tranſiens] [Merid., habuitque Alt.]

Time	Reading	Value	Remark
	by the mural [quadrant] [per Mural.]	*27° 49⅓′*	
	by the steel [quadrant] [per Chalyb.]	*27° 49′*	
	by the revolving [quadrant] [per Volub.]	*27° 48⅚′*	
	Its declination with one pinnule [Declin. eius vno pin.]	*6° 16½′*	
	with the other [alt.]	*6° 16⅓′*	
$6^{h}\ 59^{m}$ [6 59]	Between ♂ and the more northerly of the three [stars] in the forehead of ♏ [Inter ♂ & borealiorem] [trium in fronte ♏]	36° 49⅓′	

2099 "Time", "Reading" and "Value" are this edition's heads; the page prints none. *H. 6⅓*, printed without a unit mark, is given as hours. *vno* and *altero* stand before their figures; on the line *per Mural.* the word *vno* stands after the instrument and before the figures. The sentence *tranſiuit Spica Merid., / habens Alt. per Volub.* runs over two lines, the figures on the second; it is given whole on one row. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes, or degrees, minutes and seconds where three figures are printed. The empty cells are empty on the page.

2100 *H. 6 32½′* is printed with a minute mark after the fraction and is given as a time, as *H.* fixes it. *29 27 45*, printed without unit marks, is given as degrees, minutes and seconds.

Time	Reading	Value	Remark
$7^h\ 2^m$ [7 2]	Between ♂ and the highest [star] of the forehead of ♏ [Inter ♂ & ſupremam] [frontis ♏]	36° 46′ *doubtful [dubia]*	
$7^h\ 4^m$ [7 4]	*The same repeated [Eadem repetita]*	*36° 48½′*	*good (for these four) [bo-] [næ]*
$7^h\ 8^m$ [7 8]	*The same repeated [Eadem repetita]*	*36° 48′*	
$7^h\ 13½^m$ [7 13½]	*Between ♂ and the tail of ♌ [Inter ♂ &] [caudam ♌]*	*35° 54′*	
$7^h\ 16^m$ [7 16]	*The same repeated [Eadem repetita]*	*35° 54⅙′*	

2101

[1] From codex V. In Kepler's hand. [E codice V. Manu Kepleri.]

Observations of Venus [OBSERUATIONES VENERIS.]

On 12 February, P. M. [DIE 12 FEBRUARIJ P. M.]

Time	Declination of ♀, south [Decl. ♀ Auſt.]	Altitude of ♀ [Alt. ♀]
$5^h\ 40^m$ [$5^H40'$]	with one [vno], 5° 31⅚′ with the other [alt.], 5° 32′	6° 45′
$5^h\ 45^m$ [5 45]	5° 31¼′	6° 10′
$5^h\ 47^m$ [5 47]	5° 31′	5° 54′

2102

2101 "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The date heading, the sentence above the table, the first five rows and the last four rows are set in italic; the rows of $6^h\ 59^m$ and $7^h\ 2^m$ are roman, except *dubia*. *A. M.* is kept as printed. *alt.* stands before its figures and is given as "with the other". The labels *Inter* ♂ *& borealiorem / trium in fronte* ♏, *Inter* ♂ *& ſupremam / frontis* ♏ and *Inter* ♂ *& / caudam* ♌ each run over two lines, the figures on the second; each is given whole on one row. *borealiorem trium* is given as "the more northerly of the three [stars]"; *ſupremam* as "the highest [star]". A curly brace at the right of the four values of the last four rows joins them, and *bo- / næ* (divided over two lines) stands at its right; it is given once, on the first row of the group, and applies to all four. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2102 "Time" is this edition's head; the page prints none over the times. The two printed heads are set in smaller type. *$5^H40'$* is printed with a superior *H* and a minute mark and is given as a time; the other times, printed without marks, are given as hours and minutes. *vno* and *alt.* stand before their figures. *P. M.* is kept as printed. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Time	Between ☿ and the bright [star] of ♈, by the sextant △ [Inter ☿ & △] [luc. ♈ per Sext. △]	Azimuth of ☿, west [Az. ☿ occ.], by the revolving [quadrant] [per Volub.]	Altitude of ☿ [Alt. ☿]
5^h 57^m [57]	5 44° 2¾′	72° 40′	4° 56½′
5^h 59^m [59]	5 44° 2′	73° 20′	4° 33′
6^h $3½^m$ [3½]	44° 1¼′	74° 3′	4° 6′
6^h 5^m [5]	[6 Declination of ☿, south [Decl. ☿ M.]	5° 27¾′	3° 50′

2103

For the place of ☿ on 12 February[1]. [Pro loco ☿ die 12 Februarij [1].]

Reading	Value
At 6^h complete, distance of ☿ from the bright [star] of ♈ [H. 6 completa Dift. ☿] [a lucida ♈]	44° 2′
Altitude of ☿ 4½°; declination of ☿ [Altit. ☿ 4½° Declin. ☿]	5° 29′ south [M.]
Declination of the bright [star] of ♈ [Declin. luc. ♈]	21° 29′ north [B.]
Angle of the difference of ascension [Angulus diff. afcenf.]	35° 31′
Right ascension of the bright [star] of ♈ [Afc. R. luc. ♈]	26° 2′ 15″
Therefore right ascension of ☿ [Iccirco Afc. R. ☿]	350° 31′ 15″
Corresponding longitude [Refp. Longitudo]	19° 8⅔′ ♓
Latitude [Latitudo]	1° 16¼′ north [B.]

2104

For refraction and parallax. [Pro refractione et parallaxi.]

2103 "Time" is this edition's head; the other three heads are the page's, set in smaller type, the first over two lines. *per Volub.* stands on the second head line, centred between *Az.* ☿ *occ.* and *Alt.* ☿; it is given with the azimuth head, but it may apply to the altitude as well, or to the altitude alone. In row 4 the label *Decl.* ☿ *M.* stands in the second column and its figures *5 27¾* in the third, under the azimuths; they are given as the declination of that row, not as an azimuth. *M.* is "south". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2104 "Reading" and "Value" are this edition's heads; the page prints none. *H. 6 completa* is given as "At 6^h complete", that is, at the full sixth hour; *H.* fixes *6* as an hour. The label *H. 6 completa Dift.* ☿ / *a lucida* ♈ runs over two lines, the figures on the second; it is given whole on one row. *44° 2′* and *4½°* are printed with their marks; *26 2 15″* with a seconds mark after the last figure only, and is given as degrees, minutes and seconds, as that mark fixes it; the other values, printed without unit marks, are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed. *M.* is "south", *B.* "north". The figures close as printed: 26° 2′ 15″ less 35° 31′, taken from 360°, gives 350° 31′ 15″.

Reading	Value	Remark
Distance of ♀ from the Earth according to Copernicus [Diſt. ♀ a Terra iuxta Cop.]	1848 semidiameters [1848 ſemid.]	
Corresponding parallax at an altitude of 4½° [Reſp. Parallaxis in alt. 4½]	1′ 50″	
Refraction [Refractio]	10′ 40″	
Difference [Differentia]	8′ 50″	
Corresponding in longitude [Reſp. in Longit.]	7′ 0″	subt. [ſubt.]
[in] latitude [Latit.]	5′ 10″	
True longitude [Vera Longitudo]	19° 1′ 40″ ♓	
Latitude of ♀ [♀ Latitudo]	1° 11′ 0″ north [B.]	

2105

On 25 February [DIE 25 FEBRUARIJ.]

Time	Reading	Value
6^h 30^m [6 30]	Between ♀ and the bright [star] of ♈ [Inter ♀ & luc. ♈]	28° 43⅔′
	Altitude of ♀ [Alt. ♀]	6° 45′
	♀ from the bright [star] of ♈ 28° 42¾′, altitude of ♀ [♀ a luc. ♈ 28 42¾, Alt. ♀]	5° 44′
	Declination of ♀ [Decl. ♀]	1° 14′ north [B.]
	Repeated [Repetita]	1° 14½′

2106

2105 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *Cop.* is given as "Copernicus"; *iuxta Cop.* as "according to Copernicus". *ſemid.* is given as "semidiameters". The line *Diſt. ♀ a Terra iuxta Cop. 1848 ſemid.* is printed as one run, the figure and *ſemid.* following the label. *4½* in the second row is printed without a mark and is given as degrees, as the altitude *4½°* printed in the reckoning above fixes it. *1′ 50″*, *7′ 0″* and *19° 1′ 40″* are printed with their marks; *10 40*, *8 50* and *5 10*, printed without marks, are given as minutes and seconds, as the marked figures beside them fix it; *1 11 0*, printed without marks, is given as degrees, minutes and seconds. A rule is printed above *8 50*. The figures *7′ 0″* and *5 10* stand to the left of the column of values, and *ſubt.* stands at their right, set between the two lines with no brace; it is given on the first of the two rows, and it may apply to both values or to either. *ſubt.* is kept abbreviated. The figures *19° 1′ 40″* stand directly after their label. *B.* is "north". The figures close as printed in two places: 10′ 40″ less 1′ 50″ gives 8′ 50″; 19° 8⅔′ less 7′ 0″ gives 19° 1′ 40″. They do not close in one: 1° 16¼′ less 5′ 10″ gives 1° 11′ 5″, where the page prints *1 11 0*. No figure has been changed. Empty cells are empty on the page.

2106 "Time", "Reading" and "Value" are this edition's heads; the page prints none. In row 3 the figures *28 42¾* stand within the label, before *Alt.* ♀; they are given there, as the distance of ♀ from the bright star of ♈, and *5 44* in the column of values as the altitude. The time, printed without marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *B.* is "north". Empty cells are empty on the page.

On 27 February [DIE 27 FEBRUARIJ.]

Note. These and the preceding observations of ♀ were after [it] had risen in the evening out of the rays of the Sun. [Nota. Hæ & antecedentes ♀ obſer-] [uationes fuerunt poſtquam veſperi] [orta eßet e radijs Solis.]

Time	Between ♀ and the bright [star] of ♈ [Inter ♀] [& luc. ♈]	Declination of ♀, north [Decl. ♀ B.]	Altitude of ♀ [Alt. ♀]
$6^h\ 14^m$ [6 14]		2° 13′	9° 23′
		with the other [alt.], 2° 13¼′	
$6^h\ 23^m$ [6 23]	26° 26½′		
$6^h\ 27^m$ [6 27]	26° 26′	2° 14′	7° 42′
$6^h\ 30^m$ [6 30]	26° 25½′	2° 14½′	7° 15′
$6^h\ 32^m$ [6 32]	26° 25′	2° 14½′	7° 0′

2107

The assigned times have been corrected. [Tempora aßignata ſunt correcta.]

At $7^h\ 8^m\ 10^s$ the bright [star] of the feet of ♊ passed through the meridian. [7^H 8′ 10″tranſiuitluc. ped. ♊ per Mer.]

At $8^h\ 3^m\ 48^s$ the upper head of ♊ passed. [8 3 48 tranſiuit ſuper. caput ♊.]

Hence it is gathered that since the last noon the clock had been carried forward 13^m faster than it should; so the index was drawn back by as many minutes. [Hinc colligitur horologium 13 M.] [iuſto velocius a Meridie proximo pro-] [motum eße, vnde tot minutis retrac-] [tus eſt index.]

2107The note is set in italic at the foot of the left column. This table opens the right column, under no date heading of its own; the last date heading before it is that of 27 February, at the foot of the left column, with the note between. "Time" is this edition's head; the other three heads are the page's, set in smaller type, the first over two lines. *B.* is "north". *alt.* stands before its figures and is given as "with the other". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

At 8^h 0^m 35^s the lower head of ♊ passed, but [it] ought to have passed at 8^h 1^m 56^s; so the index was being advanced by 1^m 21^s. [8 0 35 tranſ. inf. cap. ♊, debebat] [autem tranſire 8 1 56, vnde index] [1′ 21″ promouebatur.][2108]

On 29 February, P. M. [DIE 29 FEBRUARIJ P. M.]

Time	Between ☿ and the eye of ♉, by the sextant [Inter ☿] [& ocul. ♉] [per Sext.]	Altitude of ☿ by the revolving [quadrant] [Alt. ☿] [per Volub.]	Azimuth, west [Azim.] [occ.]	Declination of ☿, north, by the armillae [Decl. ☿ B.] [per Arm.]
6^h 34^m [6 34]	3° 59¾′	8° 3′	84° 0′	3° 17′
6^h $38½^m$ [6 38½]	3° 59′	7° 30½′	84° 50′	3° 17′
6^h 42^m [6 42]	3° 57¾′	7° 1¾′	85° 32′	3° 17⅓′
6^h 44^m [6 44]	3° 57¼′	6° 40⅔′	86° 2′	3° 17⅔′

[2109]

The times have been verified. [Tempora ſunt verificata.]

At 6^h 56^m 13^s the bright [star] of the feet of ♊ passed through the meridian, from which the clock can be corrected. [6 56′ 13″ tranſiuiße lucida pedum ♊] [per merid., vnde horolog. corrigi] [poteſt.]

At 7^h $48⅓^m$ the neck of Canis Minor passed the meridian. [7 48⅓ tranſ. ceruix can. min. merid.]

At 10^h 33^m 20^s the heart of ♌ passed the meridian, for correcting the clock. [10 33 20 tranſiuit cor ♌ merid. pro] [horologio corrigendo.][2110]

[2108] *7ᴴ 8′ 10″* is printed with a superior *H* and minute and seconds marks and is given as a time; *8 3 48*, *8 0 35* and *8 1 56*, printed without marks, are given as hours, minutes and seconds. *13 M.* is given as 13^m, as *M.* fixes it. *1′ 21″* is printed with minute and seconds marks and is given as 1^m 21^s of time, as the two clock times before it fix it. *luc. ped.* ♊ is given as "the bright [star] of the feet of ♊", after the page's *lucida pedum* ♊ below; *ſuper. caput* ♊ as "the upper head of ♊", *inf. cap.* ♊ as "the lower head of ♊". *a Meridie proximo* is given as "since the last noon"; *proximo* is literally "nearest". *promotum eße* is given as "had been carried forward"; *promouebatur* as "was being advanced", the imperfect kept. *debebat … tranſire* is given as "ought to have passed"; literally "was due to pass". The figures close as printed: 8^h 1^m 56^s less 8^h 0^m 35^s gives 1^m 21^s.

[2109] "Time" is this edition's head; the other four heads are the page's, set in smaller type over two or three lines. *per Arm.* is given as "by the armillae". *B.* is "north". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2110] *tranſiuiße* is a perfect infinitive ("to have passed") with no governing verb printed; it is given as a finite past. *6 56′ 13″* is printed with minute and seconds marks after the second and third figures and is given as a time; *10 33 20*, printed without marks, as hours, minutes and seconds; *7 48⅓* as hours and minutes. *horolog.* is given as "the clock"; *can. min.* as "Canis Minor".

On 1 March, P. M. [DIE 1 MARTIJ P. M.]

Time	Reading	Value
6^h 49^m 35^s [6 49 35]	Equatorial distance between ♀ and the eye of ♉, by the armillae [Diſt. æquat. inter] [♀ & oculum ♉] [per Armillas]	52° 18½′
6^h 53^m 0^s [6 53 0]		52° 18¾′
6^h 56^m [6 56]		52° 17¼′
6^h 57^m [6 57]	Declination of ♀, north [Declin. ♀ Bor.]	3° 51′
6^h 58^m [6 58]	Distance of ♀ and of the eye of ♉, by the old sextant △ [Diſt. ♀ & oculi ♉] [per Sext. △ veterem]	52° 41′
	Altitude of ♀ [Altitudo ♀]	5° 0′
7^h 1^m [7 1]	Declination of ♀, north [Declin. ♀ Bor.]	3° 52½′
7^h 3^m [7 3]	Distance between ♀ and Aldebaran, by the sextant [Diſt. inter ♀ &] [Aldeb. per Sext.]	52° 40⅔′
7^h 6^m [7 6]		52° 39′

2111

1 From codex V. [E codice V.]

The place of ♀ from the observations of 1 March[1]. [Locus ♀ ex obſeruationibus] [diei 1 Martij [1].]

Reading	Value
At 6^h 58^m, distance of ♀ from Aldebaran [H.6 M.58 Diſt. ♀ ab Aldeb.]	52° 41′
Altitude of ♀ 6°; declination of ♀ [Altit. ♀ 6° Declin. ♀]	3° 51′ north [B.]
Declination of Aldebaran [Declin. Aldeb.]	25° 36′
Right ascension of Aldebaran [Aſc. R. Aldeb.]	63° 5′ 20″
Angle of the difference of ascension [Ang. diff. aſcenſ.]	52° 15¾′
Therefore right ascension of ♀ [Ergo Aſc. R. ♀]	10° 49′ 30″
Corresponding longitude [Reſp. Longitudo]	11° 27⅙′ ♈
Latitude [Latitudo]	0° 44′ 30″ south [M.]

2111 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The label *Diſt. æquat. inter* / ♀ *&* *oculum* ♉ / *per Armillas* runs over three lines, each line with its own time and figures; it is given whole on the first row, and its three values follow in rows 1–3. The label *Diſt.* ♀ *&* *oculi* ♉ / *per Sext.* △ *veterem* runs over two lines, the time on the first and the figures on the second; it is given whole on row 5. The label *Diſt. inter* ♀ *&* / *Aldeb. per Sext.* runs over two lines, each with its own time and figures; it is given whole on row 8, and its second value follows in row 9. *Aldeb.* is given as "Aldebaran". The times, printed without marks, are given as hours, minutes and seconds where three figures are printed, otherwise as hours and minutes; the values, printed without unit marks, as degrees and minutes. *Bor.* is "north". Empty cells are empty on the page.

2112

On 28 March [DIE 28 MARTIJ.]

Time		Reading	Value	Reading	Value
3½ʰ [H. 3½]		Declination of ☿ [Declin. ☿]	16° 27′ north [B.]		
		Repeated [Repetita]	16° 27½′		
	☉, west [☉ occid.], 58° 30′		16° 28½′		
	60° 0′		16° 28′		
	79° 30′		16° 29′		
			16° 30′		
			Between ☿ and ☉ [Inter ☿ & ☉]		
	81° 58′		26° 22½′	Altitude of ☉ [Alt. ☉]	10° 29½′
	Corresponding hour: 5ʰ 28ᵐ [Reſp. H. 5 28′]			Azimuth [Azim.]	87° 19′

2113

Time	Eye of ♉ from the east [Oculus ♉] [ab ortu]		Declination of ☿ [Decl. ☿]	Altitude of ☿ [Alt. ☿]
	157° 7′		with one [vno], 16° 31¾′ with the other [alt.], 16° 31⅝′	14° 35′
		Between ☿ and the eye of ♉, by the sextant [Inter ☿ & oc. ♉] [per Sext.]		

2112 "Reading" and "Value" are this edition's heads; the page prints none. *H.6 M.58* is given as a time, as *H.* and *M.* fix it. *52° 41′* and *6°* are printed with their marks; the other values, printed without unit marks, are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed. *Aldeb.* is given as "Aldebaran". *B.* is "north"; *M.*, set as a small capital, "south". The figures do not close as printed: 63° 5′ 20″ less 52° 15¾′ gives 10° 49′ 35″, where the page prints *10 49 30*. No figure has been changed. The altitude of ☿ is printed *6°* here, while the 1 March table on p. 291 prints it as *5 0*, on the line under the distance taken at 6ʰ 58ᵐ; both figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

2113 "Time", "Reading" and "Value" are this edition's heads; the page prints none, and the second column has no head: its first figure is printed after ☉ *occid.*, at the left of the column. *H. 3½* is given as 3½ʰ, as *H.* fixes it. ☉ *occid.* is given as "☉, west", as the work gives *Cor* ♌ *occ.* "The heart of ♌, west". *Inter* ☿ & ☉ is a head in smaller type over the column of declinations, set after *16 30*; from it that column gives the distance between ☿ and ☉, *26 22½*. A curly brace at the left joins *81 58* and *Reſp. H. 5 28′*, the second set under the first; they are given on two rows of the second column. *Reſp. H. 5 28′* is printed with a minute mark and is given as a time, as *H.* fixes it. *Alt.* ☉ *10 29½* and *Azim. 87 19* stand at the right of the column of *26 22½*, each label in its line. The values, printed without unit marks, are given as degrees and minutes. *B.* is "north". Empty cells are empty on the page.

Time	Eye of ♉ from the east [Oculus ♉] [ab ortu]		Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]
$7^h\ 42^m$ [7 42]	159° 12′	20° 22′		13° 30′
$7^h\ 45½^m$ [7 45½]	160° 5′	20° 20′		
$7^h\ 49⅓^m$ [7 49⅓]	161° 1′	20° 19′		
$7^h\ 51^m$ [7 51]	161° 32′	20° 18⅚′		
$7^h\ 54½^m$ [7 54½]	162° 16′	20° 17½′		
			16° 33⅓′	
			Repeated [Repetita], 16° 33½′	
		Between ♀ and the bright shoulder of Orion [Inter ♀ & luc.] [hum. Orion.]		
$8^h\ 1⅓^m$ [8 1⅓]	164° 2′	41° 19′		
$8^h\ 3⅓^m$ [8 3⅓]	164° 27′	41° 18¾′	16° 34⅚′	

2114

On 29 March [DIE 29 MARTIJ.]

☉, west, from the east [☉ occ.] [ab ortu]	Corresponding time [Resp.] [tempus]	Between ♀ and ☉ [Inter ♀] [& ☉]	By the revolving [quadrant] (for azimuth and altitude) [Per Volubilem]: azimuth of ☉, west [Azim. ☉ occ.]	Altitude of ☉ [Alt. ☉]
152° 25′	$4^h\ 9⅓^m$ [4 9⅓]	26° 40′	70° 38′	21° 30′
		26° 40⅙′		20° 39½′
155° 0′	$4^h\ 20^m$ [4 20]			20° 20′
156° 10′	$4^h\ 25^m$ [4 25]	26° 41¾′		19[°], doubtful [dubia]
157° 7′	$4^h\ 28½^m$ [4 28½]	26° 40′	75° 5′	18° 50′

2114 "Time" is this edition's head; the page prints none over the times. The heads are set in smaller type: *Oculus* ♉ / *ab ortu*, *Decl.* ♀ and *Alt.* ♀ over their columns, and two heads over the third column set between the rows, *Inter* ♀ *&* *oc.* ♉ / *per Sext.* and *Inter* ♀ *&* *luc.* / *hum. Orion.*; they are kept as rows in their places, and the third column has no head in the head row. *ab ortu* is given as "from the east". *vno*, *alt.* and *Repetita* stand before their figures in the declination column. *luc. hum. Orion.* is given as "the bright shoulder of Orion". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2115

Eye of ♉ from the east [Oculus ♉] [ab ortu]	Corresponding time [Reſp.] [Tempus]	Between ♀ and the eye of ♉ [Inter ♀ &] [oc. ♉]	Declination of ♀ [Decl.] [♀]	Altitude of ♀ by the lesser quadrant [Alt. ♀] [per Q.min.]
171° 50′	8^{h} 29^{m} [8 29]	19° 10′	16° 59½′	7° 20′
172° 39½′	8^{h} 32^{m} [8 32]	19° 9′	16° 59⅝′	7° 8′
		Between ♀ and the bright shoulder of Orion [Inter ♀ &] [luc. hum. Or.]		
173° 29′	8^{h} $35½^{m}$ [8 35½]	40° 12¼′	17° 0′	6½[°]
		40° 12½′	17° 0⅙′	6° 10′
		40° 12½′	17° 0⅓′	5½[°]

2116

On 30 March [DIE 30 MARTIJ.]

Time	☉ from the east [☉ ab ortu]	♀ from ☉ [♀ a ☉]	Declination of ♀ [Decl. ♀]	Altitude of ☉ [Alt. ☉]
4^{h} $34½^{m}$ [4 34½]	158° 37′		17° 15′	
4^{h} $38½^{m}$ [4 38½]	159° 40′		17° 15½′	
4^{h} $42⅓^{m}$ [4 42⅓]	160° 38′	26° 57⅙′		17° 6′
4^{h} $51⅓^{m}$ [4 51⅓]	162° 50′	26° 55′		16° 57½′
4^{h} 52^{m} [4 52]	163° 5′	26° 56′		16° 0′
4^{h} $55½^{m}$ [4 55½]	163° 53′	26° 54′		15° 22′

2115 All five heads are the page's, set in smaller type over two lines; *Per Volubilem* stands centred over the fourth and fifth heads and is given with the fourth, its scope over both stated in round brackets. The page prints no separate time column: the second column gives the times corresponding to the first. ☉ *occ.* is given as "☉, west", as the work gives *Cor* ♌ *occ.* "The heart of ♌, west"; *ab ortu* "from the east". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *19* is a single figure in the degree place of the altitude column; the unit is supplied from its position. *dubia* is set in smaller type. Empty cells are empty on the page.

2116 This table opens the right column, under no date heading of its own; the last date heading before it is that of 29 March, in the left column. All five heads are the page's, set in smaller type over two lines; *Inter ♀ & / luc. hum. Or.* is a head over the third column set between the rows, kept as a row in its place. *Q.min.* is given as "the lesser quadrant". The second column gives the times corresponding to the first; printed without marks, they are given as hours and minutes. The values, printed without unit marks, are given as degrees and minutes; *6½* and *5½*, single figures with a fraction in the degree place of the altitude column, are given as degrees, the unit supplied in brackets. Empty cells are empty on the page.

Time	☉ from the east [☉ ab ortu]	♀ from ☉ [♀ a ☉]	Declination of ♀ [Decl. ♀]	Altitude of ☉ [Alt. ☉]
4^h 57^m [4 57]	164° 10′	26° 55′		15° 15′

N.B. ☉ was among rather scattered clouds. [N. B. Erat ☉ inter rariuſculas nubes.][2117]

Time	The right shoulder of Orion from the east [Dext. hum.] [Or. ab ort.]	Between ♀ and the shoulder of Orion [Inter ♀] [& hum. Or.]	Declination of ♀ [Decl.] [♀]	Altitude of ♀ [Alt.] [♀]
7^h $31½^m$ [7 31½]	138° 5′	39° 13¼′	17° 20⅓′	16° 2½′
7^h 33^m [7 33]	138° 42′	39° 12¾′	17° 20⅓′	15° 32′
7^h 37^m [7 37]	139° 37′	39° 12′	17° 20½′	15° 0′
7^h 41^m [7 41]	140° 33′	39° 12′	17° 20½′	14° 0′
		Between ♀ and the eye of ♉ [Inter ♀ &] [ocul. ♉]		
	141° 24′	18° 2¼′	17° 20⅔′	13½[°]
7^h 48^m [7 48]	142° 20′	18° 2½′	17° 21′	13¼[°]
7^h 51^m [7 51]	143° 3′	18° 1¼′	17° 21⅓′	13[°]
7^h $53¾^m$ [7 53¾]	143° 44′	18° 1½′	17° 21¾′	12¾[°]
7^h 56^m [7 56]	144° 15′	18° 1½′	17° 22′	12¼[°]
7^h 59^m [7 59]	145° 1′	18° 1′	17° 22½′	12[°]
8^h $50¼^m$ [8 50¼]	157° 56′	17° 58½′	17° 27′	5° 0′
8^h 53^m [8 53]	158° 37′	17° 57′	17° 27⅓′	4° 40′
8^h 56^m [8 56]	159° 21′	17° 56½′	17° 28′	4° 20′

[2117] "Time" is this edition's head; the other four heads are the page's, set in smaller type. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. In the altitude column, *16 57½* (row 4) and *16 0* (row 5) stand 57½′ apart over two-thirds of a minute of time, out of step with the fall of the rows around them; both are given as printed and no figure has been changed. *rariuſculas* is given as "rather scattered". Empty cells are empty on the page.

2118

On 5 April, P. M. [DIE 5 APRILIS P. M.]

Time	☉ from the east [☉ ab ortu]	Between ☉ and ♀, by the sextant [Inter ☉ &] [♀ per Sext.]	Declination of ♀, north [Decl. ♀ B.]	
2^h $36⅓^m$ [2 36⅓]	129° 5′		19° 27½′	
3^h 13^m [3 13]	138° 15′		19° 27½′	
			Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]
3^h 52^m 8^s [3 52 8]	148° 2′	28° 20¾′	25° 45′	68° 24′
3^h $56⅔^m$ [3 56⅔]	149° 10′	28° 20¼′	25° 10′	69° 30′
3^h $59⅔^m$ [3 59⅔]	149° 55′	28° 21′	24° 48½′	70° 8′
4^h 3^m 22^s [4 3 22]	150° 50½′	28° 19¾′	24° 17½′	71° 4′
4^h 6^m 4^s [4 6 4]	151° 31′	28° 20½′	23° 56½′	71° 49′
4^h 9^m [4 9]	152° 15′	28° 19′	23° 33′	72° 18′
4^h $11⅓^m$ [4 11⅓]	152° 50′	28° 19¾′	23° 14′	72° 50′
4^h 12^m 54^s [4 12 54]	153° 13½′	28° 20¼′	23° 0½′	73° 12′

2119

[1] From codex V. [E codice V.]

On 16 April, P. M. *[DIE 16 APRILIS P. M.]*

Declination of ♀ at the beginning: 22° 42′ north [Declin. ♀ ab initio 22 42 B.]

2118 "Time" is this edition's head; the other four heads are the page's, set in smaller type over two lines; *Inter ♀ & / ocul. ♉* is a head over the third column set between the rows, kept as a row in its place, and the third column gives the distance from the eye of ♉ from that row on. *Dext. hum. Or.* is given as "the right shoulder of Orion"; *hum. Or.* as "the shoulder of Orion". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *13½ … 12* in rows 6–11 are single figures in the degree place of the altitude column, given as degrees, the unit supplied in brackets. Empty cells are empty on the page.

2119 "Time" is this edition's head; the page prints none over the times, and the fifth column has no head in the head row. The heads are set in smaller type; the second line of *Inter ☉ & / ♀ per Sext.* stands on the line of the first row. *Alt. ☉* and *Azim. ☉* form a second head line set between the rows, *Alt. ☉* over the column headed *Decl. ♀ B.* and *Azim. ☉* over the fifth column; it is kept as a row in its place, and from it the fourth column gives the altitude of ☉, not the declination of ♀. *B.* is "north". The times, printed without marks, are given as hours, minutes and seconds where three figures are printed, otherwise as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	☉ from the east [☉ ab ortu]	Distance of ♀ and ☉, by the sextant [Dist. ♀ & ☉] [per Sext.]	Altitude of ☉, by the lesser quadrant [Alt. ☉] [per Q.] [min.]	Azimuth, west [Az. occ.]
2^h $15\frac{2}{3}^m$ [2 15⅔]	123° 55′	30° 50½′	40° 27′	45° 15′
2^h $26\frac{1}{2}^m$ [2 26½]	126° 38′	30° 52′	39° 17′	48° 34′
2^h $33\frac{5}{6}^m$ [2 33⅚]	128° 27½′	30° 52½′	38° 28′	50° 41′
2^h $42\frac{1}{3}^m$ [2 42⅓]	130° 35′	30° 52′	37° 31½′	53° 6′
2^h $56\frac{1}{2}^m$ [2 56½]	134° 8′	30° 52¾′	35° 53′	56° 55′
3^h $10\frac{2}{3}^m$ [3 10⅔]	137° 40½′	30° 53¼′	34° 11½′	60° 32′
3^h 18^m [3 18]	139° 28′	30° 54′	33° 24′	62° 20′
3^h $19\frac{2}{3}^m$ [3 19⅔]	139° 56′		*Declination of* ♀*, north* [Decl. ♀ B.]	*22° 43⅓′*
3^h 21^m [3 21]	140° 16½′			*22° 43¾′*
	I myself observed. [Ipſe obſeruaui.]			
3^h $29\frac{2}{3}^m$ [3 29⅔]	*142° 24′*	*30° 52¾′*	*32° 2′*	
3^h $33\frac{1}{3}^m$ [3 33⅓]	*143° 20′*	*30° 53′*	*31° 35′*	
3^h $36\frac{1}{3}^m$ [3 36⅓]	*144° 5′*	*30° 52⅝′*	*31° 7′*	
3^h 40½^m [3 40½]	*145° 7′*	*30° 52⅝′*	*30° 24′*	
3^h $47\frac{5}{6}^m$ [3 47⅚]	*146° 58′*	*30° 53′*	*29° 30′*	
3^h $51\frac{2}{3}^m$ [3 51⅔]	*147° 55′*	*30° 52¾′*	*28° 59′*	
3^h 55^m [3 55]	*148° 45′*	*30° 52⅝′*	*28° 34′*	
3^h $57\frac{1}{6}^m$ [3 57⅙]	149° 18′		Declination of ♀, north [Decl. ♀ B.]	22° 43¼′
4^h 2^m [4 2]	150° 0½′			22° 42¾′
4^h $21\frac{5}{6}^m$ [4 21⅚]	155° 28′	30° 52⅝′	24° 56′	
4^h $26\frac{2}{3}^m$ [4 26⅔]	156° 41′	30° 53¼′	24° 21′	
4^h $45\frac{1}{2}^m$ [4 45½]	161° 23′	30° 53′	21° 46′	

Time	☉ from the east [☉ ab ortu]	Distance of ♀ and ☉, by the sextant [Dist. ♀ & ☉] [per Sext.]	Altitude of ☉, by the lesser quadrant [Alt. ☉] [per Q.] [min.]	Azimuth, west [Az. occ.]
4^h $54\frac{5}{6}^m$ [4 54⅚]	163° 42′	30° 53½′	20° 25⅙′	
5^h $1\frac{1}{6}^m$ [5 1⅙]	165° 17′	30° 53′	19° 29′	
5^h $6\frac{1}{6}^m$ [5 6⅙]	166° 32′	30° 53⅙′	18° 37½′	
5^h 14^m [5 14]	168° 30′	30° 53½′	17° 42½′	
5^h 26^m [5 26]	171° 28′	30° 53¼′	16° 6½′	
5^h $29\frac{1}{2}^m$ [5 29½]	172° 22′	30° 53⅚′	15° 33½′	
5^h 43^m [5 43]	175° 45′	30° 52¾′	13° 38′	
5^h $50\frac{1}{6}^m$ [5 50⅙]	177° 34′		12° 36⅓′	
5^h $56\frac{2}{3}^m$ [5 56⅔]	179° 10′	30° 52½′	11° 45⅙′	
	Midheaven from the globe [Med. Cœli] [ex Globo]			
6^h 4^m [6 4]	125° 14′	30° 52⅔′	10° 50′	
6^h 11^m [6 11]	127° 4′	30° 53′	9° 50′	
6^h 19^m [6 19]	129° 1′	30° 53½′	8° 50′	
6^h $25\frac{1}{2}^m$ [6 25½]	130° 38′	30° 51⅚′	8° 0′	
6^h $33\frac{2}{3}^m$ [6 33⅔]	132° 41′	30° 50½′	7° 5′	
6^h 42^m [6 42]	134° 50′	30° 50½′	5° 45′	
6^h $48\frac{1}{2}^m$ [6 48½]	136° 24′	30° 51′	5° 0′	
		30° 48½′	4° 15′	
		30° 48′	3° 50′	
		30° 48′	3° 30′	
		30° 47⅓′	3° 10′	
		30° 46⅚′	3° 0′	
		30° 46½′	2° *50′*	
		30° 46½′	2° *30′*	
		30° 41½′	1° *45′*	
		30° 42½′	1° *30′*	
		30° 41′	1° *15′*	
		30° 39⅔′	1° 5′	
		30° 39⅔′	1° 0′	
		30° 37¾′	0° 50′	
		30° 37′	0° 40′	

Time	☉ from the east [☉ ab ortu]	Distance of ♀ and ☉, by the sextant [Diſt. ♀ & ☉] [per Sext.]	Altitude of ☉, by the lesser quadrant [Alt. ☉] [per Q.] [min.]	Azimuth, west [Az. occ.]
		30° 36⅔′	0° 35′	
		30° 35′	0° 30′	

2120

Time	Reading	Value
7^{h} 24^{m} [7 24]	*Declination of* ♀ *at the setting of* ☉ [Decl. ♀ in occaſu ☉]	*22° 46½′*
	Altitude of ♀ *24°* [Alt. ♀ 24 G.]	*22° 47′ north* [B.]

2121

Afterwards, after the setting of ☉*:* ♀ *from the stars.* [Poſtea poſt occaſum ☉ ♀ a ſtellis.]

When ♀ *had altitude 18° 40′, [it] was distant from the lower head of* ♊ *40° 16′.* [Quando ♀ habuit altitud. 18 40] [diſtabat ab inferiori capite ♊ 40 16][2122]

2120 "Time" is this edition's head; the page prints none over the times. The other heads are the page's, set in smaller type; *Alt.* ☉ / *per Q.* / *min.* stands on three lines and *Diſt.* ♀ *&* ☉ / *per Sext.* on two. *ab ortu* is given as "from the east"; *Q. min.* as "the lesser quadrant". The date heading and the declination line above the table are set in italic. Rows 8–9 and 18–19: *Decl.* ♀ *B.* stands across the third and fourth columns and the figures beside it stand in the fifth (azimuth) column; they are declinations of ♀, given in that column as printed, and the third and fourth columns are empty on those rows. In rows 8–9 the label and its figures are italic, the rest of the row roman; rows 18–19 are roman throughout. Row 10, *Ipſe obſeruaui.*, is a centred italic line; rows 11–17 are set in italic throughout and carry no azimuth. *Med. Cœli* / *ex Globo* is a head in smaller type over the second column, set between rows 31 and 33 and kept as a row in its place; from it the second column gives the midheaven taken from the globe, not ☉ from the east. Rows 40–44 stand at the foot of the left column and rows 45–55 at the head of the right column, under no heading of their own; they carry only the third- and fourth-column figures and are given as the continuation of this table, in the page's order. In rows 45–49 the minutes of the fourth column are italic, the rest of the row roman. *B.* is "north". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2121 "Time", "Reading" and "Value" are this edition's heads; the page prints none. Both lines are italic. *24 G.* is given as degrees, as *G.* fixes it. *22 47 B.* stands at the right of the second line, under *22 46½*; it is not the altitude, which the line itself gives as *24 G.*, and the page sets no label for it; *B.* is "north". *7 24*, printed without marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2122 Both figures stand at the right of their lines; printed without unit marks, they are given as degrees and minutes. *inferiori capite* ♊ is given as "the lower head of ♊" (glossary *inferius caput* ♊).

The heart of ☋ *from the east* [Cor ☋ ab] [ortu]	*Time* [H. M.]	*Altitude of* ♀ [Alt. ♀]	*Distance of* ♀ *from the lower head of* ♊ [Diſt. ♀ ab] [inf. cap. ♊]
		18° 10′	*40° 16′*
100° 18′	*8ʰ 10ᵐ* [8 10]	*17° 20′*	*40° 15′*
100° 51′	*8ʰ 13ᵐ* [8 13]	*17° 0′*	*40° 16¼′*
102° 25′	*8ʰ 18½ᵐ* [8 18½]	*16° 40′*	*40° 15⅚′*
		16° 20′	*40° 15½′*
103° 48′	*8ʰ 24ᵐ* [8 24]	*16° 0′*	*40° 15⅔′*
104° 31′	*8ʰ 27ᵐ* [8 27]	*15° 30′*	*Declination of* ♀ [Decl. ♀], *22° 48¼′*
			Distance of ♀ *from the bright foot of* ♊ [Diſt. ♀ a] [luc.] [pede ♊]
105° 41′	*8ʰ 33ᵐ* [8 33]	*15° 0′*	*27° 3⅙′*
106° 16′	*8ʰ 34ᵐ* [8 34]	*14° 30′*	*27° 3¼′*
106° 55′	*8ʰ 37ᵐ* [8 37]	*14° 15′*	*27° 3½′*
107° 27′	*8ʰ 39ᵐ* [8 39]	*14° 0′*	*27° 3⅔′*
	Again ♀ *from the lower head of* ♊ [Rurſus ♀ ab inferiori cap. ♊]		
108° 6′	*8ʰ 41ᵐ* [8 41]	*13° 40′*	*40° 15′*
108° 47′	*8ʰ 44ᵐ* [8 44]	*13° 10′*	*40° 15′*
109° 20′	*8ʰ 46ᵐ* [8 46]	*13° 0′*	*40° 14′*
109° 5′	*8ʰ 49ᵐ* [8 49]	*12° 45′*	*40° 13½′*
111° 0′	*8ʰ 53ᵐ* [8 53]	*12° 10′*	*40° 13¾′*
111° 25′	*8ʰ 54ᵐ* [8 54]	*12° 0′*	*Declination* [Decl.], *22° 49¾′*
111° 50′	*8ʰ 56ᵐ* [8 56]	*11° 50′*	*22° 50′*

2123

For examining the instrument, the bright foot of Erichthonius, very close above ♀*: declination 28° 11′, twice.* [Pro examinando inſtrumento luci-] [dus pes Erectonij ſupra ♀ proxime,] [declinatio 28° 11′ bis.]

So that the true declination of ♀ *might be established, the bright foot of Erichthonius was observed toward the same region of the sky as* ♀*, not far above it, and its declination was found three times [to be] 28° 11′ with both pinnules. Therefore, as much as is either lacking or in excess here, just as much also in* ♀. [Vt conſtaret vera declinatio

[2123] All four heads are the page's, set in smaller italic type, *Cor* ☋ *ab / ortu* and *Diſt.* ♀ *ab / inf. cap.* ♊ on two lines; the table is italic throughout. *Diſt.* ♀ *a / luc. / pede* ♊ is a head on three lines over the fourth column, set between rows 7 and 9 and kept as a row in its place; from it to row 12 the fourth column gives the distance from the bright foot of ♊ (glossary *Lucidus pes* ♊). *Rurſus* ♀ *ab inferiori cap.* ♊ is a centred line, kept as a row in its place; from it the fourth column again gives the distance from the lower head of ♊. In rows 7 and 19 *Decl.* ♀ and *Decl.* stand between the third and fourth columns and the figure beside each stands in the fourth column; these figures, and *22 50* in row 20, are declinations, given in that column as printed. In the first column *109 20* (row 16) stands before *109 5* (row 17), out of step with the rise of the column around them; both are given as printed and no figure has been changed. The times are given as hours and minutes, as the head *H. M.* fixes it; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

♀ ob-] [ſeruabatur lucidus pes Erectonij ver-] [ſus eandem cœlı plagam qua ♀ non] [longe ſupra ipſam, & ter reperiebatur] [eius declinatio 28 11 vtroque pinna-] [cidio, quantum igitur hic vel deſunt] [vel abundant, tantundem & in ♀.][2124]

Again ♀ *was observed.* [Rurſus ♀ obſeruabatur.]

The bright [star] of Hydra from the east [Luc.] [Hydræ] [ab ortu]	*Time* [H. M.]	*Altitude of* ♀ [Alt. ♀]	*Declination of* ♀ [Decl. ♀]
128° 5′	*9^{h} 22⅓^{m}* [9 22⅓]	*8½[°]*	*22° 51′*
			Distance of ♀ *from the lower [head] of* ♊ [Diſt. ♀ ab] [inf. ♊]
128° 50′	*9^{h} 26^{m}* [9 26]	*8° 0′*	*40° 11⅓′*
129° 37′	*9^{h} 28½^{m}* [9 28½]	*7° 50′*	*40° 11′*
129° 59′	*9^{h} 30^{m}* [9 30]	*7° 40′*	*40° 10′*
130° 15′	*9^{h} 31^{m}* [9 31]	*7° 25′*	*40° 9¾′*
130° 30′	*9^{h} 32^{m}* [9 32]	*7° 15′*	*Declination of* ♀ [Decl. ♀], *22° 51¾′*

[2125]

N.B. So that it might be established, concerning the certainty of the sextant, whether it was correct or whether it had in fact, by some chance, accidentally become liable to some damage or defect, we afterwards took the distance of the heart of ♌ *and the lower head of* ♊ *three times, in this manner.* [N.B. Vt conſtare poßet de certitu-] [dine Sextantis vtrum is recte ſe ha-] [beret an vere aliquo caſu per acci-] [dens

[2124] *Erectonij* is the page's spelling (twice); the name is given in the work's form, Erichthonius, which earlier pages print *Erichtonij*. *28 11* in the second paragraph, printed without marks, is given as degrees and minutes, as *28° 11′* in the first fixes it. *vtroque pinnacidio* is given as "with both pinnules" (glossary). *deſunt* and *abundant* are plural verbs with no subject printed; the English keeps them without one. *ipſam* "it" refers to ♀. The English commits *proxime* to *ſupra* ("very close above"); it can also be taken as "next above ♀", the nearest star above it.

[2125] This table opens the left column, under the italic line *Rurſus* ♀ *obſeruabatur.*; the last date heading before it is that of 16 April, on p. 293. All four heads are the page's, set in smaller italic type, *Luc.* / *Hydræ* / *ab ortu* on three lines; the table is italic throughout. *Luc.* is given as "the bright [star]". *Diſt.* ♀ *ab* / *inf.* ♊ is a head over the fourth column, set between rows 1 and 3 and kept as a row in its place; from it the fourth column gives the distance from the lower head of ♊; the page prints *inf.* ♊ without *cap.*, and the noun "head" is supplied in brackets from *inf. cap.* ♊ on p. 293. In row 7 *Decl.* ♀ stands between the third and fourth columns and *22 51¾* in the fourth; it is a declination, given in that column as printed. The times are given as hours and minutes, as the head *H. M.* fixes it; the values, printed without unit marks, as degrees and minutes; *8½*, a single figure with a fraction in the degree place of the altitude column, is given as degrees, the unit supplied in brackets. Empty cells are empty on the page.

detrimento aut vitio alicui fuerit] [obnoxius, accepimus poſtea diſtan-] [tiam cordis ♌ & inferioris capitis ♊] [ter in hunc modum.]

Reading	No.	Value
Between the heart of ♌ *and the lower head of* ♊ [Inter cor ♌ & inf. cap. ♊]	*I*	*37° 15⁄6′*
	II	*37° 1¾′*
	III	*37° 15⁄6′*

2126

But from other observations of preceding years we found the distance of these two stars to be only a full 37° 0′, or still a little less, so that on that account the sextant seems to have shown distances less valid by 2′, which everywhere come to be subtracted. [At ex alijs obſeruationibus præce-] [dentium annorum inuenimus harum] [duarum ſtellarum diſtantiam eße ſal-] [tem complete graduum 37ᵍ 0′ vel ad-] [huc paulo minus, vt ob id in 2 ſcru-] [pulis ſextans videatur minus ratas] [exhibuiße diſtantias, quæ vbique au-] [ferenda veniunt.][2127]

Moreover, in all the preceding observations [the sky] was clear enough, and [they] were careful enough, that you can safely rely on them, provided the defect of the instrument is corrected. [Fuit autem in omnibus anteceden-] [tibus obſeruationibus ſatis ſerenum,] [& fuerunt ſatis diligentes, vt tuto te] [ijs poßis fundare, modo corrigatur] [vitium inſtrumenti.][2128]

On 17 April, P. M. [DIE 17 APRILIS P. M.]

Reading	Value
☉ from the east 111° 30′; declination of ♀ before [it] reached the meridian [☉ ab ortu 111 30, Declin. ♀ antequam] [peruenit ad Merid.]	22° 56¾′ north [B.]
☉ from the east 123° 10′; ♀ through the meridian, having altitude by the steel [quadrant] [☉ ab ortu 123 10, ♀ per Meridianum] [habens Altit. per Chalyb.]	57° 1½′
by the revolving [quadrant] [per Volub.]	57° 2⅓′
Canis Minor from the meridian [Canis minor a merid.]	54° 45′
Declination of ♀ [Declin. ♀]	22° 59′
Distance between ♀ and the southern head of ♊ [Diſt.inter. ♀ & Mer.cap. ♊]	39° 3¼′
Altitude of ♀ [Altit. ♀]	15° 10′

[2126] "Reading", "No." and "Value" are this edition's heads; the page prints none. The label stands at the left of the first line; the numerals *I*, *II*, *III* and the figures stand at the right, one per line. The values, printed without unit marks, are given as degrees and minutes.

[2127] *ſaltem* is given as "only", the work's rendering. *quæ* may refer to the 2′ (*2 ſcrupulis*) or to the distances (*diſtantias*); the English keeps "which" open between them. *minus ratas* is given as "less valid".

[2128] *ſerenum* stands with no noun; "[the sky]" is supplied. *fuerunt ſatis diligentes* has no subject printed; *diligentes* can agree with *obſeruationibus* (the observations were careful) or refer to the observers; "[they]" keeps both open.

2129

Canis Minor from the meridian [Can.] [min. a] [Merid.]	Corresponding time [Tempus] [refp.]	Distance of ♀ from the southern head of ♊ [Dift. ♀ a] [Mer. cap. ♊]	Altitude of ♀ [Alt. ♀]	Declination of ♀ [Decl. ♀]
56° 57′	$8^h\ 44^m\ 20^s$ [8 44 20]	39° 2⅚′	14° 15′	23° 1′
58° 0′	$8^h\ 48^m\ 28^s$ [8 48 28]	39° 2½′	13° 20′	
59° 25′	$8^h\ 54^m\ 4^s$ [8 54 4]	39° 2⅙′	12° 25′	
		♀ from the bright foot of ♊ [♀ a luc. pede ♊]		
60° 17′		25° 49′	12° 0′	
60° 45′		25° 50′	11° 45′	
61° 16′		25° 50½′	11° 25′	
61° 57′		25° 49⅓′	11° 0′	23° 1′
63° 56′			10° 0′	23° 4′
Shortly after, declination repeated [Paulo poſt, decl. repetita]			9° 10′	23° 5′

2130

On 18 April, in the evening [DIE 18 APRILIS, VESPERI.]

By the old sextant △. [Per Sextantem veterem △.]

Reading	Value
Distance between the heart of ♌ and the lower head of ♊ [Diſtantia inter] [cor ♌ &] [infer. caput ♊]	37° 0⅙′
	37° 1′
	37° 0½′
Between the heart of ♌ and Spica ♍ [Inter cor ♌ &] [Spicam ♍]	54° 1¾′

2129 "Reading" and "Value" are this edition's heads; the page prints none. Each line's figures stand at its right; *111 30* and *123 10* are printed inside their lines and are kept there. The values, printed without unit marks, are given as degrees and minutes. *B.* is "north". *per Chalyb.* is given as "by the steel [quadrant]", *per Volub.* as "by the revolving [quadrant]" (glossary); *Mer.cap.* ♊ as "the southern head of ♊". *Diſt.inter.* is printed with a point after *inter*.

2130 This table opens the right column, under no date heading of its own; the last date heading before it is that of 17 April, in the left column. All five heads are the page's, set in smaller type over two or three lines; the table is roman throughout. ♀ *a luc. pede* ♊ is a head over the third column, set between rows 3 and 5 and kept as a row in its place; from it the third column gives the distance from the bright foot of ♊ (glossary *Lucidus pes* ♊). *Paulo poſt, decl. repetita* stands at the left of the last line, its figures in the fourth and fifth columns; *decl. repetita* is given as "declination repeated" (glossary *Declin. repetita*). *Mer. cap.* ♊ is given as "the southern head of ♊". The times, printed without marks in three groups, are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Reading	Value
	54° 1⅝′
Between the heart and the tail of ♌ [Inter cor &] [caudam ♌]	24° 40′
	24° 39¾′
	24° 39⅔′

2131

From these three distances it is certainly evident that the sextant was exactly right when ♀ was being observed from ☉. But that at the same time, late, the distance of the heart of ♌ and the lower head of ♊ was observed [as] 37° 1⅝′ came about on account of clouds, which were a slight hindrance to the sight. [Ex his tribus diſtantijs certo patet] [Sextantem ſe recte ad amußim habu-] [iße cum obſeruaretur ♀ a ☉, quod au-] [tem eodem tempore ſero obſeruata] [eſt diſtantia cordis ♌ & infer. cap. ♊] [p. 37 M. 1⅝ euenit propter nubes, quæ] [viſui parum impedimento erant.][2132]

On 23 April, P. M. [DIE 23 APRILIS P. M.]

The heart of ♌ from the meridian [Cor ♌] [a merid.]	Declination of ♀, north [Decl. ♀ B.]	Between ♀ and the lower head of ♊ [Inter ♀ &] [infer. cap. ♊]	Altitude of ♀ [Alt. ♀]
27° 24′	24° 13½′	31° 55⅙′	14° 5′
28° 30′		31° 54½′	13° 20′
30° 9′	24° 13½′	31° 54′	12° 30′
31° 20′		31° 53½′	11° 50′
		Between ♀ and the bright foot of ♊ [Inter ♀ & luc. ped. ♊]	
33° 8′		19° 13⅙′	11° 0′
33° 50′	24° 14⅔′	19° 13½′	10° 40′
35° 10′		19° 12¾′	10° 0′

2133

On 25 April, P. M. [DIE 25 APRILIS P. M.]

2131 "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two or three lines, with one figure on each line at the right; each label is given whole on its first row and its further figures on the rows below. *Inter cor & caudam* ♌ prints the sign once, after *caudam*. The values, printed without unit marks, are given as degrees and minutes.

2132 *p. 37 M. 1⅝* is given as 37° 1⅝′, as *p.* (degrees) and *M.* (minutes) fix it. *ad amußim* is given as "exactly". *parum impedimento erant* is given as "were a slight hindrance"; *parum* can also be taken as "too little", "were not much of a hindrance".

2133 All four heads are the page's, set in smaller type, *Cor* ♌ / *a merid.* and *Inter* ♀ & / *infer. cap.* ♊ on two lines. *Inter* ♀ *& luc. ped.* ♊ is a head over the third column, set between rows 4 and 6 and kept as a row in its place; from it the third column gives the distance from the bright foot of ♊. *B.* is "north". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Canis Minor from the meridian [Canis] [minor a] [Merid.]	Declination of ☿, north [Decl. ☿ B.]	Between ☿ and the lower head of ♊ [Inter ☿ &] [infer. cap. ♊]	Altitude of ☿ [Alt. ☿]
68° 37′	24° 33′	29° 32′	14° 10′
69° 32′		29° 32½′	13° 40′
70° 22′		29° 33′	13° 10′
70° 48′		29° 33′	12° 50′
71° 47′	24° 33′		

2134

On 27 April [DIE 27 APRILIS.]

Time [H. M.]	Between ☿ and ☉, by the sextant [Inter ☿ & ☉] [per Sext.]	Declination of ☿ [Decl. ☿]	Altitude of ☉ [Alt. ☉]
		24° 46¾′	16° 40′
6^h 22^m [6 22]	33° 26½′		11° 0′
6^h $24½^m$ [6 24½]	33° 24′		10° 40′
6^h 25^m [6 25]	33° 23′		10° 30′
6^h $26¾^m$ [6 26¾]	33° 25′		10° 20′
6^h 44^m [6 44]	33° 23′		8° 5′
6^h 45^m [6 45]	33° 23⅓′		7° 50′
6^h 46^m [6 46]	33° 23¼′		7° 40′
6^h 48^m [6 48]	33° 23⅓′		7° 30′
6^h 49^m [6 49]	33° 24′		7° 25′
6^h 54^m [6 54]		24° 48′	7° 5′
6^h 56^m [6 56]		24° 47½′	6° 40′

2135

2134 All four heads are the page's, set in smaller type, *Canis* / *minor a* / *Merid.* on three lines and *Inter* ☿ *&* / *infer. cap.* ♊ on two. *B.* is "north". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2135 All four heads are the page's, set in smaller type, *Inter* ☿ *&* ☉ / *per Sext.* on two lines. The first row carries no time. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	Canis Minor, west [Canis min.] [occ.]	Between ♀ and the lower head of ♊ [Inter ♀ &] [infer. cap. ♊]	Declination of ♀, north [Decl. ♀] [B.]	Altitude of ♀ [Alt. ♀]
9^h 8^m [9 8]			24° 48⅚′	13° 40′
9^h 12^m [9 12]	73° 24′	27° 12′		
9^h 13^m [9 13]	73° 42′	27° 12⅙′		13° 5′
9^h $14⅓^m$ [9 14⅓]	74° 0′	27° 12¼′	24° 49′	12° 45′
9^h 16^m [9 16]	74° 25′	27° 11′		12° 40′
9^h 18^m [9 18]		27° 11¼′	24° 49½′	12° 30′
		Between ♀ and Canis Minor [Inter ♀ & can. min.]		
9^h 20^m [9 20]	75° 18′	33° 55½′	24° 49¾′	12° 0′
9^h 23^m [9 23]	76° 2′	33° 55′	24° 49¾′	11° 45′
9^h 25^m [9 25]	76° 33′	33° 55½′	24° 50′	11° 40′
9^h $25½^m$ [9 25½]	77° 4′	33° 55⅓′	24° 50′	11° 20′
10^h 2^m [10 2]	Altitude of Canis Minor 11° 30′, declination 6° 15⅙′ [Altit. can. min. 11 30, Decl. 6 15⅙]			

[2136]

The times here have been corrected. [Tempora ſunt hic correcta.]

On 1 May [DIE 1 MAIJ.]

Reading	Value
☉ from the meridian 28° 40′, at 2^h 1^m; declination of ♀ before the meridian, by the armillae [☉ a Mer. 28 40, H. 2 M. 1, declin. ♀ ante] [merid. per Armillas]	25° 7½′ north [B.]
At $2⅓^h$ the clock was verified. [H. 2⅓ horologium verificatum eſt.]	
At 2^h 25^m ♀ passed the meridian, having altitude by the revolving quadrant [H. 2 25 ♀ tranſiuit merid. habens] [alt. per Q. Volub.]	59° 13¼′

[2136] "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, set in smaller type, *Canis min. / occ.*, *Inter ♀ & / infer. cap.* ♊ and *Decl. ♀ / B.* each on two lines. *B.* is "north". *Inter ♀ & can. min.* is a head over the third column, set between rows 6 and 8 and kept as a row in its place; from it the third column gives the distance from Canis Minor. The last row is one line on the page, its time at the left and its words and figures running across the columns. On that line the page does not say whose declination *Decl.* gives; following *Altit. can. min.*, it may be Canis Minor's. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Reading	Value
Declination by the armillae [Declin. per Armill.]	25° 9′

2137

Time	Between ☉ and ♀ [Inter ☉] [& ♀]	Declination of ♀, north [Decl. ♀ B.]	Altitude of ☉ [Alt. ☉]
2h 40m [2 40]	34° 19′		41¾°
2h 42⅚m [42⅚]	34° 18′		41½°
2h 45¾m [45¾]	34° 19¼′		41° 15′
2h 49m [2 49]	34° 19½′		40° 55′
2h 54m [2 54]	34° 20′		40° 24′
2h 58m [2 58]	34° 19⅚′		39° 58′
3h 5⅓m [5⅓]	334° 20′		39° 19′
3h 10½m [10½]	334° 19⅚′		38° 35′
3h 15⅔m [3 15⅔]		25° 8½′	
3h 26⅔m [26⅔]	34° 19′		36° 45′
3h 31⅚m [31⅚]	34° 19⅚′		36° 10′
3h 35m 2s [35 2″]	☉, west, 51° 46′, for verifying the clock [☉ occ. 51 46 pro Horol. verificando]		
3h 53⅙m [53⅙]	34° 19¾′		33° 40′
3h 57⅔m [57⅔]	34° 19¾′		33° 14′
4h 3⅙m [3⅙]	434° 19⅚′		32° 28′
4h 6m [4 6]	34° 20′		32° 12′
4h 12½m [12½]	434° 21′		31° 18′
			doubtful [dubia]

2137 "Reading" and "Value" are this edition's heads; the page prints none. Each line's figures stand at its right; *28 40* and *H. 2 M. 1* are printed inside their line and are kept there. *H.* and *M.* fix the hours and minutes of *H. 2 M. 1*; *H.* fixes the hours of *H. 2⅓* and *H. 2 25*, whose *25* is given as minutes. The other values, printed without unit marks, are given as degrees and minutes. *B.* is "north". *ante merid.* is given as "before the meridian", that is before ♀ reached it; the words can also be read as "before noon". *per Q. Volub.* is given as "by the revolving quadrant" (glossary).

Time	Between ☉ and ☿ [Inter ☉] [& ☿]	Declination of ☿, north [Decl. ☿ B.]	Altitude of ☉ [Alt. ☉]
4^h $16\frac{1}{6}^m$ [4 16⅙]	34° 20⅓′		30° 51′
4^h 22^m [4 22]	34° 20⅙′		30° 8′
4^h $29\frac{1}{3}^m$ [4 29⅓]		25° 9′	
4^h $41\frac{1}{6}^m$ [4 41⅙]	34° 20⅙′		27° 45′
4^h 45^m [4 45]	34° 20⅓′		27° 15′
$5\frac{1}{4}^h$ [5¼]	The clock was verified against ☉; from hour 2⅓ it was running 18^m faster than it should. [Horologium verificatum eſt ad ☉,] [ab hora 2⅓ 18 M. citius iuſto moue-] [batur.]		
5^h 19^m [5 19]		25° 9½′	
5^h $22\frac{2}{3}^m$ [5 22⅔]	34° 19¾′		20° 2′
5^h $26\frac{1}{2}^m$ [5 26½]	34° 20′		19° 43′
5^h $32\frac{3}{4}^m$ [5 32¾]	34° 20⅓′		18° 43′

2138

Time	The heart of ♌, west [Cor ♌ occ.]	Between ☿ and the lower head of ♊ [Inter ☿ &] [infer. cap. ♊]	Declination of ☿ [Decl. ☿]	Altitude of ☿ [Alt. ☿]
9^h 50^m [9 50]	50° 40′	22° 28¾′	25° 12⅚′	9° 20′
9^h 55^m [9 55]		22° 29′	25° 13½′	8° 40′
9^h 57^m [9 57]		22° 29′		8° 30′
10^h 0^m [10 0]		22° 28¾′		8° 0′

2138 "Time" is this edition's head; the page prints none over the first column. The other three heads are the page's, set in smaller type, *Inter* ☉ / *&* ☿ on two lines. The table runs from the foot of the left column into the head of the right column, which prints no heads of its own. The row at 3 35 is one line on the page with its continuation *verificando* indented below; its time is printed with the seconds marked by a double prime, and its words and figures run across the columns; ☉ *occ.* is given as "☉, west" (glossary). *dubia* stands alone on its line at the right of the altitude column, between the rows for 4 12½ and 4 16⅙; the page does not show which row it qualifies. The row at 5¼ is a three-line remark opening with *5¼* at the left; *5¼* is given as hours, as the times of the column around it fix it, and *18 M.* as 18 minutes of time, as *M.* fixes it. *ad* ☉ is given as "against ☉"; it can also be taken as "by ☉". *citius iuſto* is given as "faster than it should" (glossary). *41¾* and *41½* are single figures with a fraction set at the degree position, given as degrees. The other times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *B.* is "north". Empty cells are empty on the page.

Time	The heart of ♌, west [Cor ♌ occ.]	Between ♀ and the lower head of ♊ [Inter ♀ &] [infer. cap. ♊]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]
10h 2m [10 2]	53° 30′	22° 28′	25° 14′	7° 50′

2139

On 2 May [DIE 2 MAIJ.]

Time [H. M.]	The heart of ♌ from the meridian [Cor ♌ a] [mer.]	Between ♀ and the lower head of ♊ [Inter ♀ &] [infer. cap. ♊]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]
9h 38m [9 38]		21° 21⅚′	25° 16⅔′	12½°
9h 41⅓m [9 41⅓]	45° 45′	21° 22¼′	25° 17′	12° 5′
9h 44½m [9 44½]	46° 35′	21° 22′	25° 16⅔′	11° 40′
9h 47⅔m [9 47⅔]	47° 30′	21° 22′	25° 17⅓′	11° 20′

2140

On 17 May [DIE 17 MAIJ.]

6h 5m: declination of ♀ 24° 51′ north. [6 5 Declin. ♀ 24 51 B.]

Time	Reading	Value	Reading	Value
6h 11½m [6 11½]	Between ☉ and ♀ [Inter] [☉] [&] [♀]	37° 47′	Altitude of ☉ [Alt. ☉]	17° 15′
6h 16¾m [6 16¾]		37° 46¾′		16° 35′
6h 23⅙m [6 23⅙]		37° 46½′		16° 0′
6h 27⅙m [6 27⅙]		37° 46¼′		15° 30′

2139 This table stands under no date heading of its own; the last date heading before it is that of 1 May. "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, set in smaller type, *Inter ♀ & / infer. cap.* ♊ on two lines; *Cor ♌ occ.* is given as "The heart of ♌, west". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2140 All five heads are the page's, set in smaller type, *Cor ♌ a / mer.* and *Inter ♀ & / infer. cap.* ♊ on two lines. *12½* is a single figure with a fraction set at the degree position, given as degrees. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2141

6^h 31^m: declination of ♀ repeated, 25° 51′ north. [6 31 Declin. ♀ repet. 25 51 borea.][2142]

On 25 July [DIE 25 JULIJ.]

⊙ from the meridian [⊙ a Merid.]	Declination of ♀ [Decl. ♀]	Distance of ⊙ and ♀ [Dist. ⊙ & ♀]
40° 30′	0° 20′	
41° 45′		45° 27′
43° 25′		45° 26⅔′
44° 5′		45° 27′
44° 40′		45° 27¼′

2143

⊙ from the meridian	Declination of ♀	Distance of ⊙ and ♀	Altitude of ⊙ [Alt. ⊙]
53° 55′		45° 27⅔′	
54° 34′		45° 28′	
55° 18′		45° 28⅙′	
56° 5′		45° 28⅙′	
62° 10′	0° 20½′		
67° 55′		45° 27¾′	
68° 25′		45° 28′	
69° 15′		45° 28½′	25° 30½′
70° 26′		45° 28′	25° 3′
71° 10′		45° 28′	24° 35′
72° 0′		45° 28½′	24° 14′
Hour 6⅓ [Hora 6⅓]	0° 24′ north [B.]	45° 26′	8° 25′
		45° 26′	8° 0′
	0° 24½′		7° 55′

2141 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The label *Inter* ⊙ & ♀ is set one word per line over the four lines, between the times and the distance figures; it is given whole on the first row. *Alt.* ⊙ is printed on the first line only, with a figure at the right of each of the four lines. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2142 In both declination lines the time stands at the left and the figures run on in the line; the times, printed without marks, are given as hours and minutes, the values as degrees and minutes. *B.* and *borea* are "north". The declination at 6 5 is printed *24 51*, the repeated declination at 6 31 *25 51*; the two differ by a whole degree. Both are given as printed.

2143 All three heads are the page's, set in smaller type; the page prints no time column. The values, printed without unit marks, are given as degrees and minutes; the declination carries no north or south mark. Empty cells are empty on the page.

2144

For the appearance of ♀ on 25 July, in the evening.[1] [Pro apparentia ♀ die 25 Julij veſperi[1].]

Reading	Value
At 3^h 0^m, distance of ♀ from the centre of ☉ [H. 3 M. 0 Diſt. ♀ a centro ☉]	45° 27½′
Apparent declination of ☉ [Declin. viſa ☉]	17° 13′
Declination of ♀, north (as I think) [Declin. ♀ borea] [(vti puto)]	0° 20′
Apparent right ascension of ☉ [Aſc. R. viſa ☉]	134° 29′ 40″
Angle of the difference of right ascension [Ang. diff. Aſc. R.]	42° 54′ 10″
Therefore the right ascension of ♀ [Ergo Aſc. R. ♀]	177° 23′ 50″
Corresponding [both] longitude [Reſp. Longitudo]	27° 28⅔′ ♍
Latitude [Latitudo]	0° 43′ 20″
Altitude of ♀ 32°; corresponding parallax [Alt. ♀ 32° Reſp. Parallaxis]	3′ 40″
Corresponding [both] in longitude [Reſp. in Longit.]	1′ 30″ subt.
Latitude [Latit.]	3′ 20″ subt.
Therefore the true [both] longitude of ♀ [Ergo vera ♀ Longitudo]	27° 27⅙′ ♍
Latitude [Latitudo]	0° 40′ south [M.]

2145

On 17 October, in the morning [DIE 17 OCTOBRIS MANE.]

When ♀ was elevated 18° 0′ and was distant from the meridian toward the east 45° 30′, its declination was observed by the greater subterranean armillae [Cum

[2144] These rows continue the 25 July table at the foot of p. 295, column for column; on this page they stand under no date heading and no heads of their own. "☉ from the meridian", "Declination of ♀" and "Distance of ☉ and ♀" are this edition's heads, repeating the page's heads of p. 295. *Alt.* ☉ is the page's head over a fourth column, set in smaller type at the height of row 7, to the right of its distance figure; its figures begin in row 8. *Hora 6⅓* is set in smaller type in the first column; *Hora* fixes the hour. *B.* is "north". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2145] "Reading" and "Value" are this edition's heads; the page prints none. *H. 3 M. 0* stands at the left of the first line and is given there; *H.* and *M.* fix the hours and minutes. *45°27½′*, *32°*, *3′ 40″* and *1′ 30″* are printed with their marks. The other figures are printed without unit marks: those of the first part are given as degrees and minutes, or degrees, minutes and seconds where three figures are printed. *3 20* on the latitude line under *Reſp. in Longit.* is given as 3′ 20″: the page's own figures fix it, 0° 43′ 20″ less 3′ 20″ giving the printed 0° 40′, as 27° 28⅔′ less 1′ 30″ gives the printed 27° 27⅙′. *Reſp.* (twice) and *vera* are each printed once, on the longitude line, and the latitude line below is set directly under the word *Longitudo* or *Longit.*; each is given on the longitude row with "[both]", as the layout shows it applies to both. *ſubt.* (to be subtracted) is kept abbreviated; on the second line it is set under the first. *(vti puto)* is printed in parentheses on its own line under *Declin.* ♀ *borea*, the figures at its right. *Ang. diff. Aſc. R.* is given as "Angle of the difference of right ascension"; it can also be taken as "Angle, difference of right ascension". *M.* after the latitude is "south". *apparentia* is given as "appearance"; it can also be taken as "apparent [position]".

♀ eßet eleuata 18°0′ & diſtaret] [a meridie ad ortum 45 30, obſeruaba-] [tur eius Declinatio per Armillas maio-] [res ſubterraneas]

Reading	Value
with one [vno]	4° 40⅙′ north [B.]
with the other [altero]	4° 40′

2146

On 19 October, in the morning[2] [DIE 19 OCTOBRIS MANE[2].]

⊙ from the east [⊙ ab ortu]	♀ from ⊙ [♀ a ⊙]	Declination of ♀, north [Decl. ♀ B.]	Altitude of ♀ [Alt. ♀]	Altitude of ⊙ [Alt. ⊙]
25° 0′	31° 23′	4° 18½′	23° 13′	
26° 0′	31° 28′	4° 19½′	23° 52′	2° 55′
26° 55′	31° 29′			3° 21′
28° 40′	31° 30′	4° 19½′		3° 56′
30° 20′	31° 30½′			4° 43′

2147

On 26 October, A. M. [DIE 26 OCTOBRIS A. M.]

Time [Tem-pus]	Distance between ♀ and ⊙ [Diſt. inter ♀] [& ⊙]	Declination by the armillae [Declin.] [per Armill.]	Altitude [Altit.]
8h 19m [8 19]	36° 48¾′		⊙ 4° 35′
8h 23m [8 23]	36° 49′		4° 57′
8h 26m [8 26]	36° 50′		5° 31′
8h 29m [8 29]	36° 50½′		6° 0′
8h 30m [8 30]		*♀ 3° 36¼′*	
8h 32m [8 32]		*3° 36′*	
8h 35m [8 35]	*36° 52′*		*♀ 28° 55½′*

2146 "Reading" and "Value" are this edition's heads; the page prints none. *18°0′* is printed with its marks; *45 30*, printed without marks, is given as degrees and minutes, as are the two declinations. *B.* is "north". *a meridie ad ortum* is given as "from the meridian toward the east" (glossary); *a meridie* can also be read as "from the south".

2147 All five heads are the page's, set in smaller type on one line each; the page prints no time column. *B.* is "north". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Time [Tempus]	Distance between ♀ and ⊙ [Dist. inter ♀] [& ⊙]	Declination by the armillae [Declin.] [per Armill.]	Altitude [Altit.]
8h 37m [8 37]	*36° 52′*		*29⅓°*
8h 38m [8 38]		⊙ *15° 41′*	
8h 40m [8 40]	*36° 52½′*	*15° 41½′*	*29⅚°*
8h 43m [8 43]	*36° 53′*		⊙ *7° 10′*
8h 44m [8 44]	*36° 53¼′*		*7° 25′*
			♀ *30$^{1}/_{12}$°*
8h 47m [8 47]	*36° 53¼′*		⊙ *7° 35′*
			♀ *30⅙°*
8h 50m [8 50]		⊙ *15° 43′*	⊙ *7° 40′*
8h 53m [8 53]		*with the other* [altero] *15° 42¾′*	*7° 50′*
8h 56m [8 56]		♀ *3° 36⅚′*	♀ *30°,* about [circiter]
8h 57m [8 57]		*with the other pinnule* [alt. pin.] *3° 36⅔′*	
8h 58m [8 58]		*Azimuth of* ♀ [Azim. ♀] *12° 34′*	♀ *29° 50′*
8h 59m [8 59]		*11° 49′*	*29° 54′*
9h 0m [9 0]		*11° 7½′*	*29° 57′*

2148

The azimuth of ♀ *was counted from the south toward the east.* [Azim. ♀ numerabatur a Meridie verſ.] [ortum.]

2148 All four heads are the page's, set in smaller roman type, *Diſt. inter* ♀ / *&* ⊙ and *Declin.* / *per Armill.* on two lines. From the row at 8 30 onward the page sets everything in italic except *circiter*, which is upright. The signs ⊙ and ♀ printed before figures in the third and fourth columns name the body each figure belongs to. *alt. pin.* is given as "with the other pinnule" (glossary); *altero* as "with the other". From the row at 8 58 the third column carries the azimuth of ♀ under the head *Declin.*; these three values are given as they stand in that column. *29⅓*, *29⅚*, *30$^{1}/_{12}$* and *30⅙* are single figures with a fraction set at the degree position, given as degrees; *30$^{1}/_{12}$* is printed with a fraction of one twelfth. *30 circiter* is a single figure at the degree position, given as degrees. The times, printed without marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	*Distance of* ⊙ *from* ♀ [Dist. ⊙ a ♀]	*Altitude of* ⊙ [Alt. ⊙]	*Declination of* ⊙ [Decl. ⊙]	*Altitude of* ♀ [Alt. ♀]
$9^h\ 2^m$ [9 2]	*36° 54½′*	*9° 10′*		
$9^h\ 4^m$ [9 4]	*36° 54½′*	*9° 20′*	*15° 45′*	
$9^h\ 7^m$ [9 7]	*36° 55′*	*9° 30′*		*30⅙°*
$9^h\ 10^m$ [9 10]	*36° 55⅙′*	*9° 40′*	*15° 45′*	
			Azimuth of ♀ [Az. ♀] *8° 30′*	
$9^h\ 13^m$ [9 13]		*Declination of* ♀ [Decl. ♀]	*3° 36⅓′*	
$9^h\ 15^m$ [9 15]		*with the other* [altero]	*3° 37′*	

2149

In the preceding observations the clock was running faster than it should by 18½^m, which are to be subtracted, the rectification having been made by the armillae. The following observations [were made] after the clock was corrected. [Horologium in antecedentibus ob-] [ſeruationibus iuſto citius mouebatur] [18½ M. quæ veniunt demenda, recti-] [ficatione facta per Armillas. Sequen-] [tes obſeruationes poſt correctum ho-] [rologium.]

Time	⊙ *from* ♀ [⊙ a ♀]	*Altitude of* ⊙ [Alt. ⊙]	*Declination of* ⊙ [Decl. ⊙]	*Altitude of* ♀ [Alt. ♀]
$9^h\ 31^m$ [9 31]	*36° 55¾′*	*11° 40′*		*30° 27½′*
$9^h\ 34^m$ [9 34]	*36° 56′*	*11° 55′*		*30° 30′*
$9^h\ 36^m$ [9 36]	*36° 56′*	*12° 10′*		
$9^h\ 37^m$ [9 37]		*12° 20′*	*15° 45⅔′*	
$9^h\ 38^m$ [9 38]			♀ *3° 37′*	

2149 "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, set in smaller italic type. *Az.* ♀ *8 30* stands on its own line at the right, with no time; it is given in the declination column, at the place nearest its position. At 9 13 and 9 15 the words *Decl.* ♀ and *altero* stand at the place of the altitude column and their figures in the declination column; they are given where they stand. *a Meridie* with an azimuth is "from the south" (glossary *Azim. a Mer.*). *30⅙* is a single figure with a fraction set at the degree position, given as degrees. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2150

[1] From codex V. [E codice V.]

[2] Cf. above, p. 252, among the observations of the Sun. [Cf. ſupra p. 252, inter obſeruationes Solis.]

Time	☉ from ♀	Altitude of ☉	Declination of ☉	Altitude of ♀
9h 39m [9 39]	♀ *had passed the meridian a little,* [Tranſierat ♀ parum Mer.,]			*30° 30¼′*

2151

Time	☉ from ♀	Altitude of ☉	Declination of ☉	Azimuth of ☉ from the meridian toward the east [Azim. ☉] [a mer.] [ad ort.]
9h 44m [9 44]	36° 56′	12° 40′	15° 45½′	
9h 53m [9 53]	36° 56¼′	13° 28′	15° 46⅓′	31° 20′
9h 54m [9 54]	36° 56¼′	13° 41′	15° 46½′	30° 40′
9h 57m [9 57]	36° 56½′	13° 52′	15° 46½′	30° 5′
10h 2m [10 2]	36° 57′	14° 8′	15° 46⅔′	29° 20′
10h 8½m [10 8½]	36° 57¾′	14° 28′	15° 46⅔′	28° 9′
10h 12½m [10 12½]	36° 57¾′	14° 37′	15° 46¾′	27° 26′
10h 14m [10 14]	36° 58′	14° 59′	15° 46¾′	26° 25′
10h 22m [10 22]	36° 58½′	15° 33′	15° 47′	24° 25′
10h 27m [10 27]	36° 59′	15° 30′	15° 47′	23° 13′
10h 36m [10 36]	36° 59⅙′	16° 6′	15° 47⅙′	21° 7½′

2150 "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, set in smaller italic type. *18½ M.* is given as 18½ minutes of time, as *M.* fixes it. *quæ veniunt demenda* is given as "which are to be subtracted". *iuſto citius* is given as "faster than it should" (glossary). The ♀ printed before the last figure names it as a value for ♀ in the declination column. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2151 This line continues the 26 October table at the foot of p. 296, after the row at 9 38; it stands under no date heading and no heads of its own. "Time", "☉ from ♀", "Altitude of ☉", "Declination of ☉" and "Altitude of ♀" are this edition's heads, repeating the heads of that table on p. 296. The page sets the line in italic; the words stand across the second to fourth columns and are given in the second; *30 30¼* stands at the place of the fifth column. *Mer.* is given as "the meridian". The time, printed without marks, is given as hours and minutes; *30 30¼*, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	☉ from ♀	Altitude of ☉	Declination of ☉	Azimuth of ☉ from the meridian toward the east [Azim. ☉] [a mer.] [ad ort.]
10h 40m [10 40]	36° 59¼′	16° 11′	15° 47′	20° 24′
10h 43m [10 43]	36° 59⅔′	16° 25′	15° 47⅓′	19° 48′
10h 47m [10 47]	36° 59⅔′	16° 34′	15° 47⅓′	18° 45′
10h 50m [10 50]	37° 0′	16° 49′	15° 47½′	17° 25′
10h 56m [10 56]	37° 0¼′	17° 1½′	15° 47⅔′	16° 10′

2152

Time	Reading	Value	Remark
11h 0m [11 0]	☉, east [☉ or.]	14° 46′	From this the clock can be rectified (all three values) [Hinc poteſt] [horologium] [rectificari]
11h 2½m [11 2½]		14° 22′	
11h 3½m [11 3½]		14° 7′	

2153

[2152] From here the page sets the rows in upright roman. "Time", "☉ from ♀", "Altitude of ☉" and "Declination of ☉" are this edition's heads, repeating the heads of the 26 October table on p. 296, whose columns these continue; the page prints no heads over them here. The fifth head is the page's, in smaller roman on three lines, *Azim.* ☉ / *a mer.* / *ad ort.*, its last line standing on the row at 9 44, which has no figure in that column. *a mer.* with an azimuth is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; it can also be taken as "from the south". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The printed altitude of ☉ falls back from 15° 33′ at 10 22 to 15° 30′ at 10 27, and the printed declination of ☉ from 15° 47⅙′ at 10 36 to 15° 47′ at 10 40; both are given as printed. Empty cells are empty on the page.

[2153] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints none. These three rows follow the row at 10 56 in the same columns: ☉ *or.* stands at the right of the second column and the three figures at the place of the third column (above, "Altitude of ☉"); they are given here under heads of their own because the page names their quantity only as ☉ *or.*. *or.* is "east" (glossary *Spica or.*). A single brace at the right of the three figures joins them to the remark, printed on three lines across the fourth and fifth columns; it is given once, on the first row, for all three. The times, printed without marks, are given as hours and minutes; the figures, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	*Between* ☿ *and* ☉ [Inter ☿] [& ☉]	*Altitude of* ☿ [Alt. ☿]	*Azimuth of* ☿ *toward the west* [Azim. ☿] [verf. occ.]	*Declination of* ☿, *south* [Decl.] [☿ M.]
11h 25m [11 25]		*26° 43′*		*3° 35½′*
11h 26m [11 26]		*26° 39¼′*	*30° 8½′*	*with the other* [alt.] *3° 36′*
11h 30m [11 30]	*37° 0¾′*			
11h 34m [11 34]	*37° 1′*			
11h 36m [11 36]	*37° 1⅙′*			
11h 37m [11 37]	*37° 1′* *set* [pone] *37° 1′*			
11h 38m [11 38]				*with one* [vno] *3° 36′* *with the other* [alt.] *3° 36⅙′*
11h 39m [11 39]		*25° 39¾′*	*33° 42′*	
11h 44m [11 44]		*25° 18½′*	*34° 50′*	
11h 46m [11 46]	*37° 1⅔′*			
11h 48m [11 48]	*37° 1¾′*			
11h 50m [11 50]	*37° 1⅚′*			
11h 54m [11 54]				*with one* [vno] *3° 36¼′*
11h 55m [11 55]				*with the other* [alt.] *3° 36⅓′*
11h 54½m [11 54½]		*24° 25¼′*	*37° 42′*	
0h 58m [0 58] in the afternoon [poſt meridiem]				3° 35′

2154

12h 42⅓m 1 was noon on the greater clock, which we used here before; but it had been corrected at 9½h. Therefore, over an interval of 3½, it was running too fast by 42½m 1, which is to be guarded against in all the observations from 9½h up to the last. [12 42⅓1 fuit Meridies in Horologio] [maiori quo hic antea vſi ſumus,] [erat autem correctum hora 9½,] [ergo interuallo 3½ nimis cito mo-] [uebatur

2154 "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, in smaller italic, *Inter* ☿ / *&* ☉, *Azim.* ☿ / *verſ. occ.* and *Decl.* / ☿ *M.* on two lines, *Alt.* ☿ on one. The page sets these rows in italic, except the last, which is upright. *M.* after the declination is "south". *alt.* in the declination column, set in smaller type at the right of the azimuth on the row at 11 26, is given as "with the other" (*altero*), as it answers *vno* on the rows at 11 38 and 11 54. *pone* stands between the first and second columns on a line with no time; it is given as "put" (the imperative of *ponere*); it can also be taken as the adverb "behind". *vno* and *alt.* stand at the right of the azimuth column, their figures in the declination column; they are given there. The times are printed in the order 11 54, 11 55, 11 54½. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

minutis 42½[1],quod cauen-] [dum eſt in omnibus obſeruationi-] [bus ab hora 9½ vſque in vltimam.][2155]

On 27 October *[DIE 27 OCTOBRIS]*

Afterwards, on the following day, ♀ *was observed again in the morning from the stars, in the way that follows.* [Poſtea ſequenti die obſeruabatur] [♀ rurſus mane a ſtellis in hunc qui] [ſequitur modum.]

The clock was corrected at 5¾ʰ. [Horologium emendabatur hora 5¾.]

Time [H. M.]	*Distance of* ♀ *and the heart of* ☋ [Diſt ♀ &] [cordis ☋]	*Altitude of* ♀ [Altit. ♀]	*Declination of* ♀ [Decl. ♀]
5ʰ 50½ᵐ [5 50½]	…	*15° 10′*	*3° 33′*
5ʰ 52ᵐ [5 52]	*42° 24⅚′*		
5ʰ 55½ᵐ [5 55½]	*42° 24′*	*15° 46′*	*3° 32½′*
5ʰ 58ᵐ [5 58]	*42° 24¾′*	*16° 3′*	*3° 33′*
6ʰ 1ᵐ [6 1]	*42° 24½′*	*16° 20′*	*3° 33½′*
6ʰ 4½ᵐ [6 4½]	*42° 24¾′*	*16° 40′*	*3° 34′*
6ʰ 8½ᵐ [6 8½]	*42° 24½′*	*17° 8′*	*3° 33½′*

2156

To examine the sextant, 37° 20′ was observed between the heart of ☋ *and Canis Minor. But the truer distance of Canis Minor and the heart of* ☋ *is, according to the earlier observations, 37° 19½′. Therefore the sextant here exceeds by only ½′, which can be guarded against in all the preceding observations from the earlier day up to now.* [Pro examinando Sextante obſer-] [uabatur inter cor ☋ & canem mino-] [rem 37 20. Sed verior diſtantia canis] [minoris & cordis ☋ eſt iuxta priores] [obſeruationes 37 19½. Ergo Sextans] [hic ſaltem ½ ſcrupulo abundat,

[2155] *12 42⅓*, printed without marks at the head of the paragraph, is given as hours and minutes; *hora* fixes 9½ (twice) as hours and *minutis* fixes 42½ as minutes. *interuallo 3½* prints no unit and the figure is given bare. The page's figures do not close: noon at 12ʰ 42⅓ᵐ by the clock puts it 42⅓ᵐ fast, where the text gives 42½ᵐ (the footnote marks both figures as so in codex D); and from 9½ʰ to noon is 2½ʰ, from 9½ʰ to 12ʰ 42⅓ᵐ by the clock 3ʰ 12⅓ᵐ, neither of which is the printed 3½. All are given as printed. *in Horologio maiori* is given as "on the greater clock"; *autem* as "but".

[2156] All four heads are the page's, in smaller italic, *Diſt* ♀ *&* / *cordis* ☋ on two lines (no point after *Diſt*). The page sets the heading, the lines and the rows on this side of the page in italic. *cor* ☋ is given as "the heart of ☋". *hora* fixes 5¾ as hours. In the row at 5 50½ the page prints three spaced points in the distance column; they are given as printed. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

quod] [caueri poteſt in omnibus obſeruatio-] [nibus antecedentibus a die priore] [hucusque.][2157]

The following distances are by another sextant, which gave the true interval of the heart of ♌ and Canis Minor: 37° 19⅔′. [Sequentes diſtantiæ ſunt per alium] [Sextantem qui præbuit veram inter-] [capedinem cordis ♌ & canis minoris] [37 19⅔.][2158]

Time [H. M.]	☿ *and the heart of* ♌ [☿ &cor ♌]	*Altitude of* ☿ [Altit. ☿]	*Declination of* ☿ [Decl. ☿]	*Azimuth of* ☿ *from the meridian toward the east* [Azim. ☿] [a mer.] [verſ. ort.]
6ʰ 26ᵐ [6 26]		*18° 58′*	*3° 34′*	
6ʰ 29ᵐ [6 29]	*42° 25′*	*19° 16′*	*3° 33′*	
6ʰ 32ᵐ [6 32]	*42° 25′*	*19° 33′*	*3° 34′*	
6ʰ 35½ᵐ [6 35½]	*42° 24′*	*19° 55′*	*3° 34′*	
6ʰ 37½ᵐ [6 37½]	*42° 24¾′*	*20° 8′*	*3° 34½′*	*48° 35′*
6ʰ 40ᵐ [6 40]	*42° 25′*	*20° 22′*	*3° 34½′*	*48° 10′*

2159

Afterwards ☿ was observed from ♃ in the way that follows. [Poſtea obſeruabatur ☿ a ♃ in hunc] [qui ſequitur modum.]

Time [H. M.]	*Distance of ♃ and* ☿ [Diſt. ♃] [& ☿]	*Declination of* ☿ [Decl. ☿]	*Altitude of* ☿ [Alt. ☿]	*Azimuth of* ☿ *from the meridian toward the east* [Azim. ☿] [a mer.] [verſ. ort.]
6ʰ 59½ᵐ [6 59½]	*23° 27′*		*22° 14′*	*44° 0′*
7ʰ 2ᵐ [7 2]	*23° 27′*	*3° 34⅙′*	*22° 30′*	*42° 55′*
7ʰ 4¼ᵐ [7 4¼]	*23° 26¾′*	*3° 34½′*	*22° 39′*	*42° 20′*
7ʰ 7ᵐ [7 7]	*23° 27′*	*3° 34½′*	*22° 56′*	*41° 34′*
7ʰ 9¾ᵐ [7 9¾]	*23° 26′*	*3° 34½′*	*23° 10′*	*41° 0′*

[2157] *ſcrupulo* fixes ½ as minutes of arc; *37 20* and *37 19½*, printed without unit marks, are given as degrees and minutes. *ſaltem* is given as "only", as no lower-bound word follows; it can also be taken as "at least". *iuxta priores obſeruationes* is given as "according to the earlier observations"; *a die priore* as "from the earlier day".

[2158] *intercapedinem* is given as "interval" (glossary *intercapedo*). *37 19⅔*, printed without unit marks, is given as degrees and minutes.

[2159] All five heads are the page's, in smaller italic, *Azim. ☿ / a mer. / verſ. ort.* on three lines. *a mer.* with an azimuth is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; it can also be taken as "from the south". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time [H. M.]	*Distance of ☽ and ♀* [Dist. ☽] [& ♀]	*Declination of ♀* [Decl. ♀]	*Altitude of ♀* [Alt. ♀]	*Azimuth of ♀ from the meridian toward the east* [Azim. ♀] [a mer.] [verſ. ort.]
	doubtful (the figure above) [dubia]			
7h 13½m [7 13½]			*23° 32′*	*40° 4′*

2160

[1] So in codex D. [Sic in codice D.]

[It] was no longer seen. [Non videbatur amplius.]

The following were observed on ♀ so that the clock might be verified. [Sequentia in ♀ obſeruabantur vt ve-] [rificaretur horologium.]

Time	Reading	Value
7h 16½m [7 16½]	♀ was distant from the meridian toward the east, in equinoctial degrees [Diſtabat ♀ a mer. verſus ortum] [in Grad. æquinoctial.]	35° 36′
7h 18m 5s [7 18 5″]	♀ was distant from the meridian [Diſtabat ♀ a Mer.]	35° 12′
7h 19m 24s [7 19 24]		34° 55′
7h 20m 48s [7 20 48]		34° 33′

2161

From this it follows that from 5¾h up to 7⅓h the clock was running faster than it should by one and a half minutes; this error was corrected by subtracting or drawing back 1½, and in removing a single small ball from the weight. [Hinc ſequitur quod Horologium ab] [H. 5¾ vsque in H. 7⅓ iuſto citius moue-] [batur ſeſquialtero minuto, qui error] [corrigebatur ſubtrahendo vel retra-] [hendo 1½ & in auferendo vnicum glo-] [bulum de pondere.][2162]

[2160] All five heads are the page's, in smaller italic, *Diſt. ☽ / & ♀* and *Azim. ♀ / a mer. / verſ. ort.* on two and three lines. *dubia* stands on its own line under *23 26*, and a single brace at the right encloses the two lines; it is given on its own row, for that figure. *a mer.* with an azimuth is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; "from the south" is the other construal. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2161] "Time", "Reading" and "Value" are this edition's heads; the page prints none. These lines follow the 27 October observations of p. 297 under no new date heading. The first statement is printed over two lines, its figure at the right of the second; it is given whole on the first row. The ″ after *5* in the second row fixes it as seconds of time; the figures *24* and *48* below stand at its place without a mark and are given as seconds as well. *a mer.* is given as "from the meridian". The other times, printed without marks, are given as hours and minutes; the distances, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2162] *H.* fixes 5¾ and 7⅓ as hours. *1½* prints no unit and is given bare. *iuſto citius* is given as "faster than it should" (glossary). *& in auferendo* is given as "and in removing", keeping the printed *in*.

On 2 November, in the morning [DIE 2 NOUEMBRIS, MANE.]

Time	Reading	Value	Value
6^h 36^m [6 36′]	Distance between ♀ and the heart of ☽ [Diſt. inter ♀ & cor ☽]		44° 14½′
	Altitude of ♀ [Altit. ♀]	24° 30′	
6^h 42^m [6 42]	The same distance [Diſt. eadem]		44° 15′
6^h 46^m [6 46]	Declination of ♀ [Declin. ♀]	3° 43′	
	Altitude of ♀ [Altit. ♀]	25° 10′	
	Repeated declination [Repetita Decl.]	3° 42½′	
6^h 50^m 15^s [6 50 15″]	♀, east [♀ orient.]		30° 10′
6^h 51^m 30^s [6 51 30]			29° 54′
6^h 52½^m [6 52½]			29° 40′

2163

Let the clock be verified from this. [Hinc Horologium verificetur.]

N. B. The observations of this day are not to be relied on, for they are uncertain, because they were made among rather thick clouds. [N. B. Huius diej obſeruationibus non] [eſt fidendum, ſunt enim incertæ, quia] [inter nubes denſiores factæ ſunt.][2164]

On 6 November *[DIE 6 NOUEMBRIS.]*

The following were observed in the morning, and first, for the rectification of the clock, at the heart of ☽. [Sequentia mane obſeruabantur, &] [primum pro rectificatione horologij] [ad cor ☽.]

Time	Reading	Value
6^h 57¼^m [H. 6 57¼]	*The heart of ☽ beyond the meridian, toward the west, by the equatorial [armillae]* [Cor ☽ vltra Merid.] [verſus occaſum] [per æquat.]	*1° 40′*
6^h 58⅔^m [6 58⅔]		*1° 55′*
6^h 59^m [6 59]		*2° 0′*

2163 "Time", "Reading" and the two "Value" heads are this edition's; the page prints none. The page sets the figures at two positions: those of the altitude and declination lines at an inner position, the others at the right; the third column gives the inner figures and the fourth the right-hand figures, as they stand. *6 36* carries a prime mark after *36*; it is given as hours and minutes. The ″ after *15* fixes it as seconds of time, and *30* below, at its place without a mark, is given as seconds as well. *orient.* is "east" (glossary ♄ *orient.*). *cor* ☽ is given as "the heart of ☽". The other times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2164 *verificetur* is a subjunctive and is given as "let … be verified". *N. B.* is kept as printed. *denſiores* is given as "rather thick".

2165

From this it is gathered that the clock [had] moved faster by 31^{m} from 8½^{h}, which [has been] corrected in the following [observations]. [Hinc colligitur horologium 31 M.] [ab hora 8½ celerius motum, quod in] [ſequentibus correctum.][2166]

The observation of ♀ *follows.* [Sequitur obſeruatio ♀.]

Corrected times [Tempora] [correcta]	*Distance of* ♀ *and the heart of* ☋ [Diſt. ♀] [& cord. ☋]	*Declination of* ♀*, south* [Decl. ♀] [M.]	*Altitude of* ♀ [Alt. ♀]	*Azimuth of* ♀ [Azim ♀]
6^{h} 33^{m} [6 33]	*47° 37½′*	*4° 4′*	*21° 16′*	
6^{h} 36^{m} [6 36]	*47° 37⅔′*	*4° 4½ with the other pinnule* [alt. pin.]	*21° 32′*	*43° 55′*
6^{h} 38¾^{m} [6 38¾]	*47° 37½′*	*4° 4½*	*21° 44′*	*43° 16′*
6^{h} 41½^{m} [6 41½]	*47° 37¾′*		*22° 3′*	*42° 35′*

2167

You can use, without any perceptible error, the distance 47° 37⅔′. [Potes vti absque omni ſenſibili er-] [rore diſtantia 47 37⅔]

The declination of Spica ♍*, which was near* ♀*, was observed, in order to correct the declination of* ♀ *for refraction: 8° 56′.* [Declin. Spicæ ♍ obſeruabatur quæ] [erat prope ♀ pro emendanda decli-] [natione ♀ ob refractionem 8 56]

The clock was running faster than it should by 31^{m} from yesterday's correction at 8½^{h}, which is to be subtracted from the earlier [observations]. [Horologium iuſto citius mouebatur] [31 minut. ab heſterna emendatione] [H. 8½, quod venit a prioribus demen-] [dum.][2168]

[2165] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The words are printed one line on each of the three rows (*Cor ☋ vltra Merid.*, *verſus occaſum*, *per æquat.*); they are given whole on the first row. *per æquat.* is given as "by the equatorial [armillae]"; *æquat.* is abbreviated and can also be the noun, *per æquatorem*, "by the equator"; the page prints no noun after it. *H.* fixes the first time as hours; the others, printed without marks under it, are given as hours and minutes. *1°40′* is printed with its marks; *1 55* and *2 0*, printed under it without marks, are given as degrees and minutes.

[2166] *M.* fixes 31 as minutes and *hora* fixes 8½ as hours.

[2167] All five heads are the page's, in smaller italic, *Tempora / correcta*, *Diſt. ♀ / & cord. ☋* and *Decl. ♀ / M.* on two lines, *Alt. ♀* and *Azim ♀* on one. The footnote below concerns the words *Tempora correcta* of the first head; the page prints its cue in the right-hand column, after *venit*. *alt. pin.* is printed on a line of its own under the figure *4 4½* of the row at 6 36, and a single brace joins the two; it is given with that figure. *alt. pin.* is "with the other pinnule" (glossary). *M.* after the declination is "south". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2168] These lines stand at the head of the right-hand column and continue the 6 November entry; the column opens with no date heading. *47 37⅔* and *8 56*, printed without unit marks at the right of their lines, are given as degrees and minutes. *minut.* fixes 31 as minutes and *H.* fixes 8½ as hours. *quæ* is taken with Spica, the nearer feminine noun; it can also be taken with the declination ("which was close to ♀"). *venit … demendum* is given as "is to be subtracted".

After the clock was verified. [Poſt verificatum Horologium.]

Time	*Distance of* ♀ *from the heart of* ☋ [Diſt. ♀ a] [corde ☋]	*Declination of* ♀ [Decl. ♀]	*Altitude of* ♀ [Alt. ♀]	*Azimuth of* ♀ [Azim. ♀]
$6^h\ 44½^m$ [6 44½]	*47° 37½′*			
$6^h\ 58^m$ [6 58]	*47° 37⅙′*	*4° 5′ with both* [vtroque]	*23° 25′*	*38° 42′*
$7^h\ 1^m$ [7 1]	*47° 37½′*		*23° 44′*	*37° 55′*

2169

Set here the distance 47° 37⅓′. [Pone hic diſtantiam 47 37⅓][2170]

Note well. All these observations are sufficiently good and exact in all these planets and stars; and the clock, from $8½^h$ yesterday evening, when it was corrected against the fixed stars, up to about 7 in the morning, was running faster than it should by 31^m. This error was corrected after $6¾^h$; therefore in the five preceding observations it is still to be corrected.[1] [Nota bene. Hæ omnes obſeruatio-] [nes ſunt ſatis bonæ & exquißitæ in] [his omnibus planetis & ſtellis, &] [horologium ab hora 8½ heri veſperi,] [quando emendabatur ad fixas, vſ-] [que in horam quaſi 7 matutinam] [iuſto celerius mouebatur 31 minut.,] [qui error poſt horam 6¾ eſt correctus,] [in quinque igitur antecedentibus ob-] [ſeruationibus adhuc corrigendus ve-] [nit[1].][2171]

The observation of ♃ *and* ♀ *together follows.* [Sequitur obſeruatio ♃ & ♀ ſimul.]

Time	*Between* ♃ *and* ♀ [Inter ♃] [& ♀]	*Declination of* ♀*, south* [Decl. ♀] [M.]	*Altitude of* ♀ [Alt. ♀]	*Azimuth of* ♀ *from the meridian toward the east* [Azim. ♀] [a mer.] [ad ort.]
$7^h\ 19^m$ [7 19]	*27° 10′*	*4° 5′*	*25° 7′*	*33° 27′*
$7^h\ 21½^m$ [7 21½]	*27° 10′*	*4° 5′*	*25° 18′*	*32° 50′*
$7^h\ 25^m$ [7 25]	*27° 10⅙′*	*4° 5¼′*	*25° 34′*	*32° 0′*
$7^h\ 28^m$ [7 28]	*27° 10′*	*4° 5½′*	*25° 52′*	*31° 6′*

2169 "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, in smaller italic, *Diſt.* ♀ *a / corde* ☋ on two lines. *vtroque* is printed on a line of its own under the figure *4 5*, and a single brace joins the two; it is given with that figure, as "with both". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2170 *47 37⅓*, printed without unit marks at the right of the line, is given as degrees and minutes.

2171 *hora / horam* fixes 8½, 7 and 6¾ as hours and *minut.* fixes 31 as minutes. *ſatis* is given as "sufficiently"; *quaſi* as "about"; *ad fixas* as "against the fixed stars". *corrigendus venit* is given as "is to be corrected".

2172

Afterwards ♀ was observed from ♃ again, a little before sunrise, when it was day and no other stars appeared because of the Moon. [Poſtea obſeruabatur ♀ a ♃ rurſus] [paulo ante Solis ortum, cum dies] [eßet & nullæ aliæ apparerent ſtellæ] [propter Lunam.]

Time	*Distance* [Diſt.]	*Declination of* ♀ [Decl. ♀]	*Altitude of* ♀ [Alt. ♀]	*Azimuth of* ♀ [Azim. ♀]
7ʰ 43ᵐ [7 43]	*27° 10½′*	*4° 5½′*	*26° 44′*	*27° 25′*
7ʰ 46ᵐ [7 46]	*27° 10′*	*4° 6′*	*26° 56′*	*26° 35′*
7ʰ 50½ᵐ [7 50½]	*27° 10½′*	*4° 6′*	*27° 2½′*	*25° 28′*

2173

The azimuth of ♀ is counted everywhere from the meridian toward the east. [Azim. ♀ vbique numeratur a mer.] [verſus ortum.][2174]

[1] So in the codex. But above 6^{h} 33^{m} Tycho added «Tempora correcta» (corrected times). [Sic in codice. Sed ſupra 6^{h} 33^{m} Tycho adſcripſit »Tempora correcta«.]

On 10 November *[DIE 10 NOUEMBRIS.]*

♀ was observed in this way. [Obſeruabatur ♀ in hunc modum.]

Time [Tempus]	*Between ♀ and the heart of ☌* [Inter ♀] [& cor ☌]	*Declination of ♀* [Decl. ♀]	*Altitude of ♀* [Alt. ♀]	*Azimuth of ♀ from the meridian toward the east* [Azim. ♀] [a mer.] [verſ. ort.]
6ʰ 20ᵐ [6 20]	*50° 21′*	*4° 40′*	*19° 35′*	*47° 0′*
6ʰ 23ᵐ [6 23]	*50° 21⅙′*	*4° 39′*	*19° 53′*	*46° 25′*
6ʰ 26ᵐ [6 26]	*50° 21⅙′*	*4° 40′*	*20° 15′*	*45° 33′*

2172 "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, in smaller italic, on one to three lines. *M.* after the declination is "south". *a mer.* with an azimuth is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; it can also be taken as "from the south". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2173 "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, in smaller italic, one line each. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2174 *a mer.* with an azimuth is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; it can also be taken as "from the south".

2175

Afterwards ♀ *was observed again in the same way.* [Poſtea rurſus obſeruabatur ♀ eodem] [modo.]

Time	Between ♀ and the heart of ☋	Declination of ♀	Altitude of ♀	Azimuth of ♀ from the meridian toward the east
6ʰ 38ᵐ [6 38]	*50° 20½′*	*4° 42½′** [4 42½*]	*21° 41½′*	*41° 50′*

* *doubtful; 4° 39′ better.* [* dubia, 4 39 melior.][2176]

Afterwards clouds suddenly took the whole sky away from our sight; but at the time of the preceding observations [it] was sufficiently clear, so you can rely on them fairly safely: [the observations] that were taken on Mars are also good. [Poſtea nubes ſubito totum cœlum] [e conſpectu noſtro abduxerunt, fuit] [tamen tempore præcedentium obſer-] [uationum ſatis ſerenum, vnde ſatis] [tuto potes te illis fundare: ſunt etiam] [bonæ quæ in Marte acceptæ ſunt.][2177]

Afterwards, when the clear weather returned, I observed ☌ *in this way.* [Poſtea redeunte ſerenitate obſer-] [uaui ☌ hoc modo.]

Rectified clock [Rectifi-] [catum] [Horolog.]	*Distance of* ☌ *and* ♀ [Diſt. ☌] [& ♀]	*Declination of* ♀ [Decl. ♀]	*Altitude of* ♀ [Alt. ♀]	*Azimuth of* ♀ *from the meridian toward the east* [Azim. ♀] [a mer.] [verſ. ort.]
6ʰ 58ᵐ [6 58]	*29° 23′ doubtful* [dubia]			
7ʰ 28¼ᵐ [7 28¼]	*29° 24′*	*4° 41′*		
7ʰ 30ᵐ [7 30]	*29° 23¾′*	*4° 40′*		
7ʰ 34ᵐ [7 34]	*29° 23¾′*	*4° 40′*	*25° 35′*	*29° 32′*
7ʰ 38½ᵐ [7 38½]	*29° 23½′*	*4° 40½′*	*25° 53′*	*28° 28′*
7ʰ 42ᵐ [7 42]	*29° 24′*	*4° 41′*	*26° 7′*	*27° 20′*
7ʰ 45ᵐ [7 45]	*29° 23¾′*	*4° 41′*	*26° 22′*	*26° 27′*
7ʰ 50½ᵐ [7 50½]	*29° 24′*	*4° 41′*	*26° 41′*	*24° 50′*
7ʰ 54ᵐ [7 54]	*29° 24′ good* [bona]	*4° 41⅙′*	*26° 51′*	*23° 50′*

[2175] All five heads are the page's, in smaller italic, *Inter* ♀ / *& cor* ☋ and *Azim.* ♀ / *a mer.* / *verſ. ort.* on two and three lines. *cor* ☋ is given as "the heart of ☋". *a mer.* with an azimuth is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; "from the south" is the other construal. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2176] This row stands under the heads of the table above, after the line *Poſtea rurſus obſeruabatur* ♀ *eodem modo.*; the heads are repeated here from that table, as the page prints none of its own. The asterisk after *4 42½* refers to the line below the row. *4 39*, printed without unit marks, is given as degrees and minutes, as in the declination column. The time and the other values are given as above.

[2177] *ſatis ſerenum* is given as "sufficiently clear" and *ſatis tuto* as "fairly safely". *potes te illis fundare* is literally "you can base yourself on them". *bonæ … quæ … acceptæ ſunt* is feminine plural and is taken with *obſeruationum* above; *in Marte* is given as "on Mars", that is, the observations of Mars.

2178

Note. This morning ♀ *was so bright that it cast a well perceptible shadow, nearly like the Moon.* [Nota. ♀ hoc mane tam lucida fuit,] [vt vmbram bene perceptibilem ede-] [ret inſtar fere Lunæ.][2179]

On 25 November *[DIE 25 NOUEMBRIS.]*

♀ *was outside the meridian.* [♀ erat extra Meridianum.]

Time [Tempus]	*Distance of* ⊙ *and* ♀ [Diſt. ⊙] [& ♀]	*Altitude of* ⊙ [Alt. ⊙]	*Declination of* ♀ [Decl. ♀]	*Altitude of* ♀ [Alt. ♀]
$9^h\ 36^m$ [9 36]			*8° 7′ south* [Mer.]	
$9^h\ 47¼^m$ [9 47¼]	*46° 24′*	*7° 18′*		
$9^h\ 51^m$ [9 51]	*46° 25′*	*7° 30′*		*24° 39′*
$9^h\ 54½^m$ [9 54½]	*46° 24′*	*7° 46′*		
$9^h\ 57^m$ [9 57]	*46° 24¼′*		*8° 7½′*	
$10^h\ 2^m$ [10 2]	*46° 25′*	*8° 20′*		
$10^h\ 5^m$ [10 5]	*46° 24′*	*8° 31′*		
$10^h\ 7^m$ [10 7]	*46° 25′*	*8° 39′*	*8° 7½′*	

2180

Time	Distance of ⊙ and ♀	Altitude of ⊙	*Azimuth of* ♀ [Azim. ♀]	Altitude of ♀
$10^h\ 13¼^m$ [10 13¼]	*46° 26′*	*9° 1′*		*23° 19′*
$10^h\ 17½^m$ [10 17½]	*46° 26¼′*	*9° 20′*	*25° 25′*	*23° 4½′*
$10^h\ 21^m$ [10 21]	*46° 26′*	*9° 33′*		
$10^h\ 22½^m$ [10 22½]	*46° 25′*	*9° 41′*	*27° 14′*	*22° 39′*

[2178] All five heads are the page's, in smaller italic, *Rectifi-* / *catum* / *Horolog.*, *Diſt.* ☽ / *&* ♀ and *Azim.* ♀ / *a mer.* / *verſ. ort.* on two and three lines. *Horolog.* is abbreviated; the page prints *horologium* in full in the right-hand column. *dubia* stands after the figure *29 23*, at the place of the third column; it is given with that figure. *bona* is printed on a line of its own under the figure *29 24* of the row at 7 54, and a single brace joins the two; it is given with that figure. *a mer.* with an azimuth is given as "from the meridian", as the work writes *Meridiano* out in full elsewhere; "from the south" is the other construal. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2179] *ederet* is given as "cast" and *inſtar fere Lunæ* as "nearly like the Moon".

[2180] All five heads are the page's, in smaller italic, *Diſt.* ⊙ / *&* ♀ on two lines. *Mer.* after the declination is given as "south". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The table runs on at the head of the right-hand column.

2181

Note. The azimuth of ☿ was counted from the south toward the west. For ☿ had already passed through the meridian long before. [Nota. Azim. ☿ numerabatur a Me-] [ridie verſus occaſum. Nam ☿ Meridi-] [anum iam diu antea pertranſierat.]

The later observations were made with the support of the instrument moved into [our] own crypt; for before, the observation was made under the open sky, where the instrument wobbled with the wind stirring somewhat. From this, without doubt, came that variation of one minute in the observed distances. The later observations will therefore limit the preceding ones. [Poſteriores obſeruationes ſunt factæ] [mutato fulcro inſtrumenti in Criptam] [propriam, antea enim fiebat obſerua-] [tio ſub Divo vbi vento nonnihil agi-] [tante vacillabat inſtrumentum, vnde] [procul dubio iſta varietas vnius Mi-] [nuti in diſtantijs obſeruatis eueniebat,] [poſteriores itaque obſeruationes limi-] [tabunt præcedentes.][2182]

Time [Tem-pus]	Distance of ☿ and ☉ [Diſt. ☿] [& ☉]	Alti-tude of ☉ [Alt. ☉]	Azimuth of ☿, west [Azim. ☿] [occ.]	Alti-tude of ☿ [Alt. ☿]	Remark
10h 27m [10 27]	[46° 24½′	9° 58′			
10h 28½m [10 28½]	[f025⅔′	10° 1′			
10h 29m [10 29]			29° 37′	22° 4¼′	
10h 31m [10 31]					the clock showed the distance of ☉ from the meridian 18° 17′ [monſtrabat horologium diſtan-] [tiam ☉ a merid. 18 17]
10h 33m [10 33]	[46° 25′	10° 12′			
10h 35m [10 35]	[46° 25′				☉ was then distant from the meridian 16° 40′ [☉ tunc diſtabat a merid.] [16 40]

2181 These four rows stand at the head of the right-hand column, in italic, with no date heading and no heads; their figures stand in the places of the five columns of the 25 November table at the foot of the left-hand column, whose heads "Time", "Distance of ☉ and ☿", "Altitude of ☉" and "Altitude of ☿" are repeated here. In the place of the fourth column (above, "Declination of ☿") the page prints *Azim.* ☿, in smaller italic, on the row at 10 13¼, in place of a figure; it is given as this table's fourth head, and that row's fourth cell is empty. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2182 From here the page sets the text in upright roman. *a Meridie* with an azimuth is given as "from the south"; it can also be taken as "from the meridian". *pertranſierat* is given as "had passed through". *mutato fulcro … in Criptam propriam* is given as "with the support … moved into [our] own crypt"; *mutato* can also be taken as "changed". *Criptam* is printed so, with *C* and *i.* *vento nonnihil agitante* is given as "with the wind stirring somewhat"; the participle has no object on the page. *limitabunt* is given as "will limit".

Time [Tempus]	Distance of ♀ and ⊙ [Diſt. ♀] [& ⊙]	Altitude of ⊙ [Alt. ⊙]	Azimuth of ♀, west [Azim. ♀] [occ.]	Altitude of ♀ [Alt. ♀]	Remark
… [...]	… [...]				Altitude of ⊙ 10° 15′, [it] was distant from the meridian 16° 30′ [Alt. ⊙ 10 15,] [diſtabat a merid. 16 30]
10h 36m [36]	46° 25¼′				Altitude of ⊙ 10° 22′, declination of ♀ 8° 7¾′, ⊙ from the meridian 15° 45′ [Alt. ⊙ 10 22,] [Decl. ♀ 8 7¾, ⊙ a merid. 15 45]
10h 40m [10 40]					Altitude of ♀ 21° 4¼′, azimuth of ♀ 33° 0′, ⊙ was distant from the meridian 15° 20′ [Alt. ♀ 21 4¼, Az. ♀ 33 0,] [diſtabat ⊙ a Merid. 15 20]

2183

You can use, without any perceptible error, the distance of ♀ from ⊙, 46° 25′. [Potes absque omni ſenſibili errore] [vti diſtantia ♀ a ⊙ part. 46 M. 25.][2184]

On 29 November, in the morning [DIE 29 NOUEMBRIS, MANE.]

Spica from the meridian [Spica] [a mer.]	Corresponding time [Tempus] [reſp.]	Distance between ♀ and Spica [Diſt. inter] [♀ & Spicam]	Declination of ♀ [Decl.] [♀]	Altitude of ♀ [Alt.] [♀]
14° 15′		13° 29⅚′		21½° [21½]
12° 37′1 [12 37¹]		13° 30′		
11° 43′	7h 10m 56s [7 10′ 56″]	13° 31′	9° 13′	
11° 17′	7h 12m 40s [7 12 40]	13° 30¼′	9° 13′	
10° 30′	7h 15m 48s [7 15 48]	13° 29⅚′	9° 12¾′	22° 1′
8° 11′	7h 25m 4s [7 25 4]	13° 30⅓′* [13 30⅓*]	9° 14′	22° 24½′

[2183] The first five heads are the page's, in smaller roman, *Diſt.* ♀ / *&* ⊙ and *Azim.* ♀ / *occ.* on two lines; "Remark" is this edition's head, for the words the page prints across the columns of six rows. *occ.* is "west". The remark at 10 31 runs from the second column to the right edge over two lines, *18 17* at the right of the second. At 10 35 the words run from the third column, *16 40* on a line of its own at the right. The row with no time prints three points at the place of the time and three at the place of the distance; it gives neither, and its words and figures begin at the third column. At 10 36 and 10 40 the words and figures run across the columns as printed, the second line of each indented. *Az.* is given as "azimuth". In the remark at 10 40 the subject of *diſtabat* is ⊙; in the row without a time the verb has no subject on the page, and ⊙ is the subject of the line above. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The printed distances of ⊙ from the meridian fall by unequal amounts for the times given: 18° 17′ at 10 31, 16° 40′ at 10 35, 15° 45′ at 10 36 and 15° 20′ at 10 40; they are given as printed. Empty cells are empty on the page.

[2184] *part.* fixes 46 as degrees and *M.* fixes 25 as minutes.

* Spica was not sufficiently visible. [* Spica non ſatis conſpiciebatur.][2185]

N. B. ♀ is approaching the greatest remoteness from ☉, not far distant from the most remote limit. [N. B. ♀ appropinquat ad maximam] [remotionem a ☉, non longe diſtans a] [termino remotißimo.][2186]

1 [It] has been added: $7^h\ 57^m\ 48^s$, Spica through the meridian. [Adſcriptum eſt: H. 7 57′ 48″ Spica per Merid.][2187]

Time	Between ♄ and ♀ [Inter ♄ & ♀]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]	Azimuth, east [Azim. or.]
$7^h\ 43^m$ [7 43]	43° 50′	9° 14′	23° 26′	
$7^h\ 48^m$ [7 48]	43° 50′	9° 14⅓′	23° 34′	16° 50′
$7^h\ 50½^m$ [7 50½]	43° 50¼′	9° 14⅔′ with the other pinnule [alt. pin.]		
$7^h\ 53¼^m$ [7 53¼]	43° 50⅙′	9° 14⅔′	23° 47′	15° 30′
$7^h\ 55½^m$ [7 55½]	43° 50′	9° 14½′ with one pinnule [vno pin.]		
$8^h\ 13^m$ [8 13]	43° 50⅔′	9° 14′ with the other [alt.]	24° 19′	10° 40′
$8^h\ 17^m$ [8 17]	43° 51′	9° 15′	24° 31′	9° 30′
$8^h\ 21⅚^m$ [8 21⅚]	43° 51½′		24° 40′	8° 17′
$8^h\ 24½^m$ [8 24½]	43° 51½′			
$8^h\ 27½^m$ [8 27½]		9° 14⅚′ with one [vno]		
		9° 15′ with the other pinnule [alt. pinn.]		

[2185] All five heads are the page's, in smaller roman, two lines each. *reſp.* is given as "corresponding". *a mer.* with Spica's distance is given as "from the meridian". *21½* stands alone at the place of the altitude of ♀, its figure *21* under the degree figures of the rows below; it is given as degrees. The marks ′ and ″ after *10* and *56* fix the first corresponding time as hours, minutes and seconds; the times under it, printed without marks, are given the same way. The values of the other columns, printed without unit marks, are given as degrees and minutes. The asterisk after *13 30⅓* refers to the line below the table. Empty cells are empty on the page.

[2186] *remotionem* is given as "remoteness". *N. B.* is kept as printed.

[2187] *H.* fixes 7 as hours; the marks ′ and ″ after *57* and *48* are given as minutes and seconds of time. *Merid.* is given as "the meridian".

2188

Note. Around these last observations Jupiter appeared very much weakened, as sunrise was already at hand. The Sun rose at 8½^{h} [Greek: ἐν πλάτει (en platei, "in breadth")] because of the clouds. [Nota. Circa has vltimas obſeruati-] [ones Jupiter admodum attenuatus] [apparebat, inſtante iam Solis ortu.] [Sol oriebatur hora 8½ ἐν πλάτει prop-] [ter nubes.][2189]

Time	Reading	Value
8^{h} 14⅙^{m} [8 14⅙]	♀ was distant from the meridian toward the east [Diſtabat ♀ a mer. verſ. ort.]	9° 30′
8^{h} 17^{m} [8 17]	Repeated distance of ♀ from the meridian [Repetita diſt. ♀ a merid.]	8° 49′
8^{h} 21⅚^{m} [8 21⅚]	Repeated distance of ♀ from the meridian, in equatorial degrees [Repet. diſt. ♀ a mer.] [in grad. æquat.]	7° 42′

2190

From this the clock can be rectified, and that not only for these times of the observations of ☾, but also [for] those that were observed earlier on ♀ and ♃ and Spica. [Hinc poteſt horologium rectificari,] [idque non ſaltem ad hæc tempora ob-] [ſeruationum ☾, ſed etiam ea quæ prius] [in ♀ & ♃ atque Spica obſeruabantur.]

However, the place of ♃, which is to be applied both to ♀ and to ☾, must be corrected from the later observations, since the earlier ones are too remote. [Locus autem ♃ tam ad ♀ quam ☾] [applicandus debet ex poſterioribus] [obſeru-ationibus emendari, ſiquidem] [anteriores nimis remotæ ſunt.]

[2188] The page opens with this table, under no date heading of its own; it follows the 29 November entry at the foot of p. 299. "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, in smaller roman, one line each. *or.* is "east". *alt. pin.*, *vno pin.*, *vno* and *alt. pinn.* stand after the declination figures of their rows; *alt. pin.* is "with the other pinnule". On the row at 8 13 *alt.* is set close after *9 14*, before the altitude *24 19*; it is given as "with the other", like the other words after the declination figures; it can also be read as *alt.* "altitude", a label of the figure after it. The last row has no time; its declination stands under the row at 8 27½. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The printed distances between ♃ and ♀ run 43° 50′, 43° 50′, 43° 50¼′, 43° 50⅙′, 43° 50′, 43° 50⅔′; they are given as printed. Empty cells are empty on the page.

[2189] *attenuatus* is given as "weakened"; it can also be taken as "faint" or "thinned". *hora* fixes 8½ as hours.

[2190] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The words stand from the second column and the figures at the right, under the fifth column. The words of the last row are printed on two lines, *in grad. æquat.* on a line of its own with the figure *7 42*; they are given whole on that row. *æquat.* is abbreviated: it can be the adjective (*æquatoriis*, "equatorial degrees") or the noun (*æquatoris*, "degrees of the equator"); the page does not print which. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

Afterwards, when ☉ had risen, ☉ and ☿ were observed in the way that follows; and ☿ came very close to the meridian. [Poſtea exorto ☉ obſeruabatur ☉ & ☿] [in hunc qui ſequitur modum, appro-] [pinquauit autem ☿ plurimum ad Me-] [ridianum.][2191]

8^h $53¾^m$: ☿ was then precisely in the meridian. Altitude 24° 52¼′. [8 53¾ fuit tunc ☿ exquiſite in Merid.] [Alt. 24 52¼][2192]

Time [H. M.]	Distance of ☿ and ☉ [Diſt. ☿ & ☉]	Altitude of ☉ [Altit. ☉]
8^h $56½^m$ [8 56½]	46° 34′ doubtful [dubia]	2° 30′
9^h $0½^m$ [9 0½]	46° 35½′	2° 48′
9^h $3¾^m$ [9 3¾]	46° 35′ better [melior]	3° 10′
9^h $10¾^m$ [9 10¾]	46° 38′	3° 28′
9^h $13⅝^m$ [9 13⅝]	46° 37½′ better [melior]	3° 43′
9^h $20¾^m$ [9 20¾]	46° 39′	4° 15′
9^h $23⅔^m$ [9 23⅔]	46° 40′	4° 31′

2193

☿, around these observations, was near the meridian, having passed it a very little; so its altitude and declination did not vary perceptibly from that which was made near the meridian. You can therefore use everywhere the southern declination of ☿, 9° 14′. [☿ circa has obſeruationes erat iuxta] [Meridianum paululum eum præter-] [greßa, vnde altitudo & declinatio eius] [non variabat ſenſibiliter ab ea, quæ] [iuxta Meridianum fiebat, potes itaque] [vti vbique declinatione ☿ 9 14 meri-] [dionali.][2194]

Time	Distance of ☿ and ☉ [Diſt. ☿ & ☉]	Altitude of ☉ [Altit. ☉]	Azimuth of ☉ [Azim. ☉]
9^h $36⅓^m$ [9 36⅓]	46° 43′	5° 26′	

[2191] *non ſaltem … ſed etiam* is given as "not only … but also". *ea quæ prius … obſeruabantur* is given as "those that were observed earlier"; *ea* is taken as governed, like *hæc tempora*, by *ad*, and "[for]" is supplied. *applicandus* is a gerundive, "which is to be applied". *anteriores … remotæ* is feminine plural and is taken with *obſeruationibus*. *autem* is given as "however" in the first sentence and as "and" in the second. *plurimum* is given as "very close".

[2192] The time, printed without marks, is given as hours and minutes; *24 52¼*, printed without unit marks, as degrees and minutes. *exquiſite* is given as "precisely".

[2193] All three heads are the page's, in smaller roman. *dubia* and *melior* stand after the distance figures of their rows and are given with them. The values, printed without unit marks, are given as degrees and minutes. The printed distances fall from 46° 35½′ to 46° 35′ and from 46° 38′ to 46° 37½′ in a series that otherwise rises; the two lower figures are those marked *melior*; all are given as printed.

[2194] The paragraph runs from the foot of the left-hand column to the head of the right-hand column. *iuxta Meridianum* is given as "near the meridian". *ab ea, quæ … fiebat* is feminine singular and has no noun on the page; it is given as "from that which was made"; it can refer to the altitude or the declination, or to an observation. *9 14*, printed without unit marks, is given as degrees and minutes; *meridionali* is "southern".

Time	Distance of ☿ and ☉ [Diſt. ☿ & ☉]	Altitude of ☉ [Altit. ☉]	Azimuth of ☉ [Azim. ☉]
9^h 39^m [9 39]	46° 42⅙′	5° 38′	
9^h $40⅙^m$ [9 40⅙]	46° 42½′	5° 42′	32° 36′
9^h 41^m [9 41]	46° 41⅓′	5° 45′	

2195

2196

[It] was not possible to observe further because of the clouds. [Vlterius non licuit obſeruare prop-] [ter nubes.]

Note. These later observations are a little more exact than the preceding ones; but you can, without perceptible error, presuppose at about 9^h 40^m a distance of ☿ from ☉ of 46° 42′, at an altitude of ☉ of 5° 40′. It is to be noted, however, that ☿ had everywhere already passed the meridian somewhat; and this, with regard to the hindrances of parallax and refraction that are to be guarded against, is to be distinguished from the other, antemeridian position. [Nota. Hæ poſteriores obſeruationes] [ſunt paulo exactiores antecedentibus;] [potes autem absque ſenſibili errore] [circa horam 9 M. 40 præſupponere ☿] [a ☉ diſtantiam 46 42 in altitudine ☉] [part. 5 M. 40. Animaduertendum vero,] [quod ☿ vbique Meridianum iam ali-] [quantulum præterierat, quod circa] [Parallaxeos & refractionis impedi-] [menta præcauenda ab altero ſitu ante-] [meridiano diſcernendum venit.][2197]

On 5 December [DIE 5 DECEMBRIS.]

First thing in the morning the clock was corrected against the heart of ♌ at 5^h $27⅓^m$, so that it would be right. [Mane primo corrigebatur horolo-] [gium ad cor ♌ Hora 5 M. 27⅓, vt illud] [recte ſe haberet.][2198]

[2195] "Time" is this edition's head; the page prints none over the first column. The other three heads are the page's, in smaller roman, one line each. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2196] The printed distances of ☿ and ☉ in this table run 46° 43′, 46° 42⅙′, 46° 42½′, 46° 41⅓′, falling except at 9 40⅙, while those of the table before it rise from 46° 34′ to 46° 40′; all are given as printed.

[2197] *horam* fixes 9 as hours and *M.* fixes 40 as minutes; *part.* fixes 5 as degrees and *M.* fixes 40 as minutes; *46 42*, printed without unit marks, is given as degrees and minutes. *autem* is given as "but" and *vero* as "however". *circa* with *impedimenta* is given as "with regard to"; *diſcernendum venit* as "is to be distinguished". *Parallaxeos* is the Greek genitive of *parallaxis*.

[2198] *Hora* fixes 5 as hours and *M.* fixes 27⅓ as minutes. *ad cor* ♌ is given as "against the heart of ♌"; it can also be taken as "at the heart of ♌". *cor* ♌ is given as "the heart of ♌".

Time [H. M.]	Distance between ♀ and Spica [Dist. inter] [♀ & Spicam]	Declination of ♀ [Decl.] [♀]	Altitude of ♀ [Alt.] [♀]	Azimuth of ☉ [Azim.] [☉]	Remark
6h 26⅙m [6 26⅙]	15⅓′				but the observation was made among recurring clouds [ſed obſeruatio fiebat in-] [ter recurrentes nubes]
6h 30¾m [6 30¾]	15⅓′	11° 0′			*also cloudy* [etiam nubil.]
6h 36⅙m [6 36⅙]	15⅚′		17° 4′	36° 4′	
6h 38m [6 38]	15½′	10° 59½′	17° 25′		good (these three distances) [bonæ]
6h 40½m [6 40½]	15⅔′				
6h 42⅔m [6 42⅔]	15⅙′	11° 0′	17° 55′		
6h 47½m [6 47½]	16½′	11° 0⅓′	18° 9′	33° 27′	
6h 52¾m [6 52¾]	17′	10° 59⅔′	18° 29′	32° 40′	
		11° 0⅙′ with the other [alt.]			
6h 54⅚m [6 54⅚]	17⅙′ good [bona]				
6h 56m [6 56]	17⅓′ good [bona]				
7h 3m [7 3]			19° 13′	29° 7′	
7h 5¾m [7 5¾]	17⅓′	11° 0′	19° 24′	28° 55′	
		11° 0¼′ with the other [alt.]			
7h 25½m [7 25½]	18′	11° 0⅓′	20° 31′	24° 40′	
7h 27m [7 27]	18½′	11° 0½′ with the other [alt.]			
7h 29¾m [7 29¾]	17⅔′				
7h 34m [7 34]	18⅔′		20° 59′	23° 55′	
7h 35⅓m [7 35⅓]	19′				

2199

Time	Reading	Value
7^h 44½^m [7 44½]	Spica ♍ was seen to have passed the meridian [Videbatur Spicæ ♍] [tranſiuiße Merid.]	2° 20′
7^h 50⅙^m [7 50⅙]		3° 24′

2200

From this the clock can be rectified. [Hinc poteſt rectificari horologium.]

Note. All these observations on the star ☿ are very good and suitable for investigating its apogee and eccentricity and for restoring its true motion; for ☿ was near the very limit of greatest remoteness from ☉, in the morning position. But you can rely above all on the following observations made by ♃ to ☿, because ☿ was then more elevated and introduced no perceptible refraction. It is nevertheless advisable that the preceding observations made from ☿ to Spica be used together. The place of ♃, however, will be able to be established with certainty from the distances of it from the heart of ♌ and Spica ♍ set out before, obtained the other way round. [Nota. Hæ omnes obſeruationes in] [☿ ſtella ſunt admodum bonæ & oppor-] [tunæ pro eius Apogæo & Eccentrici-] [tate inquirendis & vero ipſius motu] [reſtituendo; erat enim ☿ iuxta ipſum] [terminum maximæ remotionis a ☉ in] [ſitu matutino; potes autem potißi-] [mum fidere ſequentibus obſeruatio-] [nibus per ♃ ad ☿ factis, eo quod ☿] [tunc eleuatior eßet & nullam ſenſibi-] [lem refractionem inſinuaret. Conſul-] [tum eſt nihilominus, vt vna adhibe-] [antur antecedentes obſeruationes a ☿]

2199 The first five heads are the page's, in smaller roman, the last four on two lines each; the sign under *Azim.* is printed ☉. "Remark" is this edition's head, for the words the page prints after the figures of three rows. The words on the row at 6 26⅙ run across the third to fifth columns over two lines. *etiam nubil.* is set in italic after the declination *11 0*; *nubil.* is abbreviated: it can be the adjective ("cloudy") or the noun *nubilum* ("cloudy weather"); the page does not print which. A single brace joins the distances of the rows at 6 38, 6 40½ and 6 42⅔ to *bonæ*; it is given once, on the first of them, for all three. *bona* on the rows at 6 54⅚ and 6 56 stands after the distance figure and is given with it. *alt.* is given as "with the other"; two rows with no time carry *alt.* and a declination under the rows above them. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The printed distances fall from 19° 15⅚′ to 19° 15½′, from 19° 15⅔′ to 19° 15⅙′ and from 19° 18½′ to 19° 17⅔′ in a series that otherwise rises; they are given as printed. Empty cells are empty on the page.

2200 "Time", "Reading" and "Value" are this edition's heads; the page prints none. These rows follow the table above; the words run over the two rows from the second column, and the figures stand at the right, under the fifth column (above, "Azimuth of ☉"); the words are given whole on the first row. The page prints *Spicæ*, in the genitive or dative; it is given as the subject of *Videbatur … tranſiuißе. Merid.* is given as "the meridian". The times, printed without marks, are given as hours and minutes; the figures, printed without unit marks, as degrees and minutes.

[ad Spicam factæ. Locus autem ♃ cer-] [to conſtare poterit ex præmiſſis di-] [ſtantijs eius a corde ♌ & Spica ♍ vice-] [verſa habitis.][2201]

Afterwards ♃ was observed from ♀, because no fixed stars appeared sufficiently any longer on account of the dawn; but the place of ♃ can be applied here according to those observations which we had a little before, taken on both sides in its distances from the heart of ♌ and Spica ♍. [Poſtea obſeruabatur ♃ a ♀ eo quod] [nullæ fixæ amplius ſatis apparuerint] [propter diluculum, poteſt autem ♃ lo-] [cus huc applicari ſecundum eas ob-] [ſeruationes, quas paulo ante habui-] [mus in diſtantijs eius a corde ♌ &] [Spica ♍ vtrinque ſumptas.][2202]

Time [Tempus]	Between ♃ and ♀ [Inter ♃] [& ♀]	Declination of ♀ [Decl.] [♀]	Altitude of ♀ [Alt.] [♀]	Azimuth of ♀ from the meridian toward the east [Azim. ♀] [a mer.] [verſ. ort.]
7^h 57¾^m [7 57¾]	49° 23¾′		21° 59½′	16° 55′
8^h 4¾^m [8 4¾]	49° 24′		22° 13′	14° 40′
8^h 6⅓^m [8 6⅓]	49° 24⅔′			
8^h 13⅓^m [8 13⅓]	49° 24⅙′* [49 24⅙*]	10° 59½′	22° 29′	12° 56′
8^h 19⅙^m [8 19⅙]	49° 25′ doubtful [dubia]			

* better [*melior][2203]

[2201] The page opens with this note, after the 5 December entry on p. 300. *vero ipſius motu* is taken as "its true motion" (*vero* an adjective with *motu*); *& vero* can also be read "and indeed", giving "and indeed for restoring its motion". *iuxta ipſum terminum* is given as "near the very limit"; *remotionis* as "remoteness". *per ♃ ad ♀* is given word for word, "by ♃ to ♀"; it can also be taken as "by means of ♃, to ♀". *eleuatior* is a comparative, "more elevated". *vna* is the adverb "together". *poterit* is future, "will be able to". *præmiſſis* is given as "set out before"; *vice-verſa* as "the other way round"; *habitis* as "obtained".

[2202] *ſumptas* agrees with *quas* (the observations); *vtrinque* is given as "on both sides". *diluculum* is "the dawn".

[2203] All five heads are the page's, in smaller roman; *Azim.* ♀ stands a little higher than the others, a little below the level of the last line of the paragraph above. On the page **melior*, with the asterisk before the word, stands at the right of the row at 8 19⅙, under the fifth column; it is a reference keyed by its asterisk to the asterisk printed after *49 24⅙* on the row at 8 13⅓, and it qualifies that distance, not the doubtful distance of the row it stands in. It is given below the table as a key line, and the asterisk is carried on the English value 49° 24⅙′. *dubia* stands after the distance figure of its row and is given with it. *a mer. verſ. ort.* is given as "from the meridian toward the east". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The azimuths fall by 2° 15′ in the 7^m from 7 57¾ to 8 4¾ and by 1° 44′ in the 8 $7/12^m$ from 8 4¾ to 8 13⅓; all figures are given as printed.

Here you can use the distance 49° 24⅓′ and the declination 11° 0′ south. [Potes hic vti diſtantia 49 24⅓ & de-] [clin. 11 0 mer.][2204]

At 9^h $16\frac{5}{6}^m$, when ♀ was distant from the meridian toward the west, its altitude, 23° 7′, was observed; but this [was] less certain, for [it] was scarcely seen. [H. 9 16⅚ cum diſtaret ♀ a merid. ver-] [ſus occaſum, obſeruata eſt eius alti-] [tudo 23 7, ſed hæc minus certa, vix] [enim conſpiciebatur.][2205]

At noon the clock was moving $8\frac{5}{6}^m$ faster than it should, from 5^h in the morning, at which [hour] it was corrected against the stars. [Horologium in meridie iuſto citius] [mouebatur 8⅚ M. ab hora 5 matutina,] [qua corrigebatur ad ſtellas.][2206]

On 6 December, in the morning [DIE 6 DECEMBRIS, MANE.]

At $5\frac{1}{3}^h$ the clock was rectified. [Hora 5⅓ rectificabatur Horologium.]

First ♀ was observed from the scale-pans of Libra, especially from the more northerly [one], which with the star ♀ was approximately at balance with respect to the horizon. [Primo obſeruabatur ♀ a lancibus] [libræ, præſertim a borealiori, quæ] [cum ſtella ♀ fuit quaſi ad æquilibri-] [um Horizontis.][2207]

Note. On this day the clear weather was more continuous than yesterday's, so the following observations are safer. [Nota. Erat hoc die magis continua] [ſerenitas quam heſterna, vnde ſe-] [quentes obſeruationes ſunt tutiores.][2208]

Time [Tem-] [pus]	Between ♀ and the northern scale-pan of ♎ [Inter ♀ &] [Bor. lanc.] [♎]	Altitude of ♀ [Alt. ♀]	Declination of ♀ [Decl. ♀]	Azimuth of ♀ from the meridian toward the east [Azim. ♀] [a mer.] [verſ. ort.]
6^h $4\frac{1}{2}^m$ [4½]	[68° 5½′	14° 35′		42° 10′
6^h 8^m [8]	[6 8° 5′		11° 17′	
6^h $14\frac{1}{3}^m$ [14⅓]	[8° 4½′	15° 28′	11° 17′	40° 29′
6^h $18\frac{1}{2}^m$ [18½]	[6° 4½′	16° 19′		39° 20′
6^h $22\frac{5}{6}^m$ [22⅚]	[8° 2′		11° 17⅓′	

[2204] *49 24⅓* and *11 0*, printed without unit marks, are given as degrees and minutes; *mer.* after a declination is "south". The table above prints the distance marked *melior* as *49 24⅙* and the declination as *10 59½*; this line prints *49 24⅓* and *11 0*; both are given as printed.

[2205] *H.* fixes 9 as hours; *16⅚* is given as minutes. *23 7*, printed without unit marks, is given as degrees and minutes. *hæc* is feminine and is taken with *altitudo*.

[2206] *M.* fixes 8⅚ as minutes and *hora* fixes 5 as hours. *ad ſtellas* is given as "against the stars", as *ad cor* ♌ "against the heart of ♌" on p. 300.

[2207] *Hora* fixes 5⅓ as hours. *libræ* is printed with a lower-case initial; it is given as "of Libra" (the constellation, whose sign ♎ heads the table below); "of the balance" is the other English. *ad æquilibrium Horizontis* is given as "at balance with respect to the horizon", as p. 201 gives *in æquilibrio … horizontis*; word for word it is "at the balance of the horizon".

[2208] *vnde* is given as "so"; *tutiores* is a comparative, "safer".

Time [Tem-] [pus]	Between ♀ and the northern scale-pan of ♎ [Inter ♀ &] [Bor. lanc.] [♎]	Altitude of ♀ [Alt. ♀]	Declination of ♀ [Decl. ♀]	Azimuth of ♀ from the meridian toward the east [Azim. ♀] [a mer.] [verſ. ort.]
			11° 17½′ with the other [alt.]	
6h 28½m [28½]	8° 1′	16° 42′		37° 40′
6h 31⅚m [31⅚]	8° 4′			
6h 34⅙m [34⅙]	8° 3⅔′		11° 17½′ with both [vtroq.]	
6h 38½m [38½]	8° 4⅙′	17° 23½′		34° 10′

2209

I myſelf obſerved with the Radius the diſtance between ♀ and the more ſoutherly ſcale-pan of ♎, and found [it] once 2° 52′, on repeating 2° 52′. And these two observations are ſufficiently good, as far as can be obſerved with the Radius, but they ſerve rather for inveſtigating the latitude of ♀; for both theſe ſtars were approximately in one vertical circle. [Ego ipſemet obſeruabam per ra-] [dium diſt. inter ♀ & meridionaliorem] [lancem ♎, inuenique ſemel 2ᵍ 52′,] [reiterando 2 52. Suntque hæ duæ ob-] [ſeruationes ſatis bonæ quantum per] [radium obſeruari poteſt, ſed faciunt] [potius ad latitudinem ♀ peruęſtigan-] [dam, erant enim ambæ hæ ſtellæ] [quaſi in vno circulo verticali.][2210]

Time	Between ♀ and Spica [Inter ♀] [& Spicam]	Altitude of ♀ [Altit. ♀]	Declination of ♀ [Decl. ♀]	Azimuth of ♀ [Azim. ♀]
7h 18⅚m [18⅚]	20° 17⅓′	20° 5′		24° 6′
7h 22⅙m [22⅙]	20° 18¾′ doubtful [dubia]	20° 32′	11° 18′ with both [vtroque]	24° 55′
7h 28⅙m [28⅙]	20° 17½′	20° 35′		22° 30′

[2209] All five heads are the page's, in smaller roman; *Bor. lanc.* is given as "the northern scale-pan" and *a mer. verſ. ort.* as "from the meridian toward the east". The row with no time carries *alt.* and a declination under the row at 6 22⅚; *alt.* is given as "with the other" and *vtroq.* as "with both". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The printed distances fall from 8° 5½′ to 8° 1′ and then stand at 8° 4′, 8° 3⅔′ and 8° 4⅙′. The altitudes rise by 53′, 51′, 23′ and 41½′ over intervals of 9⅚m, 4⅙m, 10m and 10m, and the azimuths fall by 1° 41′, 1° 9′, 1° 40′ and 3° 30′ over the same intervals. All are given as printed.

[2210] *2ᵍ 52′*: the small *g* fixes 2 as degrees and the prime fixes 52 as minutes; *2 52* after *reiterando*, printed without unit marks, is given as degrees and minutes. *obſeruabam* is imperfect, given as "observed". *faciunt … ad* is given as "serve for". *per radium* is given as "with the Radius". *ambæ hæ ſtellæ* is given as "both these stars"; the page does not name them.

Time	Between ☿ and Spica [Inter ☿] [& Spicam]	Altitude of ☿ [Altit. ☿]	Declination of ☿ [Decl. ☿]	Azimuth of ☿ [Azim. ☿]
7^h $31¾^m$ [7 31¾]	20° 17′	20° 46′	11° 18′	21° 18′
7^h 36^m [7 36]	20° 17⅔′		with both [vtroque]	
7^h $39⅓^m$ [7 39⅓]	[it] was not good [non erat bona.]		11° 17¾′	

2211

N. B. All these observations concerning ☿ made on this day are very good for verifying its position near the greatest morning remoteness from ☉, and can be compared with the preceding day. [N. B. Omnes hæ obſeruationes circa] [☿ hoc die factæ ſunt admodum bonæ,] [pro ſitu eius verificando iuxta maxi-] [mam remotionem a ☉ matutinam, &] [poßunt conferri cum antecedenti die.][2212]

At 7^h $36½^m$, to rectify the clock, Spica ♍ was observed when [it] had already just passed the meridian; and [it] was then at azimuth 2° 10′ west, altitude 25° 0′. [H.7 36½ Pro rectificando horologio ob-] [ſeruabatur ſpica ♍ cum iam pro-] [xime tranſierat Merid., eratque] [tunc in Azimutho occ. 2° 10′, Alt.] [25 0.]

At 7^h $39⅚^m$ the equatorial distance of Spica from the meridian toward the west was 2° 49′; and from these two the clock can be verified, which had been corrected against the heart of ♌ at about $5⅓^h$. [7 39⅚ Fuit diſt. æquat. ſpicæ a

[2211] "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, in smaller roman. On the row at 7 22⅙ *dubia* and *vtroque* stand on a line of their own, under *20 18¾* and under *11 18*; a single brace at the right of *20 18¾* and of *dubia* encloses the two lines, and "doubtful" is given with that distance. On the row at 7 36 *vtroque* stands in the declination column with no figure of its own, under the *11 18* of the row at 7 31¾. *vtroque* is given as "with both". On the row at 7 39⅓ the words *non erat bona.* run from the second column into the third; *bona* is feminine and has no noun on the page, so "[it]" is supplied. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. On the row at 7 22⅙ the altitude rises 27′ in $3⅓^m$ and the azimuth rises 49′, where on the following rows the altitude rises 3′ in 6^m and 11′ in 3 7/12^m and the azimuth falls; all figures are given as printed.

[2212] *factæ* is taken as a participle and *ſunt* with *bonæ* ("made … are very good"); taken together, *factæ ſunt* gives "were made, very good, for verifying …". *circa* ☿ is given as "concerning ☿"; *iuxta … remotionem* as "near".

Merid.] [verſus occ. 2 49, atque ex his duo-] [bus poteſt verificari horologium,] [quod erat correctum ad cor ♌] [circa horam 5⅓.][2213]

There now follow observations between ♃ and ♀, because of the dawn, which did not allow other stars to be seen. [Sequuntur nunc obſeruationes inter] [♃ & ♀ propter diluculum quod non pa-] [tiebatur alias ſtellas videri.]

Time [Tempus]	Distance of ♃ and ♀ [Diſt. ♃] [& ♀]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]
$7^h\ 50^m$ [7 50]	50° 22′			
$7^h\ 54^m$ [7 54]	50° 22′		21° 42′	14° 58′ uncertain [incerta]
$7^h\ 59\frac{1}{6}^m$ [7 59⅙]	50° 22⅔′		21° 52′	13° 35′ doubtful [dubia]
$8^h\ 3\frac{1}{2}^m$ [8 3½]	50° 23′	11° 19′	22° 0′	13° 32′
		11° 19½′ with the other [alt.]		
$8^h\ 8^m$ [8 8]	50° 23′		22° 10′	12° 45′
$8^h\ 13\frac{1}{2}^m$ [8 13½]	50° 22′		22° 18′	9° 56′
$8^h\ 19\frac{1}{3}^m$ [8 19⅓]	50° 21⅚′	11° 19½′	22° 24′	8° 28′
		11° 20′ with the other [alt.]		
$8^h\ 22\frac{3}{4}^m$ [8 22¾]	50° 21⅚′		22° 30′	7° 29′
$8^h\ 24\frac{1}{2}^m$ [8 24½]		11° 20′		
		11° 19¾′		
$8^h\ 26\frac{1}{2}^m$ [8 26½]	50° 21¾′		22° 33′	6° 50′

[2213] *H.* fixes 7 as hours; *36½* is given as minutes; *7 39⅚*, printed without marks, is given as hours and minutes. *ſpica* and *ſpicæ* are printed with a lower-case initial. *proxime* is given as "just"; it can also be taken as "very nearly". *Merid.* is given as "the meridian". *in Azimutho occ.* is given as "at azimuth … west"; *2° 10′* is printed with its marks; *25 0* and *2 49*, printed without unit marks, are given as degrees and minutes. *diſt. æquat.* is abbreviated: *æquat.* can be the adjective ("equatorial distance") or the noun ("distance on the equator"); the page does not print which. *ex his duobus* has no noun on the page and is given as "from these two". *horam* fixes 5⅓ as hours.

2214

You can use, at about $8\frac{1}{4}^{h}$, the distance of ☿ and ♀ 50° 22½′ and the declination of ♀ 11° 19½′ without any perceptible error. [Potes circa horam 8¼ vti diſtantia ☿] [& ♀ 50 22½, & declin. ♀ 11 19½] [absque omni ſenſibili errore.][2215]

Time	Reading	Value
8^{h} $30\frac{1}{3}^{m}$ [8 30⅓]	Repeated declination [Repetita declinatio]	11° 19¾′
	with the other [alt.]	11° 19⅚′

2216

These declinations of ♀ are better. [Hæ declinationes ♀ ſunt meliores.]

At 8^{h} $51\frac{5}{6}^{m}$ ♀ passed through the meridian, having an altitude of 22° 45⅓′, *and that by the revolving quadrant.* [8 51⅚ Tranſiuit ♀ per merid. habens] [alt. 22 45⅓ idque per Quadrantem] [Volub.][2217]

Reading	Value
Altitude of the Equator [Altitudo æquatoris]	34° 5′ 10″
Meridian altitude of ♀ [Altit. Merid. ♀]	22° 45′ 20″
Declination of ♀ [Declin. ♀]	11° 19′ 50″

[2214] These are the observations between ☿ and ♀ announced at the foot of p. 301; the page opens with this table's heads, all five the page's, in smaller roman. On the rows at 7 54 and 7 59⅙ the words *incerta* and *dubia* stand on a line of their own under the azimuth figure, and a single brace at the right joins each word to that figure; each is given with the azimuth of its row. *incerta* is feminine (or neuter plural) and *dubia* likewise; neither names its noun. Two rows with no time carry *alt.* and a declination under the rows at 8 3½ and 8 19⅓; *alt.* is given as "with the other". The row with no time under 8 24½ carries a declination only, with no word. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The azimuth falls by 1° 23′ in $5\frac{1}{6}^{m}$ from 7 54 to 7 59⅙, by 3′ in $4\frac{1}{3}^{m}$ to 8 3½, by 47′ in $4\frac{1}{2}^{m}$ to 8 8 and by 2° 49′ in $5\frac{1}{2}^{m}$ to 8 13½; the figures at 7 54 and 7 59⅙ are those marked *incerta* and *dubia*; all are given as printed.

[2215] *horam* fixes 8¼ as hours. *50 22½* and *11 19½*, printed without unit marks, are given as degrees and minutes; *11 19½* stands at the right of the column. *circa horam* is given as "at about".

[2216] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The words stand from the second column and the figures at the right; *alt. 11 19⅚* stands on the next line under *11 19¾*. *alt.* is given as "with the other". The time, printed without marks, is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2217] The time, printed without marks, is given as hours and minutes; *22 45⅓*, printed without unit marks, as degrees and minutes. *per Quadrantem Volub.* is given as "by the revolving quadrant" (*Volub.* expanded as *Volubilem*); the words are italic on the page. *merid.* is "the meridian".

2218

This agrees sufficiently with the declinations of ♀ taken most recently by the greater armilla; so there is no doubt that such was the declination of ♀ around that time, when it passed through the meridian. The remaining differences which from the first morning observation of ♀.[1] [Quod satis conuenit cum declinatio-] [nibus ♀ vltimo per Armillam maiorem] [acceptis, vnde dubium non est talem] [fuiße declinationem ♀ circa id tem-] [pus, cum meridianum pertranſiuit.] [Reliquæ differentiæ quæ a prima ♀] [matutina obſeruatione[1].][2219]

Note. When these observations of ♀ to the Sun were being made, ♀ had already passed the meridian somewhat. [Nota. Cum hæ obſeruationes fierent] [in ♀ ad Solem, iam tranſierat ♀ ali-] [quantulum Meridianum.][2220]

Time [Tem-pus]	Between ♀ and ☉ [Inter ♀] [& ☉]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ from the meridian toward the east [Azim. ☉] [a mer.] [ad ort.]	Limitation of the distances of ☉ and ♀ [Limitatio] [diſtantia-] [rum ☉ & ♀]
$9^h\ 15^m$ [15]	[946° 48½′	3° 10′		
$9^h\ 18^m$ [18]	[946° 48⅔′	3° 22′		46° 49′
$9^h\ 20⅙^m$ [20⅙]	[46° 50′	3° 33′		46° 50′
$9^h\ 23⅙^m$ [23⅙]	[46° 52′	3° 56′		46° 51′
$9^h\ 26^m$ [26]	[946° 51′ better [melior]	4° 5′		46° 52′
$9^h\ 28½^m$ [28½]	[46° 52½′	4° 21′		46° 52½′
$9^h\ 41⅚^m$ [41⅚]	[46° 53½′	5° 21′	32° 7′	46° 53½′
$9^h\ 45½^m$ [45½]	[46° 53½′	5° 32′	31° 24′	46° 54′
$9^h\ 56^m$ [56]	[946° 57′* [46 57*]	6° 18′	29° 5′	46° 55′
$9^h\ 58^m$ [58]	[946° 58′* [46 58*]	6° 26′	28° 40′	46° 56′
$10^h\ 34^m$ [34]	[46° 58′† [46 58†]	8° 30′		46° 57¾′
$10^h\ 36^m$ [36]	[46° 58′† [46 58†]	8° 37′		46° 58′

2218 "Reading" and "Value" are this edition's heads; the page prints none. The figures, three to a line and printed without unit marks, are given as degrees, minutes and seconds. *Merid.* after an altitude is "meridian". The third line is the difference of the first two (34° 5′ 10″ − 22° 45′ 20″ = 11° 19′ 50″); the meridian altitude 22° 45′ 20″ is the 22° 45⅓′ of the line above.

2219 *vltimo* is given as "most recently"; it can also be taken as "last". *per Armillam maiorem* is given as "by the greater armilla" (singular on the page). *talem* is given as "such". The last sentence, *Reliquæ differentiæ quæ a prima ♀ matutina obſeruatione*, has no main verb on the page; it is translated word for word and left incomplete, as the footnote marks it.

2220 *in ♀ ad Solem* is given as "of ♀ to the Sun"; word for word it is "on ♀ to the Sun".

Time [Tem-pus]	Between ☿ and ⊙ [Inter ☿] [& ⊙]	Altitude of ⊙ [Alt. ⊙]	Azimuth of ⊙ from the meridian toward the east [Azim. ⊙] [a mer.] [ad ort.]	Limitation of the distances of ⊙ and ☿ [Limitatio] [diſtantia-] [rum ⊙ & ☿]
10h 57m [10h 57]	46° 57′* [46 57*]	9° 30′	15° 27′	

* doubtful † better [* dubia † melior][2221]

Note. At the noon immediately following, the clock was moving faster than it should by only 4m; this error is to be imputed to it from 5⅓h in the morning, at which [hour] it was corrected; and from this the preceding times can be rectified. [Nota. Horologium in Meridie mox] [ſequente ſaltem 4 ſcrupulis primis] [iuſto celerius mouebatur, qui error] [illi ab hora 5⅓ matutina, qua corrige-] [batur, imputandus venit, atque hinc] [rectificari poßunt antecedentia tem-] [pora.][2222]

Put, at about 9h 25m, at an altitude of 4°, the distance of ☿ and ⊙ 46° 52′; and at 10h 35m, at an altitude of 8½°, 46° 58′. [Pone circa horam 9 25 in altitudine] [4 partium diſt. ☿ & ⊙ 46 52] [& H. 10. 35 in alt. 8½ part. 46 58][2223]

On 7 December [DIE 7 DECEMBRIS.]

The clock was corrected at 5½h. [Horologium emendabatur hora 5½.]

[2221] All five heads are the page's, in smaller roman, over the table in the left-hand column; the last seven rows stand at the head of the right-hand column under no heads of their own, in the same five columns, and are given in the same table. *a mer. ad ort.* is given as "from the meridian toward the east". *Limitatio* is given as "Limitation", as on p. 147. On the row at 9 26 *melior* stands on a line of its own under the distance figure, and a single brace at the right joins the word to that figure. The key line, centred under the table on the page, explains the asterisks and daggers set after the distance figures. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The altitudes of ⊙ rise by 12′ in 3m from 9 15 to 9 18, by 11′ in 2⅙m to 9 20⅙, by 23′ in 3m to 9 23⅙, by 9′ in 2⅚m to 9 26 and by 16′ in 2½m to 9 28½; the figure 3° 56′ at 9 23⅙ stands out of that rate. The distances fall from 46° 52′ to 46° 51′ at 9 26 (the figure marked *melior*) and from 46° 58′ to 46° 57′ at 10 57. All figures are given as printed.

[2222] *ſcrupulis primis* fixes 4 as minutes (of time) and *hora* fixes 5⅓ as hours. *ſaltem* is given as "only"; it can also be taken as "at least". *in Meridie mox ſequente* is given as "at the noon immediately following". *imputandus venit* is given as "is to be imputed"; *illi* as "to it" (the clock).

[2223] *horam* and *H.* fix 9 and 10 as hours; *25* and *35* are given as minutes. *partium* and *part.* fix 4 and 8½ as degrees. *46 52* and *46 58*, printed without unit marks, are given as degrees and minutes. *Pone* is "Put" (an imperative, as on earlier pages). The second clause has no noun for its figure on the page; "the distance" is not repeated. These values stand beside the table's limitation column (46° 51′ and 46° 52′ at altitudes 3° 56′ and 4° 5′; 46° 57¾′ and 46° 58′ at 8° 30′ and 8° 37′); they are not a stated sum or mean.

Time [H. M.]	Distance of ♀ from the northern scale-pan of ♎ [Diſt. ♀ a] [bor. lanc. ♎]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]	Azimuth [Azim.]
5^h $47½^m$ [5 47½]	7° 21½′		12° 40′	45° 44′
5^h $53⅚^m$ [5 53⅚]	7° 20′ twice [bis]		13° 17′	44° 12′
5^h $57¾^m$ [5 57¾]	7° 20¼′ good [bona]		13° 36′	43° 15′
6^h $0⅘^m$ [6 0⅘]	7° 20′	11° 35′	13° 54′	42° 45′
	Distance of ♀ from the southern scale-pan of ♎ [Diſt. ♀ a] [mer. lanc. ♎]	11° 34½′ with the other [alt.]		
6^h $7¾^m$ [6 7¾]	2° 41¼′	11° 35′ with the other [altero]		
6^h 11^m [6 11]	2° 41⅓′		14° 50′	40° 25′
6^h $13¾^m$ [6 13¾]	2° 41⅙′			
6^h $16⅓^m$ [6 16⅓]	2° 41¼′	11° 35′	15° 27′	39° 17′
		with both, nearly [vtroque, fere]		

2224

Note. With the Radius I obtained the same distance, 2° 40′, very nearly. [Nota. Per radium accepi eandem] [diſtantiam 2° 40′ proxime.][2225]

Note. Although these observations of ♀ were made not far above the horizon, nevertheless, because all these three stars were in an approximately similar position above the horizon, and therefore introduced refraction in one and the same way, so the distances themselves too will be right. And the northern scale-pans of Libra were approximately in balance with respect to the horizon with ♀, except that that star of Libra was a little more elevated, but the other, for the lati- [Nota. Hæ obſeruationes ♀ etſi fue-] [runt non longe ſupra Horizontem fac-] [tæ, tamen quia fuerunt in conſimili] [quaſi ſitu

[2224] The first five heads are the page's, in smaller roman; *Azim.* is printed with no sign, and "Azimuth" is given without one. *bor. lanc.* is "the northern scale-pan". After the row at 6 0⅘ the page sets a second head over the second column, *Diſt.* ♀ *a* / *mer. lanc.* ♎, on two lines; it is given in the second column of the row where its first line stands, and it heads the distances below it. *mer.* before *lanc.* is taken as *meridionali*, "southern" (as *meridionaliorem lancem* on p. 301). On the line of *Diſt.* ♀ *a* the page prints *11 34½ alt.* under the declination column, with no time. *bis* is given as "twice", *bona* as "good", *alt.* and *altero* as "with the other". *vtroque, fere* stands on a line of its own below the row at 6 16⅓, under the declination column and beyond it; it is given as "with both, nearly" in the declination column of its own line. The times, printed without marks, are given as hours and minutes (0⅘ with a fraction in fifths); the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The azimuths fall by 1° 32′ in $6⅓^m$, by 57′ in 3^m 55^s, by 30′ in 3^m 3^s, by 2° 20′ in 10^m 12^s and by 1° 8′ in $5⅓^m$; the fall of 30′ to 42° 45′ at 6 0⅘ is slower than the others; all figures are given as printed.

[2225] *2° 40′* is printed with its marks. *proxime* is given as "very nearly"; *eandem* as "the same".

ſupra Horizontem omnes hæ] [tres ſtellæ, ideoque refractionem vno] [& eodem modo inſinuabant, quare] [ipſæ quoque diſtantiæ recte ſe habe-] [bunt. Erant autem boreales lances] [libræ cum ♀ quaſi in æquilibrio Hori-] [zontis, niſi quod ſtella illa libræ erat] [paulo eleuatior, altera vero pro lati-][2226]

Footnote 1: Thus in codex D. [1 Sic in codice D.]

tude of ♀ only, is suitable; for a straight line drawn from this southern star in the scale-pan fell sufficiently precisely toward the little stars situated near the pole of the zodiac, as far as could be noticed by sight alone. And ♀ was more northern than this southern star of the scale-pan, but the other was both somewhat more northern than ♀ and also more eastern. [tudine ♀ ſaltem opportuna eſt, nam] [linea recta ducta ab hac ſtella meridi-] [onali in lance cadebat ſatis præciſe] [verſus ſtellulas iuxta Polum Zodiaci] [ſitas, quantum ſolo intuitu animad-] [uertere licuit, erat autem ♀ hac ſtella] [meridionali lancis borealior, ſed al-] [tera erat ♀re & borealior aliquantulum] [& etiam orientalior.][2227]

Note. From these not only can the place of ♀ be verified, but the parallax can also be investigated, namely by a comparison made of these observations with those which were made on ♀ near the meridian, or rather beyond, both yesterday and today, all of them being well compared with one another and weighed. [Nota. Ex his non ſolum locus ♀ veri-] [ficari poteſt, ſed etiam parallaxis per-] [ueſtigari, collatione videlicet facta ha-] [rum obſeruationum cum ijs quæ fie-] [bant in ♀ iuxta Meridianum, vel potius] [vltra, tam heſterna die quam hodi-] [erna, omnibus inuicem bene collatis] [& trutinatis.][2228]

There follow observations of ♀ from Spica. [Sequuntur obſeruationes ♀ a Spica.]

[2226] The page ends in the middle of the word *lati-*, divided at the line end; the English divides it in the same place. *quaſi* is given as "approximately"; *conſimili* as "similar"; *inſinuabant* as "introduced" (as *inſinuaret* on p. 301). *boreales lances* is plural on the page and is given as "the northern scale-pans". *libræ* is printed with a lower-case initial and is given as "of Libra". *in æquilibrio Horizontis* is given as "in balance with respect to the horizon" (as on p. 301). *eleuatior* is a comparative, "more elevated". *autem* is given as "And", *vero* as "but". *ideoque … quare* — both connectives are kept: "and therefore … so".

[2227] The word divided at the foot of p. 302, *lati-* / *tudine*, is completed at the head of this page; the English divides "lati-" / "tude" at the same point, so the sentence reads "but the other, for the latitude of ♀ only, is suitable". *ſaltem* is given as "only", as no lower-bound word follows; it can also be taken as "at least". *ab hac ſtella meridionali in lance* is given as "from this southern star in the scale-pan", and *hac ſtella meridionali lancis* as "this southern star of the scale-pan". ♀re, the sign with *re* set superior, is taken as the ablative *Venere*, "than ♀". *ſatis* is given as "sufficiently"; *autem* as "And"; *& … & etiam* as "both … and also".

[2228] *iuxta Meridianum* is given as "near the meridian", since *vel potius vltra*, "or rather beyond", makes it a place; it can also be taken as "according to the meridian". *fiebant in* ♀ is given as "were made on ♀". *trutinatis* is given as "weighed".

Time [Tempus]	Distance of ♀ and Spica [Diſt. ♀] [& Spicæ]	Declination of ♀ [Declin. ♀]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]
7^h 7½^m [7 7½]	21° 15⅙′	11° 36′ with one [vno]		
		11° 35¼′ with the other [alt.]		
7^h 13^m [7 13]	21° 15⅚′		19° 30′	
Set [pone]	21° 15½′			
	Distance between ♀ and ♃ [Diſt. inter ♀ & ♃]			
7^h 20^m [7 20]	51° 18⅚′	11° 36′	20° 0′	
7^h 23^m [7 23]	51° 17¾′			
7^h 28½^m [7 28½]	51° 19⅚′		20° 32′	20° 15′
7^h 33^m [7 33]	51° 19′	11° 37′		
with the other sextant [alt. Sext.]	51° 19½′	11° 36¼′ with the other [alt.]		
7^h 36¾^m [7 36¾]	51° 20′			
7^h 42^m [7 42]	51° 19⅙′		20° 59′	

2229

This slight variation in the distance of ♃ and ♀ occurred because rather thin clouds intervened in the places where these stars were seen. Nevertheless [you] can use, without perceptible error, the distance of 51° 19½′; but the preceding observations made on this day are in good order, because [it] was then exceptionally clear. [Hæc aliquantula varietas in diſtan-] [tia ♃ & ♀ propterea contigit, quod rari-] [uſculæ nubes interciderint in ijs locis,] [vbi ſtellæ hæ videbantur, potes nihil-] [ominus absque ſenſibili errore vti di-] [ſtantia part. 51 Min. 19½, anteceden-] [tes autem obſeruationes hoc die fac-] [tæ bene ſe habent, quia tunc erat ap-] [prime ſerenum.][2230]

[2229] All five heads are the page's, in smaller roman. *vno* is given as "with one", *alt.* as "with the other". On the line after 7 13 the word *pone*, "Put" (an imperative, as on earlier pages), stands in the time column and *21 15½* under the distance column; 21° 15½′ is the mean of the two distances above it, 21° 15⅙′ and 21° 15⅚′. A second head, *Diſt. inter* ♀ *&* ♃, stands on a line of its own over the second and third columns before the row at 7 20; it is given in the second column of its own row and heads the distances below it. On the line after 7 33, *alt. Sext.*, in smaller roman, stands in the time column with no time; it is given as "with the other sextant", and the declination on that line carries its own *alt.* The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The altitudes of ♀ rise by 30′ in 7^m from 7 13 to 7 20, by 32′ in 8½^m to 7 28½ and by 27′ in 13½^m to 7 42; the last rate is about half the others. The distances between ♀ and ♃ run 51° 18⅚′, 51° 17¾′, 51° 19⅚′, 51° 19′, 51° 19½′, 51° 20′, 51° 19⅙′, the variation the next paragraph explains. All figures are given as printed.

[2230] *part.* fixes 51 as degrees and *Min.* fixes 19½ as minutes. *rariuſculæ* is given as "rather thin"; it can also be taken as "rather scattered". *propterea … quod* is given as "because". *bene ſe habent* is given as "are in good order"; *apprime* as "exceptionally"; *autem* as "but".

On 14 December [DIE 14 DECEMBRIS.]

At 8^h 30^m ♀ passed through the meridian, having an altitude, by the revolving quadrant, of 20° 21′; by the steel quadrant, 20° 21⅓′. Declination by the armillae 13° 46¼′ south; with the other pinnule 13° 45½′. [H. 8 30′ Tranſiuit ♀ per Merid., habens] [alt. per Q. Volub. 20 21] [per Q. Chalyb. 20 21⅓] [Declin. per Armillas 13 46¼A.] [alt. pinn. 13 45½][2231]

On 15 December A. M. [DIE 15 DECEMBRIS A. M.]

Time	Distance of ♀ from Spica ♍ [Diſt. ♀ a] [Spica ♍]	Declination of ♀, south [Declin ♀] [mer.]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ from the meridian toward the east [Azim. ♀] [a mer.] [verſ. ort.]
6^h 41¾^m [6 41¾]	29° 30′			
6^h 44⅓^m [6 44⅓]	29° 29⅝′	14° 1′		
		14° 1½′ with the other [alt.]		
6^h 46⅝^m [6 46⅝]		14° 0⅓′	15½	
		14° 0¼′ with the other [alt.]		
6^h 54½^m [6 54½]	29° 29¾′		16° 15½′	28° 0′
6^h 57^m [6 57]	29° 30′	14° 0½′	16° 26′	27° 26′
		with the other [alt.] 14° 0¼′		
	Between ♀ and the left knee of Ophiuchus [Inter ♀ & ſin. gen. Oph.]			
7^h 1½^m [7 1½]	28° 10′	14° 0¾′	16° 36′	26° 23′
		with the other [alt.] 14° 0½′		
7^h 3½^m [7 3½]	28° 9¾′	14° 1⅓′	16° 55′	25° 50′
7^h 6½^m [7 6½]	28° 10′	14° 0¾′ with the other [alt.]	17° 0′	25° 23′

[2231] *H.* fixes 8 as hours; *30* carries a prime-like mark on the page and is given as minutes of time. The four figures at the right, printed without unit marks, are given as degrees and minutes; on the page the labels stand at the left of four lines and the figures in one column at the right. *per Q. Volub.* is given as "by the revolving quadrant" and *per Q. Chalyb.* as "by the steel quadrant" (*Chalyb.* expanded as *Chalybeum*, "steel"). *Merid.* is "the meridian"; *A.* after the declination is "south"; *alt. pinn.* is "with the other pinnule".

2232

Note. This little star, from which ♀ was observed, was distant from the more northern scale-pan of ♎ 19° 31′. [Nota. Stellula hæc, a qua ♀ obſerua-] [batur, diſtabat a borealiori lance ♎] [19 31]

The same distance repeated 19° 32′. [Eadem repetita diſtantia 19 32]

The declination of this star was south 9° 36′. [Declin. huius ſtellæ erat mer. 9 36][2233]

And ♀, together with this little star, was at approximately the same altitude, and therefore at balance with respect to the horizon; and consequently refraction did not vary their distance, even though they were a little lower. [It] is therefore established, from the distance from the more northern scale-pan of ♎ and from its declination, that the little star was in truth in the left knee of Ophiuchus, so that no doubt about it remains. [Fuit autem ♀ vna cum hac ſtellula] [quaſi in eadem altitudine, ideoque ad] [æquilibrium Horizontis & per conſe-] [quens refractio illarum diſtantiam non] [variabat, etiamſi paululum decliuio-] [res erant. Conſtat itaque ex diſtantia] [a borealiori lance ♎ & declinatione] [eius reuera fuiße ſtellulam in ſiniſtro] [genu Ophiuchi, ita vt de ea nullum] [reſtet dubium.][2234]

[2232] "Time" is this edition's head; the page prints none over the first column. The other four heads are the page's, in smaller roman; *Declin* is printed without a point. *mer.* under *Declin* ♀ is taken as *meridionalis*, "south" (as in *Declin. huius ſtellæ erat mer.* below); *a mer. verſ. ort.* under *Azim.* ♀ is given as "from the meridian toward the east". On the row at 6 46⅚ the altitude column holds *15½* alone, set where the degree figures of the rows below stand; the page's own figures do not fix whether it is degrees or minutes, and it is given bare. *alt.* is given as "with the other"; on the lines after 6 57 and 7 1½ it stands before the declination, under the distance column, and on the row at 7 6½ close after the declination. A second head, *Inter ♀ & ſin. gen. Oph.*, stands on a line of its own before the row at 7 1½; it is given in the second column of its own row and heads the distances below it. *ſin. gen. Oph.* is expanded after the full form the page prints below, *in ſiniſtro genu Ophiuchi*, "in the left knee of Ophiuchus". The times, printed without marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The altitudes rise by 10½′ in $2\frac{1}{2}^{m}$ from 6 54½ to 6 57, by 10′ in $4\frac{1}{2}^{m}$ to 7 1½, by 19′ in 2^{m} to 7 3½ and by 5′ in 3^{m} to 7 6½; the figures at 7 1½ and 7 3½ do not keep one rate. The azimuths fall by 34′, 1° 3′, 33′ and 27′ over the same intervals. All figures are given as printed.

[2233] The figures *19 31*, *19 32* and *9 36* stand at the right, one under another, printed without unit marks; they are given as degrees and minutes. *mer.* is given as "south"; *borealiori lance* as "the more northern scale-pan".

[2234] *quaſi* is given as "approximately"; *decliuiores*, a comparative, as "lower". *ad æquilibrium Horizontis* is given as "at balance with respect to the horizon" (as *in æquilibrio Horizontis* on p. 302). *per conſequens* is "consequently"; *illarum* "their"; *eius* "its" (the little star's). *reuera fuiße ſtellulam in ſiniſtro genu Ophiuchi* is given as "that the little star was in truth in the left knee of Ophiuchus"; it can also be taken as "that it was in truth the little star in the left knee of Ophiuchus". The English "from" before "its declination" has no second word behind it on the page.

Time [Tempus]	Distance of ♀ and Spica [Dist. ♀ &] [Spicæ]	Declination of ♀ [Declin. ♀]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]
7^h 16^m [7 16]	29° 31½′		17° 34′	22° 36′
7^h $19¾^m$ [7 19¾]	29° 30′	14° 1½′	17° 40½′	21° 48′
		14° 1¼′ with the other [alt.]		
7^h $22½^m$ [7 22½]	29° 30¼′	14° 1½′	17° 56′	21° 3′
		14° 1¼′ with the other [alt.]		
7^h $24¾^m$ [7 24¾]	29° 30½′		18° 2½′	20° 29′
7^h $27½^m$ [7 27½]		14° 1⅔′	18° 9′	19° 50′
		14° 2′ with the other [alt.]		
7^h 29^m [7 29]	29° 32′		18° 14′	19° 25′
7^h $31½^m$ [7 31½]	29° 32½′	14° 1⅔′	18° 22′	18° 40′
		14° 2′		
7^h $34½^m$ [7 34½]	29° 33′		18° 29′	18° 2′
7^h $36⅓^m$ [7 36⅓]	29° 32½′		18° 33′	17° 30′
7^h $38¾^m$ [7 38¾]	29° 33′	14° 2′	18° 40′	16° 57′
		14° 1¾′ with the other [alt.]		
7^h $41⅓^m$ [7 41⅓]	29° 33½′		18° 47′	16° 14′
7^h $44½^m$ [7 44½]	29° 34′	14° 2′	18° 54′	15° 25′

2235

Note. This slight divergence in the distance of ♀ from Spica occurred partly because ♀, by its own motion, in truth moved farther away from Spica ♍; partly because of the refraction, successively diminished through the greater altitude; partly also because the dawn, especially around the last times, had already so weakened the sight of Spica ♍ that it was scarcely, and with difficulty, observable. And [you] can put, at about $7½^h$, the distance of ♀ and Spica 29°

[2235] All five heads are the page's, in smaller roman. *alt.* is given as "with the other"; the declination on the line after 7 31½, *14 2*, carries no word. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The altitudes rise by 6½′ in $3¾^m$ from 7 16 to 7 19¾ and by 15½′ in $2¾^m$ to 7 22½, against 4′ to 8′ in each interval of $1½^m$ to $3⅙^m$ below; the first distance, 29° 31½′ at 7 16, stands above the 29° 30′ to 29° 30½′ of the next three rows, after which the distances rise to 29° 34′. All figures are given as printed.

32′ without perceptible error, and at 7⅔^{h}, 29° 32½′. But around the last time, at 7¾^{h}, put 29° 33′, or at most 29° 33½′, and [you] will err imperceptibly. And [you] can rather use 29° 33½′ then, because the refraction, having become smaller, increased the motion of ♀ to that extent. [Nota. Hæc aliquantula diuerſitas in] [diſtantia ♀ a Spica contigit partim, quia] [♀ motu proprio revera a Spica ♍ lon-] [gius diſceßit, partim ob refractionem] [ſucceßiue imminutam per maiorem] [altitudinem, partim etiam quia dilu-] [culum circa tempora præſertim vl-] [tima, ita iam attenuarat conſpectum] [Spicæ ♍ vt vix difficulter foret obſer-] [uabilis, potes autem ponere circa Ho-] [ram 7½ diſtantiam ♀ & Spicæ 29 32 abs-] [que ſenſibili errore, & Hora 7⅔ 29 32½.] [Circa vltimum vero tempus Hora 7¾] [pone 29 33 vel ad ſummum 29 33½ & in-] [ſenſibiliter aberrabis. Potes autem vti] [potius tunc 29 33½, quia refractio minor] [reddita ♀ motum in tantum adauxit.][2236]

At 8^{h} 43⅙^{m} ♀ passed through the meridian, having an altitude, by the revolving [quadrant], of 20° 1⅔′; by the steel [quadrant], 20° 3′. [H. 8 43⅙ Tranſiuit ♀ per Merid. habens] [Alt. per Volub. 20 1⅔] [per Chalyb. 20 3][2237]

N. B. On the preceding day, when ♀ passed the meridian, [it] had an altitude of 20° 21′; [it] therefore changed its declination in the meantime, in 24 hours, by approximately 19½′. The declination of ♀ around this time was 14° 4′. [N. B. Die præcedenti cum tranſiuit] [♀ Merid. habuit Alt. 20 21, mutauit] [itaque declinationem interea in 24 ho-] [ris quaſi 19½ Minut. Declin. ♀ fuit circa] [hoc tempus 14 4.][2238]

[2236] *Horam* and *Hora* fix 7½, 7⅔ and 7¾ as hours. The distances *29 32*, *29 32½*, *29 33* and *29 33½*, printed without unit marks, are given as degrees and minutes; they stand beside the distances of ♀ and Spica in the second table on p. 303 (29° 32′ at 7 29, 29° 32½′ at 7 31½, 29° 33′ at 7 34½ and 7 38¾, 29° 33½′ at 7 41⅓); they are recommended values, not a stated sum or mean. *diuerſitas* is given as "divergence", to keep it apart from *varietas*, "variation", on p. 303. *motu proprio* is given as "by its own motion"; *revera* as "in truth" (as *reuera* on p. 303). *vix difficulter* is given word for word as "scarcely, and with difficulty"; *foret* as "was". *autem* is given as "And", *vero* as "But". *ad ſummum* is "at most"; *inſenſibiliter* "imperceptibly". *in tantum* is given as "to that extent". The second clause after *& Hora 7⅔* has no noun for its figure on the page; "the distance" is not repeated.

[2237] *H.* fixes 8 as hours; *43⅙* is given as minutes. *20 1⅔* and *20 3*, printed without unit marks, are given as degrees and minutes; on the page the labels stand at the left of two lines and the figures in one column at the right. No *Q.* is printed on either line: *per Volub.* is given as "by the revolving [quadrant]" and *per Chalyb.* as "by the steel [quadrant]" (*Chalyb.* expanded as *Chalybeum*, "steel", as *per Q. Chalyb.* on p. 303).

[2238] *20 21* and *14 4*, printed without unit marks, are given as degrees and minutes; *horis* fixes 24 as hours and *Minut.* fixes 19½ as minutes. The meridian altitudes printed for the preceding day on p. 303 are 20° 21′ (revolving quadrant) and 20° 21⅓′ (steel quadrant); against today's 20° 1⅔′ and 20° 3′ the differences are 19⅓′ and 18⅓′. The page's 19½′ is qualified by *quaſi*, "approximately"; it is given as printed.

Time [Tempus]	Distance of ☉ from ☿ [Dist. ☉ a ☿]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]	Declination of ☿ [Decl. ☿]
9^h $5\frac{1}{3}^m$ [9 5⅓]	46° 35⅓′	3° 0′	38° 40′	
9^h $9\frac{1}{3}^m$ [9 9⅓]	46° 37′	3° 24′	37° 40′	
9^h $12\frac{1}{2}^m$ [9 12½]	46° 36½′ better [melior]	3° 31′	37° 10′	
9^h $14\frac{5}{6}^m$ [9 14⅚]				14° 3½′
9^h $17\frac{1}{3}^m$ [9 17⅓]	46° 36′	3° 52′	36° 1′	
9^h 22^m [9 22]	46° 37′	4° 19′	34° 59′	
9^h 26^m [9 26]	46° 37′ good [bona]	4° 37′	34° 11′	
9^h $32\frac{2}{3}^m$ [9 32⅔]	46° 36⅚′	5° 6′	32° 36′	
9^h $37\frac{1}{3}^m$ [9 37⅓]	46° 36⅚′	5° 21′	31° 33′	14° 3⅔′
9^h $43\frac{5}{6}^m$ [9 43⅚]	46° 38′	5° 57′	30° 10′	
9^h $51\frac{1}{2}^m$ [9 51½]	46° 36⅚′	6° 26′	28° 32′	
10^h 0^m [10 0]	46° 38½′	7° 0′	26° 34′	
10^h $4\frac{2}{3}^m$ [10 4⅔]	46° 38′ good, ☉ clear [bona, ☉ clarus]	7° 18′	25° 38′	
10^h 8^m [10 8]	46° 37½′	7° 30′	24° 46′	
10^h $10\frac{5}{6}^m$ [10 10⅚]	46° 37¾′ better [melior]	7° 42′	24° 10′	14° 4′
10^h $22\frac{1}{6}^m$ [10 22⅙]	46° 37½′ doubtful [dubia]			
10^h $27\frac{1}{6}^m$ [10 27⅙]	46° 38½′ better [melior]	8° 31′	20° 30′	14° 3¾′
10^h 36^m [10 36]	46° 38⅔′	8° 55′	18° 25′	
10^h $43\frac{1}{6}^m$ [10 43⅙]	46° 38½′	9° 14′	16° 43′	
10^h $55\frac{1}{6}^m$ [10 55⅙]	46° 38½′	9° 43′	13° 53′	

2239

Note. At about 10⅚^{h} ☿ must have been at approximately 16°, very nearly, in altitude. [Nota. Circa Horam 10⅚ opportebat] [☿ eße quaſi 16 proxime graduum in] [altitudine.][2240]

At noon the clock was moving slower than it should by about 7^{m}; this error accrued to it from 5½^{h} in the morning of this day, at which [hour] the clock was rectified. [Horologium in Meridie mouebatur] [iuſto tardius circa 7 Minuta, qui error] [illi acceßit ab Hora 5½ huius diej ante-] [meridiana, qua horologium rectifica-] [batur.][2241]

N. B. Limitation of the preceding observations, which are otherwise sufficiently suited in themselves. [N. B. Limitatio antecedentium ob-] [ſeruationum alias per ſe ſatis accom-] [modatarum.]

Time [H. M.]	*At the altitude of* ☉ [In alt. ☉]	*Set the distance of* ☿ *from* ☉ [Pone diſt. ☿ a ☉]
$9^{h}\ 5^{m}$ [9 5]	3° 0′	46° 35′ *or* 35¼′, *as suits* [vel] [prout] [conuenit]
$9^{h}\ 18^{m}$ [9 18]	4° 0′	46° 36′
$9^{h}\ 30^{m}$ [9 30]	5° 0′	46° 37′
$10^{h}\ 0^{m}$ [10 0]	7° 0′	46° 38′
$10^{h}\ 30^{m}$ [10 30]	8° 30′	46° 38½′
$11^{h}\ 0^{m}$ [11 0]	9° 45′	46° 38⅔′

2239 All five heads are the page's, in smaller roman, on one line. Five words stand under a distance figure on a line of their own and are joined to it by a single brace: *melior* under 46 36½ (the brace closing at the right; the word stands on the line that carries the time 9 14⅚ and the declination 14 3½), *bona* under 46 37 at 9 26, *bona,* ☉ *clarus* under 46 38 at 10 4⅔ (the brace opening at the left), *melior* under 46 37¾ at 10 10⅚, and *melior* under 46 38½ at 10 27⅙; each word is given with the figure the brace joins it to. *dubia* stands directly after 46 37½ at 10 22⅙. *melior* is given as "better", *bona* as "good", *dubia* as "doubtful", *clarus* as "clear". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The altitudes of ☉ rise by 24′ in 4^{m} from 9 5⅓ to 9 9⅓ and by 7′ in 3⅙^{m} to 9 12½, against 15′ to 36′ in each interval of 4^{m} to 8½^{m} that follows; over the same interval from 9 9⅓ to 9 12½ the azimuth falls by 30′, against 48′ to 1° 9′ in each interval of 4^{m} to 4⅚^{m} round it. The distances do not move steadily (46° 36⅚′ at 9 51½ between 46° 38′ and 46° 38½′). All figures are given as printed.

2240 *Horam* fixes 10⅚ as hours; *graduum* fixes 16 as degrees. *opportebat* is printed with a double *p*; it is given as "must have been", and can also be taken as "was to be". *quaſi* is given as "approximately" and *proxime* as "very nearly"; both stand on the page.

2241 *Minuta* fixes 7 as minutes (of time) and *Hora* fixes 5½ as hours. *iuſto tardius* is "slower than it should". *antemeridiana* is given as "before noon"; *diej* is printed so. *illi* is given as "to it" (the clock).

2242

And according to these let the limitation of the intermediate times and altitudes be made, if there is need. [Atque ſecundum hæc fiat limitatio] [intermediorum temporum & Altitud.] [ſi opus fuerit.]

Nevertheless [you] can apply the preceding limitation and consider those together, if everything does not turn out correctly; but the times assigned here have not been verified from the observation in the morning to the stars and from the transit through the meridian; [they are] therefore to be corrected. [Potes nihilominus adhibere limi-] [tationem antecedentem & conſide-] [rare illa vna ſi omnia non iuſte ſuc-] [cedunt, tempora autem hic aßignata] [non ſunt verificata ex obſeruatione] [mane ad ſtellas & tranſitu per Meri-] [dianum, igitur corrigenda.][2243]

The rest concerning the declination of the Sun and of ♀ [you] can apply as the observation gave it, taking, around the last times, the declination of ♀ as 14° 4′ precisely. [Cætera circa Solis declinationem] [& ♀ potes adhibere prout obſeruatio] [dedit aßumendo circa vltima tem-] [pora ♀ʳⁱˢ declinationem p. 14 M. 4] [præciſe.][2244]

That the differences of the distances do not change here as much as at other times happens chiefly because the Sun was so low even at noon itself, and ♀ was not very high, inclining from the meridian toward the other side, to the west; therefore careful attention [must be paid] here in the comparison. For Venus, tending toward the west, is raised more by refraction, and therefore seems, through this, to recede less from the Sun than at other times. These [things] are therefore to be carefully limited, unless a similar position is given both in ♀ and in the Sun on the other side. See what follows from these by themselves, especially the last ones, at about 10½ʰ. [Quod hic non in tantum mutentur] [differentiæ diſtantiarum ſicut alias,] [fit potißimum quia Sol erat adeo] [decliuis in ipſo etiam Meridie & ♀] [erat non admodum alta verſus al-] [teram partem a Meridiano inclinans] [ad occaſum, quare hic diligenter at-] [tendendum in collatione.Nam Venus] [tendens verſus occaſum ſe plus per] [refractionem attollit, ideoque minus] [a Sole recedere per hanc videtur]

[2242] The heads are the page's, in smaller italic; *H.* and *M.* stand over the two figures of the time column and fix them as hours and minutes. The altitudes and distances, printed without unit marks, are given as degrees and minutes; *35¼* after *vel* is given as minutes. *prout* ends the first line and *conuenit* stands alone on the next, under it; the remark is given whole in the first row. *Pone* is "Put" (an imperative, as on earlier pages). The whole table is italic on the page. These are recommended values set against the observed distances of the table in the left-hand column (46° 35⅓′ at 3° 0′, 46° 38½′ at 7° 0′, 46° 38½′ at 9° 43′); they are not a stated sum or mean.

[2243] *illa vna* is given as "those together" (*vna* as an adverb); it can also be taken as "that one [limitation]". *iuſte ſuccedunt* is given as "turn out correctly". *corrigenda* is a gerundive, "to be corrected". *ex obſeruatione mane ad ſtellas & tranſitu per Meridianum* is given as "from the observation in the morning to the stars and from the transit through the meridian"; the second "from" has no second word behind it on the page.

[2244] *p.* (*partes*) fixes 14 as degrees and *M.* fixes 4 as minutes. ♀ʳⁱˢ, the sign with *ris* set superior, is taken as the genitive *Veneris*, "of ♀". *Solis declinationem &* ♀ is given as "the declination of the Sun and of ♀"; it can also be taken as "the declination of the Sun, and ♀". The value 14° 4′ is the declination given at 10 10⅚ in the table in the left-hand column, between 14° 3⅔′ at 9 37⅓ and 14° 3¾′ at 10 27⅙.

[quam alias. Hæc igitur diligenter] [limitanda, niſi ſimilis detur poſitus] [& in ♀ & Sole ab altera parte. Vide] [quid ſequatur ex his per ſe præſer-] [tim vltimis circa horam 10½.][2245]

Calculation of the place of ♀ from the observation of 15 December.[1] [Calculus loci ♀ ex obſeruatione diei] [15 Decembris[1].]

Reading	Value
At 7^h 0^m A. M., distance of ♀ from the left knee of Ophiuchus [H. 7 M. 0 A. M. Diſt. ♀ a ſiniſtro] [genu Ophiuchi]	18° 10′
Declination of ♀ [Declin. ♀]	14° 1′ south [M.]
Declination of the knee of Ophiuchus [Declin. genu Oph.]	9° 37′ south [M.]
Angle of the difference of ascension [Ang. diff. Aſcenſ.]	18° 1′ subt.
Right ascension of the knee of Ophiuchus [Aſc. R. genu Oph.]	243° 39′
Therefore the right ascension of ♀ [Ergo Aſc. R. ♀]	225° 38′
At $7\frac{2}{3}^h$, right ascension of ♀ from Spica [H. 7⅔ Aſc. R. ♀ a Spica]	225° 38⅝′
when the right ascension of Spica is put at [cum ponatur Aſc. R.] [Spicæ]	195° 54½′
(see the first volume of the *Progymnasmata*, p. 175) [(vide primum Tomum Progym-] [naſm. pag. 175)]	
Therefore, at $7\frac{1}{3}^h$, let the right ascension of ♀ be put [Itaque H. 7⅓ ponatur Aſc. R. ♀]	225° 38′ 25″
Declination [Declinatio]	14° 1′ 30″ south [M.]
Corresponding longitude [Reſp. Longitudo]	17° 12½′ ♏
Latitude [Latitudo]	3° 8′ north [B.]
at an altitude of about 18° [in altit. 18° quaſi.]	

[2245] *horam* fixes 10½ as hours. *decliuis* is given as "low"; *in ipſo etiam Meridie*, of the Sun, as "even at noon itself". *alias* is given as "at other times" in both places; it can also be taken as "elsewhere". *verſus alteram partem a Meridiano inclinans ad occaſum* is given as "inclining from the meridian toward the other side, to the west". *diligenter attendendum* is a gerundive without its verb; it is given as "careful attention [must be paid]". *ſe plus per refractionem attollit* is given as "is raised more by refraction" (literally "raises itself more through refraction"); *per hanc* as "through this" (the refraction). *poſitus* is given as "position". *Venus* is printed in full in this sentence, where the rest of the page sets the sign.

2246

On 16 December, in the morning [DIE 16 DECEMBRIS, MANE.]

At $6\frac{1}{3}^{h}$ the clock was being verified. [H. 6⅓ verificabatur Horologium.]

Time [Tempus]	Between ♀ and Spica [Inter ♀ &] [Spicam]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]
$6^{h}\ 50^{m}$ [6 50]		14° 18′	15° 46′	
		14° 18⅓′ with the other [alt.]		
$6^{h}\ 57\frac{1}{2}^{m}$ [6 57½]	30° 33⅓′		16° 15′	27° 5′
$7^{h}\ 0^{m}$ [7 0]	30° 34′		16° 21′	26° 25′
$7^{h}\ 3\frac{1}{3}^{m}$ [7 3⅓]	30° 34⅓′		16° 43′	25° 37′
$7^{h}\ 8^{m}$ [7 8]	30° 35′	14° 19′	16° 55′	24° 26′
		14° 20′ with the other [alt.]		
$7^{h}\ 13\frac{1}{2}^{m}$ [7 13½]	30° 34⅚′	14° 19½′	17° 22′	22° 58′
		14° 19′ with the other [alt.]		
$7^{h}\ 21\frac{2}{3}^{m}$ [7 21⅔]	30° 36′	14° 19′	17° 40′	20° 59′
		14° 18⅔′ with the other [alt.]		
$7^{h}\ 28\frac{1}{6}^{m}$ [7 28⅙]	30° 36¼′		18° 2′	19° 15′
$7^{h}\ 34\frac{5}{6}^{m}$ [7 34⅚]	30° 36½′		18° 22′	17° 32′

2246 "Reading" and "Value" are this edition's heads; the page prints none. On the page the labels stand at the left and the figures in one column at the right; *225° 38′ 25″* stands on a line of its own under the *Itaque* line and is given on that row. *H. 7 M. 0* and *H. 7⅔*, *H. 7⅓* fix the hours and minutes; *18° 10′*, *225° 38′ 25″* and *18°* are printed with their marks. The other figures are printed without unit marks and are given as degrees and minutes; *14 1 30* (three figures) as degrees, minutes and seconds. *M.* after a declination is "south", *B.* after the latitude "north". *ſubt.* (to be subtracted) is kept abbreviated. *genu Oph.* is expanded after the full form the page prints above, *ſiniſtro genu Ophiuchi*; "left" is not printed in the abbreviated lines and is not supplied. *Ang. diff. Aſcenſ.* is given as "Angle of the difference of ascension"; it can also be taken as "Angle of the ascensional difference". *cum ponatur* is given as "when … is put at"; *ponatur* in the *Itaque* line as "let … be put"; the declination, longitude and latitude lines below it stand under that verb and can also be read as "[let] the declination [be put] …". The parenthesis *(vide … pag. 175)* stands on two lines after the figure for Spica and is given on its own row. *in altit. 18° quaſi.* is given as "at an altitude of approximately 18°". 243° 39′ less 18° 1′ gives the printed 225° 38′; 225° 38′ 25″ is midway between 225° 38′ and 225° 38⅚′, and $7\frac{1}{3}^{h}$ midway between $7^{h}\ 0^{m}$ and $7\frac{2}{3}^{h}$. All figures are given as printed.

Time [Tempus]	Between ♀ and Spica [Inter ♀ &] [Spicam]	Declination of ♀ [Decl. ♀]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]
7^h 41⅔^m [41⅔]	[♐30° 36⅚′	14° 19′	18° 31′	16° 3′
		with both [vtroque]		
7^h 43½^m [43½]	[♐30° 36⅚′			
7^h 49⅔^m [49⅔]	[♐30° 37′		18° 45′	13° 55′
7^h 56½^m [56½]	[7	14° 19½′	19° 4′	12° 0′
	Distance of ♀ from Spica by the other old sextant [Dift. ♀ a Spica per alterum Sext. vet.]			
7^h 34⅚^m [34⅚]	[♐30° 36′ doubtful [dubia]			
7^h 41⅔^m [41⅔]	[♐30° 35½′ doubtful [dubia]			
7^h 43½^m [43½]	[♐30° 36½′ better [melior]			
7^h 49⅔^m [49⅔]	[♐30° 37′ good [bona]			
7^h 56½^m [56½]	[♐30° 37½′ this last [one] doubtful because of the dawn [hæc vltima dubia prop-] [ter auroram]			

2247

[You] can use, for 7^h 50^m, the distance 30° 37′ exactly and the declination 14° 19½′. [Potes vti ad Horam 7 Min. 50 diſtan-] [tia 30 37 exacte & declinatione 14 19½.]

At about 8^h the declination of ♀ was 14° 19⅚′; with the other pinnule, 14° 19¾′. [Circa Horam 8 fuit declin. ♀ 14 19⅚] [alt. pinn. 14 19¾][2248]

[2247] All five heads are the page's, in smaller roman; *Inter* ♀ *&* stands over *Spicam* on two lines. *alt.* after a declination is given as "with the other"; *vtroque*, alone on its own line under the declination 14 19 at 7 41⅔, as "with both". A second head, *Diſt.* ♀ *a Spica per alterum Sext. vet.*, runs across the column on a line of its own before the second run of times; it is given in the second column of its own row and heads the distances below it; *Sext. vet.* is "old sextant". The words after the distances in that run (*dubia*, *melior*, *bona*, *hæc vltima dubia propter auroram*) stand directly after their figures; the last runs over two lines, divided *prop-* / *ter*. *melior* is "better", *bona* "good", *dubia* "doubtful". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The altitudes of ♀ rise by 6′ in 2½^m from 6 57½ to 7 0 and by 22′ in 3⅓^m to 7 3⅓, and by 9′ in 6⅚^m from 7 34⅚ to 7 41⅔, against 12′ to 29′ in each of the other intervals of 4⅔^m to 8⅙^m. All figures are given as printed.

[2248] *Horam* fixes 7 and 8 as hours and *Min.* fixes 50 as minutes. *30 37*, *14 19½*, *14 19⅚* and *14 19¾*, printed without unit marks, are given as degrees and minutes. *ad Horam* is given as "for"; it can also be taken as "at". *exacte* stands after *30 37* on the page; it is kept after the figure, and can also be taken with *vti* ("use exactly"). *alt. pinn.* is "with the other pinnule"; it stands on its own line, set to the right, its figures under those of the line above.

On 18 December, in the morning [DIE 18 DECEMBRIS, MANE.]

Time [Tempus]	Between ♀ and Spica ♍ [Inter ♀ &] [Spicam ♍]	Altitude of ♀ [Alt. ♀]	Declination of ♀ [Decl. ♀]	Azimuth of ♀ [Azim. ♀]
6^h $52\frac{1}{2}^m$ [6 52½]	32° 42½′	15° 18′		28° 15′
6^h $56\frac{1}{2}^m$ [6 56½]	32° 44′	15° 33′	14° 53½′	27° 20′
			with the other [alt.] 14° 53⅓′	
7^h $2\frac{1}{3}^m$ [7 2⅓]	32° 44⅙′	15° 57′	14° 53⅚′	25° 48′
			with the other [alt.] 14° 53⅔′	
7^h $9\frac{1}{3}^m$ [7 9⅓]	32° 44′	16° 21′	14° 53½′	24° 7′
			with the other [alt.] 14° 53¾′	

2249

On 22 December, before noon [DIE 22 DECEMBRIS, ANTE MERID.]

Time [Tempus]	Distance of ♀ and ☉ [Dist. ♀ & ☉]	Declination of ♀ [Decl. ♀]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]
9^h 16^m [9 16]		15° 59′		
9^h 27^m [9 27]	46° 8′		5° 10′	
9^h 30^m [9 30]	46° 8′		5° 22′	33° 20′
9^h 34^m [9 34]	46° 8⅔′		5° 36′	32° 35′
9^h $37\frac{2}{3}^m$ [9 37⅔]	46° 8′		5° 50′	31° 53′
9^h $40\frac{1}{2}^m$ [9 40½]	46° 9½′		6° 2′	31° 8′
9^h $43\frac{1}{6}^m$ [9 43⅙]	46° 8⅔′	16° 1′	6° 12′	30° 45′
9^h $50\frac{1}{2}^m$ [9 50½]	46° 8⅚′		6° 40′	29° 11′
9^h $54\frac{1}{6}^m$ [9 54⅙]	46° 8⅓′		6° 55′	28° 20′
9^h 58^m [9 58]	46° 8⅓′	16° 0½′	7° 8′	27° 37′

2249 All five heads are the page's, in smaller roman, in the page's order (altitude before declination); *Inter* ♀ *&* stands over *Spicam* ♍ on two lines. *alt.* stands before the declination on its own line and is given as "with the other". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time [Tempus]	Distance of ♀ and ⊙ [Dist. ♀ & ⊙]	Declination of ♀ [Decl. ♀]	Altitude of ⊙ [Alt. ⊙]	Azimuth of ⊙ [Azim. ⊙]
10^{h} 7½^{m} [10 7½]			7° 42′	25° 35′

2250

At noon the clock was moving faster than it should by 4⅚^{m}; but it had been moderately well corrected by the Sun at 9^{h} before noon. [Horologium in Meridie 4⅚ M. iusto] [citius mouebatur, fuit autem Hora 9] [antemerid. mediocriter correctum ad] [Solem.][2251]

On 26 December *[DIE 26 DECEMBRIS.]*

The clock was being corrected by Spica ♍ *at 7¼^{h}.* [Horologium emendabatur ad Spi-] [cam ♍ Hora 7¼.]

Time [Tempus]	*Between* ♀ *and Spica* [Inter ♀ &] [Spicam]	*Declination of* ♀ [Decl. ♀]	*Altitude of* ♀ [Alt. ♀]	*Azimuth of* ♀ [Azim. ♀]
7¼^{h} [7¼]		*17° 6′* south [A.]		
7^{h} 16^{m} [7 16]	*41° 28′*	*17° 6′*	*14° 23′*	*23° 10′*
7^{h} 19^{m} [7 19]	*41° 27½′*	*17° 6′*	*14° 30′*	*22° 23′*
7^{h} 22½^{m} [7 22½]	*41° 28′*	*17° 6′*	*14° 41′*	*21° 27′*
		17° 6½′		
7^{h} 26^{m} [7 26]	*41° 27½′*		*14° 50′*	
7^{h} 28^{m} [7 28]	*41° 28′*		*14° 57′*	*20° 12′*
7^{h} 30½^{m} [7 30½]	*41° 28′*		*15° 2′*	*19° 35′*
7^{h} 32⅓^{m} [7 32⅓]	41° 27⅚′			
7^{h} 35⅔^{m} [7 35⅔]	41° 28′	17° 7′	15° 20′	18° 26′
		with the other [alt.] 17° 6⅔′		

[2250] All five heads are the page's, in smaller roman. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. The distance 46° 9½′ at 9 40½ stands above the 46° 8′ to 46° 8⅚′ of every other row. The azimuth of ⊙ falls by 45′ in 2⅚^{m} from 9 37⅔ to 9 40½ and by 23′ in 2⅔^{m} to 9 43⅙, against 42′ to 51′ in each interval of 3⅔^{m} to 4^{m} elsewhere in the table. All figures are given as printed.

[2251] *M.* fixes 4⅚ as minutes (of time) and *Hora* fixes 9 as hours. *iusto citius* is "faster than it should". *antemerid.* is given as "before noon". *mediocriter* is given as "moderately well"; it can also be taken as "only moderately". *ad Solem* is given as "by the Sun".

2252

[1] From codex V. [E codice V.]

Time	Between ♀ and Spica	Declination of ♀	Altitude of ♀	Azimuth of ♀
$7^{h}\ 39^{m}$ [7 39]	41° 28¼′	17° 7′ 17° 6¾′	15° 35′	17° 42′
$7^{h}\ 44^{m}$ [7 44]	41° 28½′	17° 7′ with both [vtroq.]	15° 47′	16° 25′
$7^{h}\ 48⅔^{m}$ [7 48⅔]	41° 29′	17° 7′	15° 52′	15° 16′

2253

Around the last observations the dawn was somewhat of a hindrance to the observations. [Circa vltimas obſeruationes dilucu-] [lum obſeruationibus nonnihil impe-] [dimento fuit.]

Time	Between ♀ and ☉ [Inter ♀ & ☉]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉, east [Azim. ☉ or.]
$8^{h}\ 42^{m}$ [8 42]	45° 41¼′	0° 56′	45° 24′
$8^{h}\ 44⅓^{m}$ [8 44⅓]	45° 41′	1° 4′	45° 0′
$8^{h}\ 46^{m}$ [8 46]	45° 40⅚′	1° 15′	44° 40′
$8^{h}\ 48^{m}$ [8 48]	45° 40⅚′	1° 22′	44° 15′
$8^{h}\ 49⅔^{m}$ [8 49⅔]	45° 41′	1° 33′	43° 55′

2254

♀ approached the meridian but was still before the meridian. [♀ appropin-quauit Meridiano ſed] [erat adhuc ante Merid.]

2252 All five heads are the page's, in smaller italic; *Inter* ♀ *&* stands over *Spicam* on two lines, with no sign after *Spicam*. The date line, the clock sentence, the heads and the rows down to 7 30½ are italic on the page; the rows at 7 32⅓ and 7 35⅔ and the line *alt. 17 6⅔* are upright roman, and are so set here. *Hora 7¼* above fixes the *7¼* of the first row as hours; *A.* after its declination is "south". *17 6½* stands alone in the declination column on the line after 7 22½. *alt.* stands before the declination on its own line and is given as "with the other". The other times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2253 These rows continue the 26 December table at the foot of p. 305, column for column; on this page they stand under no date heading and no heads of their own. All five heads are this edition's, repeating the page's heads of p. 305. *17 6¾* stands alone in the declination column on the line after 7 39. *vtroq.*, set under *17 7* at 7 44 and joined to it by a single brace, is given with that figure as "with both". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2254 "Time" is this edition's head; the page prints none over the first column. The other three heads are the page's, in smaller roman. *or.* is "east". *0 56* is printed with its leading *0*. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

At 8^{h} 52⅙^{m} ♀ passed through the meridian, having an altitude, by the steel quadrant, of 16° 58′; by the revolving quadrant, 16° 57′. [8 52⅙ Tranſiuit ♀ per Meridianum ha-] [bens Alt. per Q. Chalyb. 16 58] [per Q. Volub. 16 57][2255]

Time	Between ♀ and ⊙	Altitude of ⊙	Azimuth of ⊙, east
8^{h} 53⅚^{m} [8 53⅚]	45° 42′	1° 54′	43° 3′
8^{h} 55^{m} [8 55]	45° 42½′	2° 0′	42° 53′
8^{h} 56⅙^{m} [8 56⅙]	45° 43⅙′	2° 6′	42° 36′
8^{h} 57⅔^{m} [8 57⅔]	45° 43⅓′	2° 16′	42° 15′
8^{h} 59½^{m} [8 59½]	45° 43½′	2° 22′	42° 2′
9^{h} 1⅓^{m} [9 1⅓]	45° 43½′	2° 33′	41° 38′
9^{h} 3^{m} [9 3]	45° 43¾′	2° 44′	41° 12′
9^{h} 4½^{m} [9 4½]	45° 43¾′	2° 51′	40° 55′
	45° 44′	3° 0′	

2256

⊙ was ſufficiently clear and pure from its very riſing until now; afterwards it ſeemed to fall into rather thin clouds. [You] can therefore use, ſufficiently ſafely, theſe obſervations of ⊙, even [though it was] not much elevated above the horizon, namely by comparing other evening [obſervations], at a ſimilar lowneſs of the Sun, ♀ then alſo being near the meridian at a ſimilar diſtance from ⊙. [⊙ fuit ſatis clarus & purus ab ipſo] [ortu hucusque, poſtea in rariuſculas] [nubes videbatur incidere, potes ita-] [que ſatis tuto vti his obſeruationibus] [⊙ etiam non multum ſupra Horizon-] [tem eleuati, conferendo videlicet alias] [veſpertinas, in conſimili Solis decliui-] [tate, ♀^{re} etiam prope Merid. in conſi-] [mili a ⊙ diſtantia tunc verſante.][2257]

On 27 December A. M. *[DIE 27 DECEMBRIS A. M.]*

[2255] *8 52⅙*, printed without marks at the start of the line, is given as hours and minutes; *16 58* and *16 57*, printed without unit marks, as degrees and minutes. On the page the labels stand at the left of two lines and the figures in one column at the right. *per Q. Chalyb.* is "by the steel quadrant" and *per Q. Volub.* "by the revolving quadrant", as on p. 303. *ante Merid.* is "before the meridian".

[2256] These rows stand under the columns of the table above, with no heads of their own; all four heads are this edition's, repeating those of that table. The last line carries *45 44* and *3 0* and no time. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2257] *rariuſculas* is given as "rather thin", as on p. 303; it can also be taken as "rather scattered". *his obſeruationibus ⊙ … eleuati* is given as "these observations of ⊙, even [though it was] not much elevated" (*eleuati* agreeing with the Sun); it can also be taken as "these observations, ⊙ being also not much elevated". *alias veſpertinas* is given as "other evening [observations]". *decliuitate* is given as "lowness" (brief: *decliuis* "low"). ♀^{re}, the sign with *re* set superior, is taken as the ablative *Venere*; ♀^{re} *… verſante* is given as "♀ then also being". *Merid.* there is "the meridian".

Time [Tempus]	*Between* ♀ *and Spica* [Inter ♀ &] [Spicam]	*Declination of* ♀, *south* [Decl. ♀] [M.]	*Altitude of* ♀ [Alt. ♀]	*Azimuth of* ♀, *east* [Azim. ♀] [or.]
$7^h\ 21^m$ [7 21]			*14° 17′*	
$7^h\ 25^m$ [7 25]	*42° 33′*		*14° 26′*	
$7^h\ 28^m$ [7 28]	*42° 33½′ better* [melior]	*17° 22⅙′*		
$7^h\ 31⅓^m$ [7 31⅓]	*42° 33′*	*17° 22⅓′*	*14° 43′*	
$7^h\ 35^m$ [7 35]	*42° 34′*		*14° 53′*	
$7^h\ 38^m$ [7 38]	*42° 34¼′*	*17° 22½′*	*15° 1′*	
$7^h\ 42^m$ [7 42]	*42° 34⅚′*	*17° 22½′*	*15° 11′*	*17° 24′*
$7^h\ 45½^m$ [7 45½]	*42° 35′*	*17° 22½′*	*15° 19′*	*16° 40′*
$7^h\ 47¾^m$ [7 47¾]	*42° 35′*	*17° 22½′*	*15° 23′*	*16° 15′*
	good [bona]	*17° 22⅚′*		

2258

At $8^h\ 58^m$ ♀ passed through the meridian, having an altitude, by the steel [quadrant], of 16° 41′ 40″; by the sextant, 16° 42′ 0″; by the revolving [quadrant], 16° 43′, doubtful. Meridian declination of ♀ 17° 23′ with one pinnule; 17° 23½′ with the other. [8 58 Tranſiuit ♀ per Merid. habens] [Alt. per Chalyb. 16 41 40] [per Sext. 16 42 0] [per Volub. 16 43 dubia] [Declin. ♀ Merid. 17 23 vno pin.] [17 23½ alt.][2259]

[2258] All five heads are the page's, in smaller italic; *Inter* ♀ *&* over *Spicam*, *Decl.* ♀ over *M.* and *Azim.* ♀ over *or.* each stand on two lines. *M.* under the declination head is "south" and *or.* under the azimuth head "east". The heading, the heads and every row are italic on the page. The table runs from the foot of the left-hand column (rows 1–5) to the head of the right-hand column (rows 6–10), where its rows stand under no heads. *melior*, set under *42 33½* at 7 28 and joined to it by a single brace, is given with that figure as "better". *bona* stands alone on its own line under *42 35* in the distance column, with *17 22⅚* in the declination column and no brace; it is given in its own row, as "good". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page; the azimuth column carries no figure before 7 42.

[2259] *8 58*, printed without marks at the start of the line, is given as hours and minutes. *16 41 40* and *16 42 0*, three figures each, are given as degrees, minutes and seconds; *16 43*, *17 23* and *17 23½*, printed without unit marks, as degrees and minutes. On the page the labels stand at the left and the figures in one column at the right. No *Q.* is printed: *per Chalyb.* is given as "by the steel [quadrant]" and *per Volub.* as "by the revolving [quadrant]", as on p. 304; *per Sext.* is "by the sextant". *dubia* is "doubtful"; *Declin.* ♀ *Merid.* is given as "Meridian declination of ♀" (as *Declin.* ☉ *Merid.* on earlier pages); *vno pin.* is "with one pinnule" and *alt.* "with the other".

Time	Between ☉ and ♀ [Inter ☉ & ♀]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]
9^h 12½^m [9 12½]	45° 41′ [1]	3° 5′	
9^h 14^m [9 14]	45° 42′		
9^h 15½^m [9 15½]	45° 41′ [2]	3° 17¼′	40° 0′
9^h 17^m [9 17]	45° 41¾′	3° 26′	39° 41′
9^h 19¼^m [9 19¼]	45° 42⅙′	3° 36′	39° 17′
9^h 23^m [9 23]	45° 42′		
9^h 27½^m [9 27½]	45° 41½′ [3]	4° 19′	

2260

On 28 December, in the morning [DIE 28 DECEMBRIS, MANE.]

The clock was being corrected at 7⅙^h from Spica ♍. [Horologium corrigebatur H. 7⅙ a] [Spica ♍.]

Time [Tempus]	Between ♀ and Spica [Inter ♀ &] [Spicam]	Declination of ♀, south [Decl. ♀] [M.]	Altitude of ♀ [Alt. ♀]	Azimuth, east [Azim. or.]
7^h 24½^m [7 24½]	43° 39½′	17° 36½′	14° 29′	19° 50′
		17° 37′ with the other [alt.]		
7^h 27^m [7 27]	43° 39⅔′			
7^h 30½^m [7 30½]	43° 39¾′		14° 46′	
7^h 33^m [7 33]	43° 39′ doubtful [dubia]		14° 53′	
7^h 36^m [7 36]	43° 40½′	17° 36¾′	15° 0′	17° 0′

2261

Time	Between ♀ and ☉ [Inter ♀ & ☉]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]
8^h 43½^m [8 43½]	45° 32⅔′	1° 34′	44° 35′

2260 "Time" is this edition's head; the page prints none over the first column. The other three heads are the page's, in smaller roman. The figures [1], [2], [3] after three distances are the page's footnote cues; the notes stand at the foot of this page. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2261 All five heads are the page's, in smaller roman; *Inter* ♀ *&* over *Spicam* and *Decl.* ♀ over *M.* stand on two lines. *M.* is "south" and *or.* "east"; *Azim. or.* is printed with no planet sign, and none is supplied. *H.* fixes 7⅙ as hours; *a Spica* is given as "from Spica". *alt.* is "with the other"; *dubia* stands directly after *43 39* and is "doubtful". The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	Between ♀ and ☉ [Inter ♀ & ☉]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]
8^h 46½^m [8 46½]	45° 31½′	1° 49′	43° 56′
8^h 49^m [8 49]	45° 32¼′	2° 3′	43° 30′
8^h 52^m [8 52]	45° 33′	2° 16′	42° 53′

2262

Afterwards ♀ *passed the meridian, but [it] could not be observed.* [Poſtea tranſiuit ♀ Merid., ſed obſer-] [uari non potuit.]

Time	*Between* ♀ *and* ☉	*Altitude of* ☉	*Azimuth of* ☉
9^h 5^m [9 5]	*45° 36½′*	*3° 25′*	*40° 8′*
9^h 8^m [9 8]	*45° 35¼′*	*3° 42′*	*39° 30′*
9^h 13^m [9 13]	*[it] could not* [non poterat]	*4° 4′*	*38° 25′*

2263

Note. These observations of ♀ *from the Sun are scarcely so exact, because Iohannes the goldsmith was not present, who excels in sharpness of sight in observing* ♀. [Nota. Hæ obſeruationes ♀ a Sole] [vix ſunt tam exactæ, eo quod Iohan-] [nes aurifaber non aderat, qui acu-] [mine viſus in obſeruando ♀ præpol-] [let.][2264]

[1] Added: (40). [Adſcriptum eſt (40).]

[2] Added: (41). [Adſcriptum eſt (41).]

[3] Added: (42). [Adſcriptum eſt (42).][2265]

Observations of Mercury [OBSERUATIONES MERCURIJ.]

On 4 April [DIE 4 APRILIS.]

In the evening ☿ was visible and was observed in this manner. [Veſperi conſpiciebatur ☿ & obſer-] [uabatur in hunc modum.]

[2262] "Time" is this edition's head; the page prints none over the first column. The other three heads are the page's, in smaller roman. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2263] These rows stand under the columns of the table above, with no heads of their own; all four heads are this edition's, repeating those of that table, and are set in roman. The rows are italic on the page. *non poterat* stands in the distance column at 9 13 and is given as "[it] could not"; the page does not say what could not be done. The times, printed without marks, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The distance at 9 8, 45° 35¼′, stands below the 45° 36½′ of 9 5, against the rise of the distances from 8 46½; the note below calls these observations less exact.

[2264] *Hæ* is printed so. *vix … tam exactæ* is given as "scarcely so exact"; the page names no comparison. *aurifaber*, printed in lower case, is given as "the goldsmith"; it can also be taken as a surname. The name *Iohannes* is kept as printed.

[2265] Each note reads only *Adſcriptum eſt* and a figure in parentheses; the page does not say what the figures 40, 41 and 42 refer to.

The right shoulder of Orion from the east [Dext. hum.] [Or. ab] [ortu]	By the sextant, between ☿ and the eye of ♉ [Per Sext.] [inter ☿ &] [ocul. ♉]	Altitude of ☿ [Alt.] [☿]	Declination of ☿ [Decl.] [☿]
155° 30′	22° 59½′	3° 0′	
156° 50′	22° 58½′	2⅓°	17° 34′
157° 22′	22° 57′	2° 10′	17° 34½′
	Between ☿ and ♀ [Inter ☿ & ♀]		
160°	I 10° 45′		
	II 10° 44′	1° [1 G.]	

2266

A little later, between ☿ and ♄, 4° 40′ [Greek: ἐν πλάτει (en platei, "in breadth")]. [Paulo poſt, inter ☿ & ♄ 4 40 ἐν πλάτει.][2267]

The colour of ☿, when [it] was first seen, was rather pale, afterwards reddish; [it] appeared nearly twice as large as ♄. [Color ☿ dum primum conſpicieba-] [tur ſubpallidus erat, poſtea rubicun-] [dus, apparuit fere duplo maior ♄no.][2268]

On 11 April [DIE 11 APRILIS.]

By the least quadrant. [Per Quadrantem Minimum.]

Canis Minor from the east [Canis min.] [ab ortu]	Time [Tem-] [pus]	Between ☿ and the eye of ♉ [Inter ☿] [& oc. ♉]	Altitude of ☿ [Alt.] [☿]	Declination of ☿, north [Decl. ☿] [Bor.]
141° 58′	8^h 48^m 14^s [8 48 14]	14° 27¼′	5° 20′	
142° 26′	8^h 50^m 6^s [8 50 6]	14° 28′	5° 10′	
142° 49′	8^h 51^m 38^s [8 51 38]	14° 29′	4° 50′	
143° 15′	8^h 53^m 22^s [8 53 22]	14° 29½′	4° 40′	
143° 26′	8^h 54^m 6^s [8 54 6]		doubtful [dubia]	20° 59′

[2266] All four heads are the page's, in smaller type over three lines. *Inter* ☿ *&* ♀ is a head in smaller type set between the rows over the second column; it is kept as a row in its place, and from it that column gives the distance between ☿ and ♀. *I* and *II* are printed before the two distances of ☿ from ♀ and are kept as printed; the page does not say what they number. *1 G.* stands in the altitude column on the line of *II*; *G.* is given as the degree mark. *2⅓* and *160* are single figures; they are given as degrees, because they stand in the degree place of columns whose other values are degrees and minutes. The other values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2267] *4 40*, printed without unit marks, is given as degrees and minutes.

[2268] ♄*no*, the sign with *no* set superior, is taken as the ablative *Saturno*, "than ♄". *poſtea rubicundus* is given with *Color* as "afterwards reddish"; it can also be taken with *apparuit*, "afterwards, reddish, [it] appeared nearly twice as large as ♄". *ſubpallidus* is given as "rather pale".

2269

[It] was not possible to have more [observations] on account of clouds. [Plures habere non licuit propter nu-] [bes.]

Time (hours, minutes, seconds) [Tempus] [H. M. S.]	From [our] own observation[1]: longitude [Ex propria obſeruatione[1]] [Longitudo]	Latitude [Latitudo]
$8^h\ 48^m\ 14^s$ [8 48 14]	20° 13½′ ♉	2° 47½′ north [2 47½ B.]

From Prutenic, Mästlin's: longitude [Ex Pruten. Mæſtlini] [Long.]	Latitude [Lat.]	From Alphonsine, Cyprian's: longitude [Ex Alphon. Cypriani] [Long.]	Latitude [Lat.]
21° 21′ ♉	2° 6′ north [2° 6′B.]	21° 5′ ♉	1° 45′ north [1°45′B.]

2270

Canis Minor from the east [Canis] [min.] [ab ortu]	Time [Tem-pus]	Between ☿ and the bright foot of Erichthonius [Inter ☿ &] [luc. ped.] [Ericht.]	Altitude of ☿ [Alt.] [☿]	Declination of ☿ [Decl.] [☿]
146° 0′	$9^h\ 4^m\ 22^s$ [924 4 22]	924° 39¾′	3° 20′	21° 5′
147° 9′	$9^h\ 8^m\ 56^s$ [924 8 56]	924° 41¼′	2° 40′	21° 4⅓′
148° 10′	$9^h\ 13^m\ 2^s$ [924 13 2]	924° 41¾′	2° 20′	

2271

[2269] All five heads are the page's, in smaller type over two lines. *Bor.* is "north". In the last row *dubia* stands in the altitude column, where the altitudes stand in the rows above, and *20 59* in the declination column; *dubia* is given in the altitude column, as "doubtful", and it can also be taken with the declination that follows it on the line. The times, printed as three figures without marks, are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2270] The heads of both tables are the page's, in smaller type. *Ex propria obſeruatione[1]* stands over both value columns of the first table, with *Longitudo* and *Latitudo* under it. In the second table *Ex Pruten. Mæſtlini* stands over the first pair of columns and *Ex Alphon. Cypriani* over the second, the two pairs divided by a short vertical rule. *B.* is "north". In the first table the values, printed without unit marks, are given as degrees and minutes; the second table prints the degree and minute marks.

[2271] All five heads are the page's, in smaller type. The page prints no north or south mark with these declinations. The times, printed as three figures without marks, are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes. The empty cell is empty on the page.

On 16 April *[DIE 16 APRILIS.]*

The heart of ♌ from the east [Cor ♌ ab] [ortu]	*Time* [Tem-] [pus]	*Distance from the bright foot of* ☿ [Dist. a luc.] [pede ☿]	*Altitude of* ☿ [Alt.] [☿]	*Declination of* ☿ [Decl.] [☿]
115° 4′	*9ʰ 9ᵐ* [9 9]		*4*	*20° 14½′*
116° 14′	*9ʰ 14ᵐ* [9 14]	*37° 38′*	*3½*	
117° 0′	*9ʰ 17ᵐ* [9 17]	*37° 41′*	*3¼*	
The bright [star] of Hydra from the east [Luc. hydræ ab ortu]				
126½°		*37° 40′*	*3*	
128° 0′	*9ʰ 22ᵐ* [9 22]	*37° 41′*	*2⅚*	

2272

I think the preceding observation was on the star ☿; a test can be made from the observations of the preceding days and ephemerides. [Puto antecedentem obſeruationem] [fuiße in ſtella ☿, poteſt fieri pericu-] [lum e præcedentium dierum obſer-] [uationibus & Ephemeridibus.][2273]

Observations of the fixed stars in the zodiac[2] [OBSERUATIONES STELLARUM FIXARUM IN ZODIACO[2].]

And first of all, of those that are in Aries. [ET PRIMO QUIDEM EARUM] [QUÆ SUNT IN ARIETE.]

On 9 January [DIE 9 JANUARIJ.]

Reading	Remark	Value
Meridian altitude of the bright [star] of ♈ [Lucidæ ♈ Altit. Merid.]		55° 34⅓′
Declination of the same by the armillae [Declin. eiusdem per Armillas]		21° 29′

[2272] All five heads are the page's, in smaller italic over two lines; the date heading, the heads and every row are italic on the page. *Cor ♌* is given as "the heart of ♌". *Luc. hydræ ab ortu* is a head in smaller italic set between the rows over the first columns; it is kept as a row in its place, and from it the first column gives the bright star of Hydra from the east. *126½*, a single figure, is given as degrees, because it stands in the degree place of a column whose other values are degrees and minutes. The altitudes *4*, *3½*, *3¼*, *3* and *2⅚* are single figures printed without unit marks and are given bare. The times, printed without marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2273] *periculum* is given in the sense "test, trial", with *poteſt fieri* "can be made". *in ſtella ☿* is given as "on the star ☿". The page does not say which observation *antecedentem obſeruationem* means.

Reading	Remark	Value
	with the other pinnule [alt. pin.]	21° 28½′

On 10 January, P. M. [DIE 10 JANUARIJ P. M.]

Reading	Remark	Value
Meridian altitude of the bright [star] of ♈ [Alt. Merid. Lucidæ ♈]		55° 34⅓′
Its declination by the armillae [Declin. eius per Armillas]		21° 28½′
	with the other pinnule [altero pinnac.]	21° 28½′

2274

On 12 January [DIE 12 JANUARIJ.]

Reading	Remark	Value
Meridian altitude of the bright [star] of ♈ [Altit. lucidæ ♈ Merid.]		55° 34¼′
Declination by the armillae of the bright [star] of ♈ [Declin. per Armill. lucidæ ♈]		21° 27¾′
	with the other pinnule [alt. pin.]	21° 28′
The same repeated [Eadem repetita]	with one [vno]	21° 28½′
	with the other [alt.]	21° 28¼′
The same repeated [Eadem repetita]		21° 28½′
		21° 28½′

2275

On 15 January [DIE 15 JANUARIJ.]

Reading	Instrument	Value
Altitude of the bright [star] of ♈ by the mural [quadrant] [Alt. lucidæ ♈ per Muralem]		55° 34½′
	by the revolving [quadrant] [per Volub.]	55° 34′

2274 "Reading", "Remark" and "Value" are this edition's heads in both tables above and in the 12 January table below; the page prints none. *alt. pin.* and *altero pinnac.* stand indented, directly before their figures. The values, printed without unit marks, are given as degrees and minutes.

2275 *alt. pin.* and *alt.* stand indented and *vno* directly before its figures. The last value stands alone on its line, under the one before it. The values, printed without unit marks, are given as degrees and minutes.

2276

[1] In codex V., added: ”Let the computation be repeated” (in Kepler's hand, as it seems). [In codice V. adſcriptum eſt: »Repetatur computatio« (Kepleri manu, vt videtur).]

[2] From codex V. All [observations] are missing in the Copenhagen codex (D.). [E codice V. Omnes deſunt in codice Haunienſi (D.).]

Reading	Remark	Value
Declination by the greater armillae [Decl. per Armill. maiores,]	with both [vtroq.]	21° 28¾′

2277

This agrees well with the revolving [quadrant], or with the altitude intermediate [between] both. [Hæc bene conuenit cum Volubili] [vel altitudine vtraque intermedia.][2278]

On 14 December [DIE 14 DECEMBRIS.]

Reading	Value
Between the bright [star] of ♈ and the eye of ♉ [Inter lucidam ♈ & oculum ♉]	35° 32½′ three times [ter]

2279

On 15 December, in the evening [DIE 15 DECEMBRIS, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the second [star] of ♈ [Alt. Merid. 2 ♈]	by the steel [quadrant] [per Chalyb.]	52° 51⅔′
	by the revolving [quadrant] [per Volub.]	52° 51⅔′

[2276] ”Reading”, ”Instrument” and ”Value” are this edition's heads; the page prints none. *per Volub.* stands indented under the first label. The values, printed without unit marks, are given as degrees and minutes.

[2277] This line stands at the head of the left-hand column under no date heading; the last date heading before it is that of 15 January, at the foot of p. 307, and it is kept under that date. ”Reading”, ”Remark” and ”Value” are this edition's heads; the page prints none. *vtroq.* stands indented on the next line, directly before the figures. The value, printed without unit marks, is given as degrees and minutes.

[2278] *Hæc* is given as ”This”; the page does not say what it refers to. *Volubili* is ”the revolving [quadrant]”. *vtraque* agrees in form with *altitudine*; it is given as ”both”, and the page does not name the two. *conuenit* is given in the present, ”agrees”; it can also be taken as the perfect, ”agreed”.

[2279] ”Reading” and ”Value” are this edition's heads; the page prints none. *ter*, in smaller type after the figures, is ”three times”. The value, printed without unit marks, is given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of the bright [star] of ♈ [Alt. Merid. lucid. ♈]	by the steel [quadrant] [per Chalyb.]	55° 34⅔′
	by the revolving [quadrant] [per Volub.]	55° 35′

2280

On 19 December [DIE 19 DECEMBRIS.]

Reading	Instrument	Value
Meridian altitude of the bright [star] of ♈ [Alt. Mer. luc. ♈]	by the steel [quadrant] [per Chalyb.]	55° 35′ nearly [fere]
	by the revolving [quadrant] [per Volub.]	55° 35⅙′

2281

Longitude 1° 54′ ♉, latitude 9° 57′ 5″. [Longitudo 1° 54′ ♉, Latitudo 9° 57′ 5″.][2282]

Observations of the stars in Taurus [OBSERUATIONES STELLARUM] [IN TAURO.]

On 24 January [DIE 24 JANUARIJ.]

Reading	Instrument	Value
The northern horn of ♉ [Boreale cornu ♉]	by the revolving [quadrant] [per Volub.]	62° 15½′
	by the steel [quadrant] [per Chalyb.]	62° 16′

2283

[2280] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *2* ♈, printed with the figure *2*, is given as "the second [star] of ♈". *Alt. Merid. lucid.* ♈ stands on a line of its own, with no figure; *per Chalyb.* and *per Volub.* stand indented under the labels. The values, printed without unit marks, are given as degrees and minutes.

[2281] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *fere*, in smaller type after *55 35*, is "nearly". The values, printed without unit marks, are given as degrees and minutes.

[2282] The degree, minute and second marks are printed. The page prints no north or south mark with the latitude, and does not say of which star these are the longitude and latitude.

[2283] The section title stands in the left-hand column, centred, on two lines, not across the full page. "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The page does not say what the values measure. The values, printed without unit marks, are given as degrees and minutes.

On 30 January [DIE 30 JANUARIJ.]

Reading	Instrument	Remark	Value
Declination of Aldebaran by the greater armillae [Declin. Aldeboræ] [per Arm. maiores]		with one [vno]	15° 36′
		with the other [alt.]	15° 36¼′
Repeated declination [Repetita declinatio]		with one [vno]	15° 36′
		with the other [alt.]	15° 36¼′
The eye of ♉ through the meridian, altitude [Oculus ♉ per Merid., Alt.]			49° 41⅔′
	by the revolving [quadrant] [per Volub.]		49° 41¾′
The northern horn of ♉ [Boreale cornu ♉]	by the revolving [quadrant] [per Volub.]		62° 15⅓′
	by the steel [quadrant] [per Chalyb.]		62° 15½′

2284

On 4 February [DIE 4 FEBRUARIJ.]

Reading	Instrument	Remark	Value
Meridian altitude of the eye of ♉ [Oculi ♉ Alt. Merid.]			
	by the revolving [quadrant] [per Volub.]		49° 41⅚′
	by the steel [quadrant] [per Chalyb.]		49° 41⅚′
	by the mural [quadrant] [per Muralem,]	with the new [nouo]	49° 42′
		with the old [veteri]	49° 42⅓′
Its declination by the armillae [Declin. eius per Armill.]		with one [vno]	15° 36¼′
		with the other [altero]	15° 36½′

2284 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, *Declin. Aldeboræ* on the first and *per Arm. maiores* indented on the second, and is given whole on the first row; *vno* and *alt.* stand before the figures of those two lines. *alt.* in the fourth row stands indented, directly before its figures. *per Volub.* and *per Chalyb.* stand indented under their labels. No instrument is printed with the first altitude of the eye of ♉. The values, printed without unit marks, are given as degrees and minutes.

2285

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Instrument	Remark	Value
Altitude of the eye of ☿ in the meridian, precisely [Alt. oculi ☿ in Merid., præciſe]			49° 42′
		with both [vtroque]	
The eye of ☿ through the meridian [Oculus ☿ per Mer.,]			
	by the steel [quadrant] [per Chalyb.]		49° 41¾′
	by the revolving [quadrant] [per Volub.]		49° 41⅔′
The northern horn of ☿ [Boreale cornu ☿]			62° 16′

2286

On 6 February [DIE 6 FEBRUARIJ.]

Reading	Instrument	Value
Meridian altitude of the eye of ☿ [Oculi ☿ Alt. Merid.]		49° 42⅙′
	by the revolving [quadrant] [per Volub.]	49° 41⅚′

On 7 February [DIE 7 FEBRUARIJ.]

Reading	Instrument	Remark	Value
Meridian altitude of the eye of ☿ [Oculi ☿ Alt. Merid.]		with both [vtroque]	49° 42′
	by the steel [quadrant] [per Chalyb.]		49° 42′
The northern horn of ☿ [Boreale cornu ☿]		nearly [fere]	62° 15⅙′

2285 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The first label stands on a line of its own, with no figure; the instruments stand indented under it. *veteri* and *altero* stand indented, directly before their figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2286 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. *vtroque* stands alone on its line at the right, under the figures *49 42*; it is given on its own row, as "with both", and can be taken with the value above it or with the lines that follow. *Oculus ☿ per Mer.,* stands on a line of its own, with no figure. No instrument is printed with the northern horn. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

On 8 February [DIE 8 FEBRUARIJ.]

Reading	Instrument	Value
The eye of ☿ [Oculus ☿]	by the steel [quadrant] [per Chalyb.]	49° 42′

2287

On 10 February [DIE 10 FEBRUARIJ.]

Reading	Instrument	Remark	Value
The eye of ☿ in the meridian, altitude [Oculus ☿ in Merid., Alt.]			
	by the revolving [quadrant] [per Volub.]		49° 41⅔′
	by the steel [quadrant] [per Chalyb.]		49° 42′
Declination of the same by the armillae [Declin. eiusdem per Arm.,]			
		with one [vno]	15° 37′
		with the other [alt.]	15° 37⅙′
Repeated [Repetita]		with both [vtroque]	15° 37′

2288

On 11 February [DIE 11 FEBRUARIJ.]

Reading	Remark	Value
Declination of the eye of ☿ [Declin. oculi ☿]	with one [vno]	15° 37′
	with the other [altero]	15° 37⅙′

On 12 February [DIE 12 FEBRUARIJ.]

[2287] In the three tables above, "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. *vtroque* and *fere* stand directly before their figures. No instrument is printed with the first value of 6 and of 7 February, or with the northern horn on 7 February. The values, printed without unit marks, are given as degrees and minutes.

[2288] "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The two labels stand on lines of their own, with no figure; *vno* and *alt.* stand indented on the following lines, directly before their figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Instrument	Value
The southern horn of ♉ [Auſtrale cornu ♉]	by the revolving [quadrant] [per Volub.]	54° 53½′
	by the steel [quadrant] [per Chalyb.]	54° 54⅙′

On 21 December, in the evening [DIE 21 DECEMBRIS, VESPERI.]

Reading	Instrument	Value
Meridian altitude of Aldebaran [Alt. Mer. Aldeboræ]		
	by the steel [quadrant] [per Chalyb.]	49° 42⅙′
	by the revolving [quadrant] [per Volub.]	49° 41½′

2289

Longitude 4° 1¼′ ♊, latitude 5° 30½′ south. [Longitudo 4° 1¼ ♊, Latitudo 5° 30½′ M.][2290]

Right ascension of the eye of ♉ in the year 1588, in the months of March and April[1]. [Oculi ♉ Aſc. Recta Anno 1588] [m. Martio & Aprili[1].]

Value	Value
63° 5′ 27″	63° 6′ 36″
63° 3′ 4″	63° 5′ 27″
63° 5′ 38″	63° 5′ 7″
63° 4′ 43″	63° 5′ 9″
63° 4′ 56″	

2291

[1] On a loose leaf in codex Vindob. lat. 10709. The observations are found above, among the observations of Venus. [In folio ſoluto in cod. Vindob. lat. 10709. Obſervationes ſupra inter obſervationes Veneris reperiuntur.][2292]

[2289] In the three tables above, "Reading", "Remark", "Instrument" and "Value" are this edition's heads; the page prints none. *altero* stands indented, directly before its figures; the label of 21 December stands on a line of its own, with no figure. The page does not say what the values for the southern horn measure. The values, printed without unit marks, are given as degrees and minutes.

[2290] *1¼* is printed after *4°* with no minute mark; it is given as minutes, as the degree mark before it fixes. *M.* is "south". The page does not say of which star these are the longitude and latitude.

[2291] "Value" is this edition's head for both columns; the page prints none. *m.* is taken as an abbreviation of *mense* or *mensibus*, "in the months". The figures stand in two columns, five at the left and four at the right; the first line prints the degree, minute and second marks, and the other lines, printed without marks, are given as degrees, minutes and seconds, as those marks fix. The page does not say in what order the nine values were taken. The empty cell is empty on the page.

[2292] *ſupra* is given with *reperiuntur*, "are found above"; it can also be taken with *Obſervationes*, "the observations above are found among the observations of Venus". *cod. Vindob. lat. 10709* is a shelfmark, kept as printed with *cod.* given as "codex".

From the earlier restitution of the fixed [stars], the right ascension of the same [star] would be 63° 5¼′ for this time. From the book of comets, 63° 5′ 44″. [Ex priori fixarum reſtitutione ad hoc] [tempus eßet eiusdem Aſc. R. 63° 5¼′. Ex] [lib. com. 63° 5′ 44.][2293]

Observations of the stars in Gemini [OBSERUATIONES STELLARUM] [IN GEMINIS.]

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Value
Of the sole of the foot of ♊ [Plantæ pedis ♊]	56° 43½′
	56° 43⅔′

[2294]

On 14 February [DIE 14 FEBRUARIJ.]

Reading	Instrument	Remark	Value
The upper head of ♊ in the meridian [Superius caput ♊ in Merid.]			
	by the revolving [quadrant] [per Volub.]		66° 46⅚′
	by the steel [quadrant] [per Chalyb.]		66° 47⅙′
The lower head of ♊ in the meridian [Inferius caput ♊ in Merid.]			
	by the revolving [quadrant] [per Volub.]		63° 1⅔′
	by the steel [quadrant] [per Chalyb.]		63° 2′
Declination by the armillae [Decl. per Armill.,]		with one [vno]	28° 57¼′
		with the other [altero]	28° 57⅓′

[2293] This paragraph stands at the head of the left-hand column. *eßet* is subjunctive, "would be"; *ad hoc tempus* is given as "for this time". *eiusdem*, "of the same", names no star; the right ascensions set immediately before it, at the foot of p. 308, are those of the eye of ♉. *lib. com.*, abbreviated, is given as "the book of comets"; the page does not expand it. The figure *44*, printed with no mark after the degree and minute marks before it, is given as seconds, as those marks fix.

[2294] The section title stands in the left-hand column, centred, on two lines, not across the full page. "Reading" and "Value" are this edition's heads; the page prints none. *Plantæ* is genitive; the page prints no noun governing it and does not say what the values measure. The second figure stands alone, under the first. The values, printed without unit marks, are given as degrees and minutes. The empty cell is empty on the page.

On 15 February [DIE 15 FEBRUARIJ.]

Reading	Instrument	Remark	Value
The upper head of ♊ in the meridian [Super. caput ♊ in Mer.]			
	by the revolving [quadrant] [per Volub.]		66° 47′
	by the steel [quadrant] [per Chal.]		66° 47¼′
The lower head of ♊ [Infer. caput ♊]			
	by the revolving [quadrant] [per Volub.]		63° 1⅔′
	by the steel [quadrant] [per Chal.]		63° 1¾′
Its declination, north [Declin. eius B.,]		with both [vtroque]	28° 57′

2295

On 19 February [DIE 19 FEBRUARIJ.]

Reading	Instrument	Remark	Value
Meridian altitude of the sole of the foot of ♊ [Plantæ pedis ♊ Alt. Merid.]			
	by the revolving [quadrant] [per Volub.]		56° 37′
	by the steel [quadrant] [per Chalyb.]		56° 37⅓′
The heel of the foot of ♊ [Calx pedis ♊]			
	by the revolving [quadrant] [per Volub.]		56° 43′
	by the steel [quadrant] [per Chalyb.]		56° 43½′
The bright [star] of the foot of ♊ [Lucida pedis ♊]			50° 45¼′
The upper head of ♊ [Superius caput ♊]			
	by the revolving [quadrant] [per Volub.]		66° 47′
	by the steel [quadrant] [per Chalyb.]		66° 47′
The lower head of ♊ [Inferius caput ♊]			
	by the revolving [quadrant] [per Volub.]		63° 1⅔′

2295 In the two tables above, "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The labels of the heads of ♊ stand on lines of their own, with no figure; the instruments stand indented under them. *vno*, *altero* and *vtroque* stand directly before their figures. *Super.* and *Infer.* are given as "upper" and "lower", as *Superius* and *Inferius* are printed in full on this page. *B.* is "north". *eius*, "its", follows the lower head of ♊; the page does not name the star. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Instrument	Remark	Value
	by the steel [quadrant] [per Chalyb.]		63° 1¾′
	Declination [Declin.]	with one [vno]	28° 57⅓′
		with the other [altero]	28° 57½′
Repeated declination [Repetita declin.]		with one [vno]	28° 57⅙′
		with the other [altero]	28° 57⅓′

2296

On 25 February [DIE 25 FEBRUARIJ.]

Reading	Instrument	Remark	Value
Altitude of the upper head of ♊ [Alt. ſuper. capitis ♊]			
	by the revolving [quadrant] [per Vol.]		66° 47′
	by the steel [quadrant] [per Chalyb.]		66° 47¼′
	by the Tychonic [quadrant] [per Tychon.]		66° 47⅔′
The lower head of ♊ [Inferius caput ♊]			
	by the revolving [quadrant] [per Volub.]		63° 1¾′
	by the steel [quadrant] [per Chalyb.]		63° 2¼′
	by the Tychonic [quadrant] [per Tychon.]		63° 2′
Declination by the greater armillae [Declin. per Arm. mai.,]		with one [vno]	28° 57¼′
		with the other [alt.]	28° 57½′
Repeated [Repetita]			28° 57½′
		with the other [alt.]	28° 57′

2296 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The labels other than the bright star of the foot stand on lines of their own, with no figure; the instruments and *Declin.* stand indented under them. No instrument is printed with the bright star of the foot. *vno* and *altero* stand directly before their figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2297

Therefore the true declination [is] 28° 57¼′, which in this place agrees well enough with the observation by the steel [quadrant]. [Ergo vera declinatio 28 57¼, quod] [hoc loco ſatis concordat cum obſer-] [uatione per Chalybeum.][2298]

On 27 February [DIE 27 FEBRUARIJ.]

Reading	Instrument	Remark	Value
The bright [star] of the feet of ♊ [Lucida pedum ♊]			
	by the steel [quadrant] [per Chalyb.]		50° 45⅔′
	by the revolving [quadrant] [per Volub.]		50° 45⅔′
The upper head of ♊ [Superius caput ♊]			
	by the steel [quadrant] [per Chalyb.]		66° 47¼′
	by the revolving [quadrant] [per Volub.]		66° 46¾′
The lower head of ♊ [Inferius caput ♊]			
	by the steel [quadrant] [per Chalyb.]		63° 2¼′
	by the revolving [quadrant] [per Volub.]		63° 1⅚′
	by the Tychonic [quadrant] [per Tychon.]		63° 1⅚′
	Declination [Declin.]	with one [vno]	28° 57′
		with the other [alt.]	28° 57½′

On 28 February [DIE 28 FEBRUARIJ.]

Reading	Instrument	Value
The upper head of ♊ [Superius caput ♊]	by the Tychonic [quadrant] [per Tych.]	66° 47½′
The lower head of ♊ [Inferius caput ♊]		63° 1⅚′

2297 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The two star labels stand on lines of their own, with no figure. *ſuper.* is given as "upper", and *mai.* as "greater", as *Superius* is printed in full on this page and *maiores* with the armillae on p. 308. *Repetita* stands at the left with no word before its figures; *alt.* stands directly before its figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2298 The figures *28 57¼*, printed without unit marks, are given as degrees and minutes, as in the table above. *quod* is given as "which"; the page does not say whether it refers to the declination or to the whole finding. *hoc loco*, "in this place", can also be taken as "in this case". *ſatis* is given as "well enough". *per Chalybeum* is "by the steel [quadrant]".

On 15 December, in the evening [DIE 15 DECEMBRIS, VESPERI.]

Reading	Value
Declination of the upper head of ♊ [Decl. fuperioris capitis ♊]	32° 43′ 32° 43½′

2299

Longitude of the lower head of ♊ 17° 31½′ ♋, latitude 6° 38′ north. [Long. inf. cap. ♊ 17°31½′ ♋, Lat. 6°38′ B.][2300]

Observations of the stars in Leo [OBSERUATIONES STELLARUM] [IN LEONE.]

On 25 February [DIE 25 FEBRUARIJ.]

Reading	Instrument	Value
Altitude of the heart of ♌ in the meridian [Cordis ♌ in Mer. Alt.]		
	by the steel [quadrant] [per Chal.]	48° 2½′
	by the revolving [quadrant] [per Volub.]	48° 2¼′
	by the mural [quadrant] [per Mural.]	48° 2¼′

2301

Reading	Instrument	Remark	Value
Its declination by the armillae [Decl. eius per Armill.,]		with one [vno]	13° 57½′
		with the other [altero]	13° 57¾′
Altitude of the bright [star] of the neck of ♌ [Alt. lucidæ ceruicis ♌]			

[2299] In the three tables above, "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. On 27 February the star labels stand on lines of their own, with no figure, and the instruments and *Declin.* stand indented under them; *vno* and *alt.* stand directly before their figures. On 28 February *per Tych.* stands on the line of the upper head, and no instrument is printed with the lower head. On 15 December the second figure stands alone, under the first. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2300] The degree and minute marks are printed. *inf. cap.* is given as "the lower head", as *Inferius caput* is printed in full on this page. *B.* is "north".

[2301] The section title stands in the right-hand column, centred, on two lines. "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label stands on a line of its own, with no figure; the instruments stand indented under it. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Instrument	Remark	Value
	by the steel [quadrant] [per Chal.]		55° 59′
	by the revolving [quadrant] [per Volub.]		55° 58⅚′
Declination of the same by the armillae [Decl. eiusdem per Arm.,]		with one [vno]	21° 54′
		with the other [altero]	21° 54⅓′

2302

On 27 February [DIE 27 FEBRUARIJ.]

Reading	Instrument	Value
The heart of ♌ [Cor ♌]	by the steel [quadrant] [per Chalyb.]	48° 2½′
	by the revolving [quadrant] [per Volub.]	48° 2½′
	by the mural [quadrant] [per Mural.]	48° 2⅓′
		48° 2⅔′
Declination by the armillae [Decl. per Armillas]		13° 57½′
		13° 57⅓′

which agrees well enough[1]. [quod ſatis conuenit[1].][2303]

Longitude of the heart of ♌ 24° 6′ ♌, latitude 0° 27½′ north. [Longit. cordis ♌ 24°6′ ♌, Lat. 0° 27½ B.][2304]

Observations of the stars in Virgo [OBSERUATIONES STELLARUM] [IN VIRGINE.]

On 20 February, in the morning [DIE 20 FEBRUARIJ, MANE.]

[2302] These lines stand at the head of the left-hand column under no date heading; the last date heading before them is that of 25 February, under the observations in Leo at the foot of p. 309, and they are kept under that date. *eius*, "its", follows the heart of ♌, the last star named there. "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. *vno* and *altero* stand directly before their figures; the label of the bright star of the neck stands on a line of its own, with no figure, the instruments indented under it. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2303] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Cor ♌ per Chalyb.* stands on one line with its figures; the other instruments stand indented under it. The fourth and the sixth values stand alone, each under the figures of the line above, with no word before them. The values, printed without unit marks, are given as degrees and minutes. *quod ſatis conuenit* stands indented on its own line after the declinations; *quod* is given as "which", and the page does not say what it refers to; *ſatis* is given as "well enough"; *conuenit* is given in the present, "agrees", and can also be taken as the perfect, "agreed". Empty cells are empty on the page.

[2304] *27½* is printed after *0°* with no minute mark; it is given as minutes, as the degree mark before it fixes. *B.* is "north".

Reading	Instrument	Remark	Value
Meridian altitude of Spica ♍ [Spicæ ♍ Alt. Mer.]			
	by the steel [quadrant] [per Chal.]		25° 8′ 0″
	by the revolving [quadrant] [per Volub.]		25° 7′ 55″
	by the mural [quadrant] [per Mural.,]	with both pinnules [vtroq. pinn.]	25° 7′ 30″
Declination by the armillae [Decl. per Armill.]		with one [vno]	8° 57′
		with the other [alt.]	8° 57¼′
Repeated declination [Repetita decl.]		with one [vno]	8° 57′
		with the other [alt.]	8° 56⅝′

On 18 December, in the morning [DIE 18 DECEMBRIS, MANE.]

Reading	Instrument	Remark	Value
Meridian altitude of Spica ♍ [Alt. Spicæ ♍ merid.]			
	by the steel [quadrant] [per Chalyb.]		25° 8′ 25″
	by the revolving [quadrant] [per Volub.]		25° 7′ 40″
	by the mural [quadrant] [per Mural.]		25° 7′ 55″
		with the old [vet.,] better [melior]	25° 8′ 25″

2305

On 27 December, in the morning [DIE 27 DECEMBRIS, MANE.]

[2305] The section title stands in the left-hand column, centred, on two lines. In the two tables above, "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The labels stand on lines of their own, with no figure; the instruments stand indented under them. The altitudes are printed in three figure groups without unit marks and are given as degrees, minutes and seconds. The declinations are printed in two groups, the first standing in the column of the degree figures of the altitudes and the second in that of their minutes; they are given as degrees and minutes, as those positions fix. The page prints no north or south mark with them. *vtroq. pinn.* is "with both pinnules"; *vno* and *alt.* stand directly before their figures. *vet., melior* stands indented under *per Mural.*, directly before its figures; *vet.* is given as "with the old", as *veteri* with the mural quadrant on p. 308, and *melior* as "better"; the page does not name the noun either word agrees with. Empty cells are empty on the page.

Reading	Instrument	Remark	Value
Meridian altitude of Spica ♍ [Spicæ ♍ Alt. mer.]			
	by the mural [quadrant] [per Mural.]		25° 8⅓′
	by the steel [quadrant] [per Chalyb.]		25° 8½′
	by the sextant [per Sext.,]	uncertain [incerta]	25° 7′
Declination of Spica by the armillae [Decl. Spicæ per Arm.,]		with one [vno]	8° 57¾′
		with the other [alt.]	8° 57½′
Declination of Spica, repeated [Decl. Spicæ repet.,]		with one [vno]	8° 57′
		with the other [alt.]	8° 57½′

2306

Observations of the stars in Libra [OBSERUATIONES STELLARUM] [IN LIBRA.]

On 10 January, in the morning [DIE 10 IANUARIJ, MANE.]

Reading	Instrument	Value
Meridian altitude of the southern scale-pan of ♎ [Australis lancis ♎ Alt. Mer.]		
	by the revolving [quadrant] [per Volub.]	19° 51¼′

2307

Observations of the stars in Aquarius [OBSERUATIONES STELLARUM] [IN AQUARIO.]

On 25 November, in the evening [DIE 25 NOUEMBRIS, VESPERI.]

2306 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The first label stands on a line of its own, with no figure; the instruments stand indented under it; *incerta*, "uncertain", stands after a comma on the line of the sextant. *vno* and *alt.* stand directly before their figures. The values are printed in two figure groups without unit marks and are given as degrees and minutes; the declinations stand in the same columns as on 20 February. Empty cells are empty on the page.

2307 The section title stands at the head of the right-hand column, centred, on two lines. "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label stands on a line of its own, with no figure. The value, printed without unit marks, is given as degrees and minutes. Empty cells are empty on the page.

Reading	Value
Declination of the last of the three lower [stars] in the right hand of ♒ [Declin. vltimæ trium inferiorum in] [dextra manu ♒]	2° 12¼′ south [M.]

On 19 December, in the evening [DIE 19 DECEMBRIS, VESPERI.]

Reading	Value
Between the mouth of Pegasus and the right shoulder of ♒ [Inter os Pegaſi & dextrum] [humerum ♒]	11° 31½′
	11° 32′

On 28 December, in the evening [DIE 28 DECEMBRIS, VESPERI.]

Reading	Value	Remark
Between the right shoulder of ♒ and the mouth of Pegasus [Inter dextr. humerum ♒ et Os Pegaſi]	11° 31½′	twice; use this [bis, vtere hac.]
	11° 32′	

2308

Observations of the stars in Pisces [OBSERUATIONES STELLARUM] [IN PISCIBUS.]

On 6 December, in the evening [DIE 6 DECEMBRIS, VESPERI.]

Reading	Value	Remark
Distance between the head and the tail of the southern fish [Diſt. inter caput & caudam piſcis me-] [ridionalis]	11° 9½′	moderately [medioc.]
Declination of the head of the fishes [Declin. capitis piſcium]	1° 3′	
Repeated [Repetita]	1° 3⅓′	
	1° 3′	
Declination of the tail of the fishes [Declin. caudæ piſcium]	…[2]	

[2308] In the three tables above, "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The labels of 25 November and of 19 December each run over two lines and are given whole on the first row; on 25 November the figures and *M.*, "south", stand on the second line; on 19 December a figure group stands on each line. On 28 December the label stands on a line of its own and the figures on the two lines below; *bis, vtere hac.* follows the first group, *bis* being "twice" and *vtere hac* "use this". *dextr.* is given as "right", as *dextrum* is printed in full on this page. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2309

On 28 December [DIE 28 DECEMBRIS.]

Reading	Value	Remark
Between the tail of the southern fish and the bright [star] of ♈ [Inter caudam auſtralis piſcis] [& lucidam ♈]	34° 52¾′	
	34° 52¾′	
	34° 53′	
Between the bright [star] in the knot of the cords of ♓ and the eye of ♉ [Inter lucidam in nexu lino-] [rum ♓ & oculum ♉]	40° 12¾	twice [bis]
Between the lowest [star] in the northern cord of ♓ and the eye of ♉ [Inter infimam in lino bore-] [ali ♓ & oculum ♉]	42° 8′	twice [bis]
Between the middle and brighter [star] of the three upper [stars] in the northern cord of ♓ and the eye of ♉ [Inter mediam ac lucidiorem] [ex tribus ſuperioribus in] [Bor. lino ♓ & ocul. ♉]	44° 14⅓′	

2310

[1] The observations of the distances of the heart of ♌ from Pollux, from Spica, from the tail of ♌, made on 18 April, have been inserted above, p. 280, among the observations of Venus. [Obſervationes diſtantiarum cordis ♌ a Polluce, a Spica, a cauda ♌ die 18 Aprilis factæ ſupra p. 280 inter] [obſervationes Veneris inſertæ ſunt.]

[2] Missing in the codex. [Deeſt in codice.][2311]

2309 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The first label runs over two lines, *me-* divided at the line end, and is given whole on the first row; its figures and *medioc.* stand on the second line. *medioc.*, abbreviated, is given as "moderately" (*mediocriter*); it can also stand for *mediocris*, "moderate". *Repetita* stands indented; the next value stands alone, under it. For the tail the page prints three spaced points in place of figures, with the cue [2]. The values, printed without unit marks, are given as degrees and minutes; the page prints no north or south mark with the declinations. Empty cells are empty on the page.

2310 "Reading", "Value" and "Remark" are this edition's heads; the page prints none. Each label runs over two or three lines and is given whole on its first row; the first label has a figure group on each of its two lines and a third group on the line below; the others carry their figures on their last line. *bis*, in smaller type after the figures, is "twice". *mediam ac lucidiorem* is taken as one star, "the middle and brighter [star]", since the *Inter … &* frame names two terms and *& ocul.* ♉ is the second; read as two stars, it would be "the middle and the brighter [stars]". *Bor.* is given as "northern" and *ocul.* as "eye", as *boreali* and *oculum* are printed in full on this page. *auſtralis piſcis* is "the southern fish", as *piſcis meridionalis* above. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2311 *ſupra* is given with *inſertæ ſunt*, "have been inserted above"; it can also be taken with *factæ*, "made above". The note does not name which codex.

Reading	Value	Re-mark
Between the fourth [star] in the southern cord of ♓, counting from the tail toward the knot, and the eye of ♉ [Inter quartam in auſtr. lino ♓] [a cauda ad nodum nu-] [merando & ocul. ♉]	52° 35′	
	52° 35¼′	
Between the preceding [star] of the two near the southern spine of the northern ♓ and the left arm of Andromeda, and the eye of ♉ [Inter præcedentem duarum] [apud auſtralem ſpinam] [borealis ♓ & ſiniſtrum] [brachium Andromedæ] [& ocul. ♉]	53° 43⅝′	
	53° 43⅝′	
	53° 44¼′	
Its declination, north [Declin. eius Bor.]	22° 2′	
Between the following [star] of these two near the southern spine of the northern ♓ and the left elbow of Andromeda, and the eye of ♉ [Inter ſequentem duarum iſta-] [rum apud Auſtralem ſpi-] [nam ♓ Bor. & ſin. cubi-] [tum Andromedæ] [& ocul. ♉]	51° 31½′	
	51° 31⅔′	
Its declination [Declin. eius]	21° 11′	
Between the eye of ♉ and the preceding [star] of the three in the southern spine of the northern ♓ [Inter ocul. ♉ & præcedentem] [trium in auſtrali ſpina] [borealis ♓]	49° 42⅙′	
	49° 42½′	
Between the eye of ♉ and the following [star] in the southern spine of the northern ♓ [Inter ocul. ♉ & ſequentem in] [auſtrali ſpina borealis ♓]	48° 23′	twice [bis]
Between the eye of ♉ and the more southern [star] in the belly of the northern ♓ [Inter ocul. ♉ & auſtraliorem] [in aluo ♓ bor.]	47° 44′	twice [bis]
Between the eye of ♉ and the more northern [star] in the belly of the northern ♓ [Inter ocul. ♉ & borealiorem] [in aluo borealis ♓]	46° 30′	
	46° 30⅙′	
Declination of the northern [star] of the two in the belly of the northern ♓ [Declin. Borealis duarum in] [aluo ♓ borealis]	25° 5′[1] north [B.]	
[Declination] of the more southern [star] of the two in the belly of the same ♓ [Auſtralioris duarum in] [aluo ♓ eiusdem]	22° 24′ north [B.]	
[Declination] of the preceding [star] in the southern spine of ♓ [Præcedentis in auſtrali] [ſpina ♓]	19° 16¼′ north [B.]	
[Declination] of the following [star] in the spine of the same ♓ [Sequentis in ſpina eiusdem ♓]	18° 51′ north [B.]	
[Declination] of the bright [star] in the knot of the cords [Lucidæ in nexu linorum]	0° 45′ north [B.]	
[Declination] of the lower [star] in the northern cord [Inferioris in lino boreali]	7° 4′ north [B.]	
[Declination] of the brighter [star] of the uppermost [stars] in the northern cord [Lucidioris ex ſupremis] [in boreali lino]	13° 13½′ north [B.]	

2312

Observations of the stars in the northern constellations outside the zodiac [OBSERUATIONES STELLARUM IN ASTERISMIS] [BOREALIBUS EXTRA ZODIACUM.]

On 9 January [DIE 9 JANUARIJ.]

Reading	Remark	Value
Minimum altitude of the far end of the tail of Ursa Major [Extremæ caudæ vrſæ maio-] [ris Alt. minima]		17° 20½′
Of the first [star] of the tail of Ursa Major [Primæ caudæ vrſæ maioris]		
Declination by the armillae [Decl. per Armill.,]	with one pinnule [vno pin.]	58° 15½′
	with the other [altero]	58° 15¼′
The middle [star] of the tail of Ursa Major [Media caudæ vrſæ maioris]		57° 9⅝′
		57° 10⅛′
The third [star] of the tail of Ursa Major, below the pole [Tertia caudæ vrſæ maioris,] [infra Polum]	with both pinnules [vtroque pin.]	51° 27¾′
Minimum altitude of the bright [star] in the □ of Ursa Minor, by the revolving [quadrant] [Lucidæ in □ vrſæ min. Alt.] [min. per Volub.]		41° 45¼′
Declination of the same by the armillae [Declin. eiusdem] [per Armill.]	with one [vno]	75° 52′
	with the other [alt.]	75° 52⅛′
Minimum altitude of the following [star] in Ursa Minor, by the revolving [quadrant] [Sequentis in vrſa minore] [Alt. min. per Volub.]		39° 13⅓′
Declination of the same by the armillae [Declin. eiusdem] [per Armillas]	with one [vno]	73° 22¼′
	with the other [alt.]	73° 21¾′

[2312] These lines stand at the head of the page under no date heading; the last date heading before them is that of 28 December, under the observations in Pisces on p. 310, and they are kept under that date. The first eleven rows stand in the left-hand column, the rest in the right-hand column. "Reading", "Value" and "Remark" are this edition's heads; the page prints none. Each label runs over two to five lines and is given whole on its first row; where a label carries more than one figure group, the further groups stand alone in the rows below it. The values, printed without unit marks, are given as degrees and minutes. *apud* is taken to govern both nouns that follow it, "near the southern spine … and the left arm" (and "… and the left elbow"), the *Inter … &* frame naming the eye of ϑ as the second term; read otherwise, the arm and the elbow of Andromeda would be further terms of the distance. *eius*, "its", follows a distance between two stars; the page does not say which of them it refers to. *Borealis duarum* is taken as "of the northern [star] of the two", parallel with *Auſtralioris duarum* in the next row; it can also be read with *Declin.*, "north declination", of the two. *auſtr.*, *Bor./bor.* and *ſin.* are given as "southern", "northern" and "left", as *auſtrali*, *borealis* and *ſiniſtrum* are printed in full on this page; *ocul.* as "eye", as *oculum* on p. 310. *bis*, in smaller type after the figures, is "twice". *B.* is "north". Empty cells are empty on the page.

2313

On 10 January, in the morning [DIE 10 JANUARIJ, MANE.]

Reading	Remark	Value
Of the first [star] of the tail of Ursa Major [Primæ caudæ vrſæ maioris]		
Declination [Declin.]	with one [vno]	58° 12′
	with the other [altero]	58° 12½′

Reading	Remark	Value
Declination of the middle [star] of the tail of Ursa Major [Mediæ caudæ vrſ. mai. Decl.]		57° 6¼′
		57° 6′
Of the far end of the tail of Ursa Major [Extremæ caudæ vrſæ maioris]		
Declination above the pole [Declin. ſupra Polum]		51° 23½′
		51° 23¾′
Meridian altitude of Arcturus [Arcturi Altit. Merid.]		55° 28 1/12′
Declination by the armillae [Declin. per Arm.]	with both pinnules [vtroq. pin.]	21° 22¼′
Declination above the pole of the brighter [star] in Ursa Major [Declin. ſupra Polum lucidioris] [in vrſa maiore]		75° 50′
Below the pole [Infra polum]		75° 52′
Therefore the truer declination [Ergo verior Declin.]		75° 51′

2313 The section title stands across the full width of the page, centred, on two lines; the date heading and the lines below it stand in the left-hand column. "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The label of the first star of the tail stands on a line of its own, with no figure, and the declination line below it; *Media* and *Tertia* are printed in the nominative. A brace to the right of the figures joins the five values of rows 3 to 7; no word stands beside it. The labels of rows 1, 7, 8 and 11 run over two lines, and the declination labels of rows 9 and 12 run over the two value lines, *per Armill./per Armillas* standing on the second; each is given whole on its first row. *vno*, *altero*, *alt.* and *vtroque pin.* stand directly before their figures. The values, printed without unit marks, are given as degrees and minutes. *min.* after *vrſæ* is "Lesser" and *min.* after *Alt.* "minimum", as *minore* and *minima* are printed on this page. Empty cells are empty on the page.

2314

Examination of the declinations by the stars in the tail of Ursa Major [Declinationum Examinatio] [per Stellas in cauda vrſæ maioris.]

Reading	Value
The first [star] of the tail, below the pole [Prima caudæ infra polum]	58° 15′ 20″
above the pole [ſupra polum]	58° 12′ 15″
Difference [Differentia]	3′ 5″
The middle [star] of the tail [Media caudæ]	
below [infra]	57° 10′ 0″
above [ſupra]	57° 6′ 7″
Difference [Differentia]	3′ 53″

2315

[1] Codex V corrected 5 to 4¾. [5 in 4¾ correxit cod. V.]

Reading	Value
The last [star] of the tail [Vltima caudæ]	
below [infra]	51° 27′ 45″
above [ſupra]	51° 23′ 45″
Difference [Differentia]	4′ 0″

2314 The first of these two tables stands at the foot of the left-hand column. The second stands at the head of the right-hand column, level with the date heading of 9 January, under no date heading of its own; in the page's order it follows the lines of 10 January, in the morning. In both, "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *vno*, *altero* and *vtroq. pin.* stand directly before their figures. The values, printed without unit marks, are given as degrees and minutes; the fraction after 28 is printed as one over twelve. *vrſ. mai.* is "Ursa Major", as *vrſæ maioris* is printed in full in the next label. The page prints *in vrſa maiore* in the label of the eighth row. Empty cells are empty on the page. The word *maiore* is confirmed on a native-resolution crop; the declinations printed against it, 75 50 above the pole and 75 52 below, with 75 51 as the truer declination, stand within 2′ of the 75 52 and 75 52⅙ printed under 9 January for the bright [star] in the □ of Ursa Minor. The page does not say whether the two labels name the same star; both are given as printed, and no correction is made.

2315 The heading stands in the right-hand column, centred, on two lines, in the type of the text. "Reading" and "Value" are this edition's heads; the page prints none. The values are printed in three figure groups without unit marks and are given as degrees, minutes and seconds; each difference is printed in two groups standing in the minute and second positions, and is given as minutes and seconds, as those positions fix. Both differences close against the values above them. Empty cells are empty on the page.

2316

Reading	Detail	Remark	Value
Of the bright [star] in the □ of Ursa Minor [Lucidæ in □ vrſæ minoris]	maximum altitude [Alt. max.]		70° 4¾′
Of the bright [star] of Perseus, minimum altitude [Lucidæ Perſei Alt. min.]	by the revolving [quadrant] [per Volub.]		14° 16′
Declination by the armillae below the pole [Decl. per Arm. infra] [Polum]			48° 24′
		with the other pinnule [alt. pin.]	48° 23½′
Declination of the northern [star] of the first two in the wheels of Ursa Major, toward the west [Declin. borealis duarum pri-] [marum in rotis vrſæ ma-] [ioris verſus occaſum,]		with one [vno]	63° 56′ 45″
The other, more southern [Altera auſtralior]			58° 34′
		with the other pinnule [alt. pin.]	58° 33¾′

2317

On the same day, 10 January, P. M. [EODEM DIE 10 JANUARIJ P. M.]

Reading	Detail	Remark	Value
Declination of the first [star] in the tail of Ursa Major [Primæ in cauda vrſæ maior. decl.]			

2316 These four lines stand at the head of the left-hand column under no heading; they continue the examination of the declinations by the stars in the tail of Ursa Major on p. 311. "Reading" and "Value" are this edition's heads; the page prints none. The values are printed in three figure groups without unit marks and are given as degrees, minutes and seconds; the difference is printed in two groups standing in the minute and second positions, and is given as minutes and seconds, as those positions fix. The difference closes against the values above it. Empty cells are empty on the page.

2317 These lines follow the examination, under no date heading; in the page's order they precede the heading "On the same day, 10 January, P. M." below. "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The label of the third row runs over two value lines, *Polum* standing on the second, and the label of the fifth row over three lines; each is given whole on its first row. *borealis duarum* is taken as "of the northern [star] of the two", parallel with *Altera auſtralior* in the next row; it can also be read with *Declin.*, "north declination". The values in two figure groups, printed without unit marks, are given as degrees and minutes; the value in three groups as degrees, minutes and seconds. Empty cells are empty on the page.

Reading	Detail	Remark	Value
	by the armillae [per Armillas]	with one [vno]	58° 16½′
		with the other [altero]	58° 16¼′
The middle [star] in the tail [Media in cauda]		with one [vno]	57° 9′
		with the other [altero]	57° 8¾′
Of the far end of the tail of Ursa Major [Extremæ caudæ vrſæ maior.]	meridian altitude by the quadrant [Alt. Merid. per Quad.]		17° 20⅔′
Declination of the same by the armillae [Declin. eiusdem per Armill.]		with both pinnules [vtroque pin.]	51° 28′
Of the brighter [star] in the □ of Ursa Major, declination below the pole [Lucidioris in □ vrſæ] [maioris declin. infra] [Polum]		with one [vno]	75° 51′
		with the other [alt.]	75° 51¼′
Repeated, the extreme [star] in Ursa Major [Repet. extrema in vrſa mai.]			51° 28′
	in its declination below the pole [in ſua declin. infra polum]		51° 27⅚′
Of the lesser [star] in Ursa Minor [Minoris in vrſa min.]		with one [vno]	73° 20′
	declination below the pole [decl. infra Polum]	with the other [alt.]	73° 19¾′
Of the brighter [star] in Ursa Minor [Lucidioris in vrſa minore]	minimum altitude by the revolving quadrant [Alt. min. per Q. Volub.]		41° 45⅙′
Declination of the same by the armillae [Decl. eiusdem per Armill.]			75° 51′
			75° 51⅓′
Declination of the more northern [star] of the first two in the wheels of Ursa Major, toward the east [Declin. Borealioris duarum] [primarum in rotis vrſæ] [maioris verſus ortum]			63° 57′
			63° 57¼′
Declination of the other [Declin. alterius]		with one [vno]	58° 34′
		with the other [altero]	58° 34′

Reading	Detail	Remark	Value
Declination of the other, less bright [star] in Ursa Minor, with a single pinnule only because of the clouds [Declin. alterius minus lucidæ] [in vrſa minore, vnico tan-] [tum pinn. propter nubes]			73° 19¾′
Of the fourth [star] in the tail of Draco [Quartæ in cauda Draconis]	minimum altitude by the revolving quadrant [Alt. min. per Q. Volub.]		32° 18′

2318

On 12 January [DIE 12 JANUARIJ.]

Reading	Detail	Remark	Value
Declination of the extreme [star] in Ursa Major, below the pole, at minimum altitude [Declin. extremæ in vrſa maiore] [infra Polum in minima Alt.]	by the greater armillae [per Armill. maiores]		51° 27½′
		with the other pinnule [alt. pinn.]	51° 27⅓′
Of the bright [star] in Ursa Minor [Lucidæ in vrſa minore]			75° 51¼′
Of the other, less bright [star] [Alterius minus lucidæ]	declination below the pole [infra polum declinatio]		73° 19⅔′
		with the other pinnule [alt. pin.]	73° 19½′
Repeated declination of the bright [star] of Ursa Minor [Repetita declin. luc. vrſ. min.]			75° 51⅓′
Repeated declination of the other, less bright [star] of Ursa Minor [Repet. declin. alterius minus] [lucidæ vrſæ min.]			73° 19½′
Minimum altitude of the bright [star] by the revolving quadrant [Altit. min. luc. per Q. Volub.]			41° 45¼′

2318 The date heading and this table stand in the left-hand column. "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The labels of the eighth, seventeenth and twenty-first rows run over three lines and are given whole on their first rows; on the eighth row no figure stands on the middle line. *vno*, *altero*, *alt.* and *vtroque pin.* stand directly before their figures. *Repet.* is given as "Repeated". *maior.*, *mai.* and *min.* after *vrſæ*/*vrſa* are "Major" and "Minor", as *maioris* and *minore* are printed in full on this page; *Quad.* is "quadrant" and *Q. Volub.* "revolving quadrant". *alterius* in the nineteenth row is "of the other", and the page does not name the star it is paired with; it follows the declinations of the more northern star of the first two in the wheels. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page. The label of the eighth row prints *maioris* (confirmed on a native-resolution crop), beside the declinations 75 51 and 75 51¼, while this table prints 75 51 and 75 51⅓ for the brighter [star] in Ursa Minor and p. 311 prints 75 52 and 75 52⅙ for the bright [star] in the □ of Ursa Minor. The page does not say whether the labels name the same star; both are given as printed, and no correction is made.

Reading	Detail	Remark	Value
Minimum altitude of the other [star] in Ursa Minor [Alt. min. alterius in vrſa min.]			39° 13⅓′
Declination of the brighter [star] in the □ of Ursa Minor [Declin. lucidioris in □] [vrſæ minoris]			75° 51⅓′
		with the other [altero]	75° 52′
Declination of the other, less bright [star] [Decl. alterius min. luc.,]		with both [vtroq.]	73° 19½′

When [they] were a little past the meridian, below the pole. [Cum eßent paulo vltra Meridianum] [infra Polum.]

Reading	De-tail	Remark	Value
Declination of the brighter [star] of Ursa Minor [Lucidioris vrſæ min. declin.]			75° 51¼′
			75° 51½′
Of the other, less bright [star] [Alterius minus lucidæ]			73° 19½′
Declination of the preceding [star] of the first two in the wheels of Ursa Major, toward the east [Præcedentis duarum primarum] [in rotis vrſæ mai.] [declin. verſus ortum]		with one [vno]	63° 57′
		with the other [alt.]	63° 57⅙′
Of the lower [star] of the two in the wheels of Ursa Major [Inferioris duarum in Rotis] [vrſæ maioris]			58° 34′
			58° 34⅓′

2319

On 15 January, in the morning [DIE 15 JANUARIJ, MANE.]

2319 The date heading and these lines stand at the head of the right-hand column. "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. In the first table, a brace at the left of the column joins the lines from *Repetita declin.* to *vtroq.* (rows 6 to 12); no word stands beside it. The sentence *Cum eßent …* stands on its own two lines after that table; its verb leaves the subject understood, and the page does not say which stars it refers to. In the second table the label of the fourth row runs over three lines, *declin. verſus ortum* standing on the second value line with *alt.*; it is given whole on the first row. *luc.*, *min.* (after *alterius*) and *vrſ. min.* are given as "bright", "less" and "Ursa Minor", as *lucidæ*, *minus* and *vrſæ minoris* are printed in full in this column; *Repet.* is given as "Repeated". *vno*, *altero*, *alt.*, *alt. pin.*, *alt. pinn.* and *vtroq.* stand directly before their figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Remark	Value
Declination of the lesser [star] in the □ of Ursa Minor [Declin. min. in □ vrſæ]	above the pole [min. ſupra Polum]	with one [vno]	73° 19½′
		with the other [alt.]	73° 19′
The other, brighter [star] [Altera magis lucida]	above the pole [ſupra Polum]	with one [vno]	75° 50¼′
		with the other [alt.]	75° 50½′
The same [star] had maximum meridian altitude [Habuit eadem Alt.] [merid. max.]			70° 4⅔′
Repeated [declinations] of the lesser [star] in Ursa Minor, doubtful because of the dawn [Repetitæ minoris in] [vrſa min., dubiæ] [propter auroram]			73° 18¾′
			73° 19′
			73° 18½′
			73° 19¼′
Minimum altitude of the bright [star] in the side of Perseus [Luc. in latere Perſei Alt. min.]		twice [bis]	14° 16′
Declination below the pole [Declin. infra Polum,]		with one [vno]	48° 23′
		with the other [altero]	48° 23¼′
Repeated [declination] of the brighter [star] in Ursa Minor, around dawn [Repetita Lucidioris in vrſa] [min., circa auroram]			75° 50⅓′
			75° 50¼′
The bright front [star] in the □ of Ursa Major [Lucida anterior. in □] [vrſæ mai.]			63° 57′ 45″
			63° 57′ 45″

both toward the west. [ambæ verſus occaſum.][2320]

[2320] "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. In the first row *min.* stands at the head of the indented line, before *ſupra Polum*; it completes *vrſæ*, "Ursa Minor", and is given there. *min.* before *in* □ is "lesser", as *minoris* in the sixth row; *magis lucida* is "brighter". *Repetitæ … dubiæ* is taken as plural, "repeated [declinations] … doubtful", agreeing with the four values that follow; *Repetitæ* can also be read as a genitive singular with *minoris*. *Repetita Lucidioris* is taken in the same way as "repeated [declination] of the brighter [star]". *Luc.* is "bright", as *lucida* is printed in full in this column. *anterior.* is printed with a point, abbreviated; it is given as "front", agreeing with *Lucida*. *bis*, in smaller type after the figures, is "twice". The line *ambæ verſus occaſum.* stands alone, indented to the right, under the last two values; *ambæ*, "both", is feminine plural, and the page does not name the noun it agrees with. The values in two figure groups, printed without unit marks, are given as degrees and minutes; those in three groups as degrees, minutes and seconds. Empty cells are empty on the page.

Reading	Detail	Remark	Value
The following [star] in the □ of Ursa Major [Sequens in □ vrſæ] [maioris]			58° 35¼′
			58° 34¾′
The brighter [star] of the two in Ursa Minor [Lucidior duarum in vrſa] [min.,]		with both [vtroque]	75° 52′
The other, less bright [star] in the □ of Ursa Minor, declination [Altera minus lucida in □] [vrſæ min., declin.]			73° 20¼′
			73° 20′

Both were below the pole. [Fuerunt ambæ infra Polum.][2321]

Reading	Detail	Remark	Value
Declination of the bright [star] of Perseus in the meridian [Declin. lucidæ Perſei in Merid.]			
	below the pole [infra Polum]		48° 23′
	highest [altißima]		48° 19′
			48° 19¼′
Declination above the pole [Declin. ſupra Polum]			48° 19′
Repeated with both pinnules [Repetita vtroque pin.]			48° 19′
Refraction [Refractio]			4′

2322

Reading	Detail	Remark	Value
Between the pole star and the bright [star of the] □ of Ursa Minor, by the sextant, when they were below the pole [Inter Stellam polarem] [& lucidam □ vrſæ] [minoris per Sext.] [cum eßent infra] [polum]			16° 34⅙′

[2321] These lines stand at the head of the left-hand column under no date heading; on p. 312 the last heading is "On 15 January, in the morning". "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. The labels of the first, third and fourth rows each run over two lines and are given whole on their first rows; on the third row *min.,* stands on the second line, before *vtroque* and the figures. *vtroque*, printed without *pin.*, is "with both". *min.* after *vrſa*/*vrſæ* is "Lesser", and *maioris* "Greater". The sentence *Fuerunt ambæ infra Polum.* stands on its own line after these rows; *ambæ*, "both", is feminine plural, and the page does not name the noun it agrees with. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2322] "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. The first label stands on a line of its own with no figure; *infra Polum* and *altißima* stand indented under it, each with its figures, and are given in the second column. *altißima*, "highest", is feminine singular, and the page does not name the noun it agrees with; *Repetita*, "Repeated", is likewise feminine, agreeing with no printed noun. *Refractio* is set to the right, near the figure column; its *4* stands in the minute column and carries a mark like a prime on the page. The other values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	De-tail	Re-mark	Value
			16° 34¼′
			16° 34¼′
			16° 34½′
			16° 34⅓′
Between the pole star and the other [star] in Ursa Minor [Inter Stellam polarem] [& alteram in] [vrſa minore]			18° 52½′
			18° 53′
			18° 52⅔′
			18° 52¾′
			18° 52¾′

2323

Reading	Detail	Re-mark	Value
Minimum meridian altitude of the brighter [star] in the □ of Ursa Minor [Altit. minima Merid. lucidi-] [oris in □ vrſæ min.]			41° 45¼′ [1]
Minimum altitude of the other, less bright [star] [Alt. min. alterius minus luc.]	by the quadrant [per Quad.]		39° 13½′
Maximum altitude of the bright [star] of Perseus [Alt. max. lucidæ Perſei]			82° 25′
Meridian altitude of the preceding foot of Perseus [Alt. mer. præced. pedis Perſei]			64° 39¾′
Declination of the brighter [star] in the □ of Ursa Minor [Decl. lucidioris in □ vr. min.]			75° 51¾′
			75° 51⅔′
Declination of the other [star] in the □ of Ursa Minor [Decl. alterius in □ vrſæ min.]		twice [bis]	73° 20′
Of the lower [star] of the two preceding [stars] in the wheels of Ursa Major, from the pole toward the east [Inferioris duarum præced.] [in rotis vrſæ mai.] [a polo ad ort.]			58° 34½′
			58° 34¼′
Of the upper [star] of the two in the wheels of Ursa Major [Superioris duarum] [in rotis vrſæ mai.]			63° 57⅓′
			63° 57′
Maximum altitude of the bright [star] of Perseus [Alt. max. lucidæ Perſei]			82° 25′
Declination from the maximum altitude [Decl. e maxima alt.]			48° 19½′
Minimum altitude of the bright [star] of Perseus [Alt. min. lucidæ Perſei]			14° 16′
Declination from the minimum altitude [Decl. e minima alt.]			48° 21½′

[2323] "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over five lines and the second over three, each line with its own figures; each label is given whole on its first row. *lucidam* □ *vrſæ minoris* prints no *in*; the words "of the" are supplied with "star" in square brackets. *cum eßent* leaves its subject understood; the plural agrees with the two stars named. *per Sext.* is "by the sextant". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Here, therefore, the difference which arises through refraction is only 2′. [Eſt igitur hic ſaltem differentia quæ] [per refractionem fit 2 minutorum.][2324]

On 19 January, in the evening [DIE 19 JANUARIJ, VESPERI.]

Reading	Detail	Re-mark	Value
Declination of the bright [star] in the □ of Ursa Minor [Lucidæ in □ vrſæ min. Declin.]	at minimum altitude [in alt. min.]		75° 51′
	repeated [Repetita]		75° 51¼′
Of the other, less bright [star] [Alterius minus lucidæ]			73° 20′
The bright [star] of the side of Perseus [Luc. lateris Perſei]	by the revolving [quadrant] [per Volub.]		82° 24¼′
	repeated [Repetita]		82° 24⅝′
The brighter [star] of the two of Ursa Minor [Lucidior duarum vrſæ min.]			41° 45¼′
The same [Eadem]	by the greatest steel quadrant [per Q. Max. Chalyb.]		41° 45½′

2325

On 24 January [DIE 24 JANUARIJ.]

[2324] "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, divided *lucidi- / oris*; the labels of the second, eighth and tenth rows run over two or three lines; each is given whole on its first row (on the eighth row the first line, *Inferioris duarum præced.*, carries no figure). The cue [1] after 41° 45¼′ is the page's footnote cue; the note stands at the foot of this page. *Quad.* is "quadrant". *præced. pedis* is taken as "of the preceding foot", the abbreviation agreeing with *pedis*; "of the preceding [star] of the foot" is the other construal. *duarum præced.* is taken as "of the two preceding [stars]"; *præced.* can also be read as a singular, "of the preceding [star]", with *duarum* standing alone. *vr. min.* is "Ursa Minor", as *vrſæ min.* in the next row; *mai.* is "Major"; *a polo ad ort.* is "from the pole toward the east". *bis*, in smaller type after the figures, is "twice". The page does not say which quantity the values of the eighth to eleventh rows are. *ſaltem* is given as "only", the difference being called small. The values, printed without unit marks, are given as degrees and minutes; *2 minutorum* is "2′". Empty cells are empty on the page.

[2325] The date heading and the first row stand at the foot of the left-hand column; the second row onward stands at the head of the right-hand column under no heading of its own. "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented (*in alt. min.*, *Repetita*) stand in the second column. *Repetita*, "repeated", is feminine, agreeing with no printed noun. *per Volub.* is "by the revolving [quadrant]"; *per Q. Max. Chalyb.* "by the greatest steel quadrant" (*Q. Max.* "greatest quadrant", *Chalyb.* "steel"). *Luc.* is "bright", as *lucidæ* is printed in full in this entry. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Remark	Value
The left knee of Perseus [Sin. genu Perſei]	by the revolving quadrant [per Q. Volub.]		72° 49½′
	by the steel quadrant [per Q. Chalyb.]		72° 50′
Altitude of the bright [star] in the heel of the foot of Perseus [Altit. lucidæ in calce pedis Perſei,]	by the mural [quadrant], [per Mural.,]	with the new pinnule only [nouo ſaltem pin.]	64° 40½′

2326

1588, on 24 January[2] *[1588 DIE 24 JANUARIJ[2].]*

Reading	Detail	Remark	Value
Of the bright [star] of the two in the square of Ursa Minor, minimum altitude [Lucidæ duarum in quadrato vrſæ] [min. alt. min.]			
	by the revolving quadrant [per Q. Volub.]		*41° 45⅙′*
	by the steel quadrant [per Q. Chalyb.]		*41° 45½′*
Declination of the same below the pole [Declin. eiusdem infra] [polum]		*with one [vno]*	*75° 51′*
		with the other [alt.]	*75° 51¼′*
Declination of the other, less bright [star] [Declin. alterius minus] [lucidæ]			*73° 19½′*
		better [melior]	
			73° 19¾′

2326 "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. *Sin.* is given as "left" (*sinistri*/*sinistrum*); the page does not print the word in full. The third label runs over three lines, *per Mural.,* and *nouo ſaltem pin.* standing indented under it; the figures stand on the third line, and the three lines are given in one row. *ſaltem* is given as "only"; "at least" is the other sense. *per Q. Volub.* is "by the revolving quadrant", *per Q. Chalyb.* "by the steel quadrant", *per Mural.* "by the mural [quadrant]". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2327

On 30 January [DIE 30 JANUARIJ.]

Reading	Detail	Remark	Value
The smallest [star] in the □ of Ursa Minor, at minimum altitude [Minima in □ vrſæ minoris in] [alt. minima]	by the revolving quadrant [per Q. Volub.]		39° 13¼′
	by the steel quadrant [per Q. Chalyb.]		39° 13′
Declination of the same [Declin. eiusdem]			73° 19¾′
	by the greatest armillae [per Arm. max.]	with the other [altero]	73° 20′
The other, brighter [star] in the □ of Ursa Minor [Altera lucidior in □ vrſæ min.]			75° 51¾′
		with the other [altero]	75° 51½′

2328

On 31 January [DIE 31 JANUARIJ.]

Reading	Detail	Re-mark	Value
Of the less bright [star] in the □ of Ursa Minor [Minus lucidæ in □ Vrſæ minoris]			
	maximum altitude by the revolving [quadrant] [Alt. maxima per Volub.]		72° 36′
	by the steel [quadrant] [per Chalyb.]		72° 34½′

[2327]The heading and this table are italic on the page, figures included. ”Reading”, ”Detail”, ”Remark” and ”Value” are this edition's heads; the page prints none. The cue [2] after the heading is the page's footnote cue; the note stands at the foot of this page. The first label runs over two lines with no figure; the instruments stand indented under it, each with its figures, and are given in the second column. The labels of the fourth and sixth rows each run over two lines and are given whole on their first rows. *melior*, ”better”, stands alone on the second line of the sixth label, set to the right beyond the figure column, between *73 19½* above and *73 19¾* below; no brace joins it to either figure, and it is given in its own row. *vno* and *alt.* stand directly before their figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2328]”Reading”, ”Detail”, ”Remark” and ”Value” are this edition's heads; the page prints none. The first label runs over two lines, *alt. minima per Q. Volub.* standing on the second with the figures; the instrument is given in the second column of that row. *Minima*, a superlative, is ”the smallest [star]”. *per Arm. max.* is ”by the greatest armillae”; *altero* stands directly before its figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[It] was not seen well enough because of the mists. [Non ſatis bene conſpiciebatur prop-] [ter nebulas.]

Reading	De-tail	Re-mark	Value
Between the pole star and the bright [star] of Ursa Minor [Inter Polarem & lucidam] [vrſæ minoris]			16° 34′
			16° 33⅔′
			16° 34′
Between the pole star and the less bright [star] of Ursa Minor, by the sextant △, when they were above the pole [Inter Polarem & minus] [lucidam vrſæ] [minoris, per Sext. △] [cum eßent ſupra Polum]			18° 53′
			18° 52½′
			18° 52⅓′
			18° 52½′

2329

[1] This observation and the three following could not be made in the morning. [Hæc obſervatio et tres ſequentes mane inſtitui non potuerunt.]

[2] From codex D. [They] are missing in codex V. [E codice D. deſunt in codice V.]

The distance of the bright [star] of Ursa Minor from the pole star, when it was above it, near the zenith, was 16° 34′; but when [it was] below it, nearest the horizon, 16° 34¼′. This agrees very closely and shows that no refraction creeps in, especially since it is the distance below which would be made smaller by refraction. So the other, less bright [star] has a distance above the pole of 18° 52½′, but below of 18° 52¾′, which proves the same and is an indication that no refraction creeps in for these two stars. [Diſtantia lucidæ vrſæ minoris a Po-] [lari ſtella cum eßet ſupra eam iuxta] [verticem erat 16 34, quando vero in-] [fra illam proxima Horizonti 16 34¼,] [quod proxime concordat oſtenditque] [refractionem nullam inſinuari, præ-] [ſertim cum ſit diſtantia infra quæ per] [refractionem minor redderetur. Sic] [altera minus lucida habet ſupra Polum]

2329 "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. In the first table the label stands on a line of its own with no figure, and the indented lines under it are given in the second column. The sentence *Non ſatis bene conſpiciebatur …* stands on its own two lines after that table, divided *prop-* / *ter*; its verb leaves the subject understood; *nebulas* is given as "mists". In the second table the labels run over two and four lines, each line with its own figures, and each is given whole on its first row; *per Sext.* △, "by the sextant △", stands on the third line of the second label. *Polarem* is "the pole star". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[diſtantiam 18 52½, infra vero 18 52¾,] [quod idem probat indicioque eſt nul-] [lam inſinuari refractionem in his dua-] [bus ſtellis.][2330]

On 4 February, in the evening [DIE 4 FEBRUARIJ, VESPERI.]

Reading	Detail	Value
Of the northern foot of Erichthonius [Borealis pedis Ericht.]		
	by the mural [quadrant] [per Mural.]	66° 30½′
	by the revolving [quadrant] [per Volub.]	66° 30⅙′
	by the steel [quadrant] [per Chalyb.]	66° 30′
The following [star] of the Kids [Sequens hædorum]		
	by the revolving [quadrant] [per Volub.]	74° 39½′
	by the steel [quadrant] [per Chalyb.]	74° 39⅚′

[2331]

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Detail	Value
Meridian altitude of Capella [Capellæ Alt. merid.]		
	by the steel [quadrant] [per Chalyb.]	79° 33⅓′
	by the revolving [quadrant] [per Volub.]	79° 33½′
Of the star in Draco, minimum altitude toward the north [Stellæ in] [Dracone] [Alt. min. verſ.] [ſeptent.]	by the steel [quadrant] [per Chalyb.]	28° 22⅚′
	by the revolving [quadrant] [per Volub.]	28° 23′
Of the bright [star] of the head of Draco, minimum altitude toward the north [Luc. capitis Draconis Alt. min. verſus] [ſeptent.]	by the steel [quadrant] [per Chalyb.]	17° 31′
	by the revolving [quadrant] [per Volub.]	17° 31¼′

[2330] This paragraph stands at the head of the left-hand column under no date heading; on p. 313 the last heading is "On 31 January". *eam* and *illam*, "it", refer to the pole star; *iuxta verticem* is "near the zenith". *proxime* is given as "very closely" and *proxima* as "nearest". *inſinuari* is given as "creeps in". *Sic* is given as "So". The four figures, printed in the running text without unit marks, are given as degrees and minutes.

[2331] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Each label stands on a line of its own with no figure; the instruments stand indented under it, each with its figures, and are given in the second column. *Ericht.* is given as "Erichthonius", as *Erichtonij* is printed in full under 7 February below. The page does not name the quantity measured. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2332

On 7 February [DIE 7 FEBRUARIJ.]

Reading	Detail	Remark	Value
The northern foot of Erichthonius [Bor. ped. Erichtonij]			66° 30¾′
	by the steel [quadrant] [per Chalyb.]		66° 30′
Maximum altitude of the bright [star] in the □ of Ursa Minor [Lucidæ in □ vrſæ min. Alt. max.]			
	by the steel [quadrant] [per Chalyb.]		70° 4½′
	by the revolving [quadrant] [per Volub.]		70° 4⅔′
Maximum altitude of the following [star] in the □ of Ursa Minor [Sequentis in □ vrſæ min. Alt. max.]			
	by the steel [quadrant] [per Chalyb.]		72° 37′
	by the revolving [quadrant] [per Volub.]		72° 36¾′
Declination of the brighter [star] in Ursa Minor [Decl. lucidior. in vrſa min.,]			
		with one [vno]	75° 49½′
		with the other [altero]	75° 49¾′
Declination of the other [star] in Ursa Minor [Declin. alterius in vrſa min.]			73° 19′
	with a single pinnule [vnico pinn.]		

2332 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The label of the fourth row runs over four lines; a single brace at its right joins it to the two instrument lines, *per Chalyb.* on its second line and *per Volub.* on its fourth, each with its figures; the label is given whole on the fourth row and both readings follow under it. *Stellæ* is taken as a genitive singular, "of the star", parallel with *Luc. capitis Draconis* below; it can also be read as a plural, "stars". *verſ. ſeptent.* and *verſus ſeptent.* are "toward the north". The label of the sixth row runs over two lines, *ſeptent.* standing on the second with *per Chalyb.* and the figures; it is given whole on that row. *Luc.* is "bright". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

N.B. It was only moderately clear. [N. B. Erat ſaltem me-] [diocriter ſerenum.][2333]

Reading	Detail	Remark	Value
The eye of Draco at minimum altitude [Oculus Draconis in Alt. min.]			
	by the steel [quadrant] [per Chalyb.]		18° 35¼′
	by the revolving [quadrant] [per Volub.]		18° 35′
Declination of the same by the armillae [Decl. eiusdem per Arm.,]			
		with one pinnule [vno pin.]	52° 41½′
		with the other [altero]	52° 41¼′
The ear of Draco, minimum altitude [Auris Draconis Alt. min.]			
	by the steel [quadrant] [per Chalyb.]		17° 31⅓′
	by the revolving [quadrant] [per Volub.]		17° 31⅙′
Declination of the same by the armillae [Decl. eiusdem per Arm.,]		with one [vno]	51° 37′
		with the other [altero]	51° 36½′

[2334]

On 8 February, in the morning [DIE 8 FEBRUARIJ, MANE.]

[2333] The date heading and this table stand in the left-hand column; the rows under no heading at the head of the right-hand column continue it and follow below. "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *Bor. ped.* is "the northern foot", as *Borealis pedis* under 4 February; *lucidior.* is "brighter". *vno* and *altero* stand at the right, directly before their figures. *vnico pinn.* stands indented on the line after *73 19*, and the sentence *N. B. Erat ſaltem mediocriter ſerenum.* runs on from it on the same line and the next, divided *me- / diocriter*; the page does not say which reading *vnico pinn.* belongs to. *ſaltem* is given as "only"; "at least moderately clear" is the other construal. *ſerenum* is "clear". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2334] These rows stand at the head of the right-hand column under no date heading; in the page's order they follow the entries of 7 February in the left-hand column. "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *per Arm.* is "by the armillae"; *vno pin.*, *vno* and *altero* stand directly before their figures. *Auris* can be read as nominative or genitive; it is given as "The ear". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Remark	Value
Declination of the brighter [star] in the □ of Ursa Minor [Decl. Lucidioris in □] [Vrſæ min.]			75° 50½′
			75° 50¼′
Declination of the other, less bright [star] in Ursa Minor [Declin. alterius minus lucidæ] [in vrſa minore,]		with one pinnule [vno pin.]	73° 18⅔′
		with the other [altero]	73° 18¾′
Declination of the brighter [star], repeated [Lucidioris Decl. repetita]			75° 50⅔′
			75° 50½′
Declination of the other, repeated [Alterius Decl. repetita.]			73° 18⅔′
			73° 19′
Of the brighter [star] in the □ of Ursa Major [Lucidioris in □ vrſæ mai.]			
	maximum altitude by the revolving [quadrant] [Alt. max. per Volub.]		70° 4¾′
	by the steel [quadrant] [per Chalyb.]		70° 4½′
Of the other, less bright [star], maximum altitude [Alterius minus lucidæ Alt. max.]			
	by the revolving [quadrant] [per Volub.]		72° 36¾′
	by the steel [quadrant] [per Chalyb.]		72° 36¾′
	declination [Declin.]		73° 18½′
Declination of the brighter [star], repeated [Declin. Lucidioris repetita]			75° 50½′

N.B. It was very clear. [N. B. Erat bene ſerenum.][2335]

On 11 February [DIE 11 FEBRUARIJ.]

Reading	Remark	Value
Declination of the bright [star] of Ursa Minor [Lucidæ vrſæ min. Decl.]	with one [vno]	75° 51′
	with the other [alt.]	75° 50½′
Of the other, less bright [star] [Alterius minus lucidæ,]	with one [vno]	73° 18½′
	with the other [alt.]	73° 19′
Repeated declination of the brighter [star] [Repetita decl. lucidioris]		75° 50¾′

[2335]"Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The labels of the first and third rows run over two lines and are given whole on their first rows; *vno pin.* stands on the second line of the third label, after a comma, and is given in the third column. *vrſæ mai.* is "Ursa Major", as printed. *bene ſerenum* is "very clear". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Remark	Value
		75° 50½′
Repeated declination of the other [Repet. declin. alterius,]	with both [vtroq.]	73° 19′

2336

On 12 February, A. M. [DIE 12 FEBRUARIJ, A. M.]

Reading	Detail	Value
Minimum altitude of the pole star [Alt. Stellæ Polaris] [minima]	by the revolving [quadrant] [per Volub.]	52° 59⅙′
	by the steel [quadrant] [per Chalyb.]	52° 59½′

The distance of the pole star from the pole at the beginning of this year is 2° 55′ 30″. But if you take the observation of the preceding year into account, [it is] 2° 55′ 40″. [Diſtantia Stellæ Polaris a polo ad] [initium huius anni eſt P. 2 M. 55 S. 30.] [Quod ſi obſeruationem anni antece-] [dentis in conſilium adhibebis 2° 55′ 40″.][2337]

On the same day, in the afternoon [Eodem Die poſt Merid.]

Reading	Detail	Remark	Value
Altitude of Capella in the meridian [Capellæ in Merid. Alt.]			79° 34′
	by the steel [quadrant] [per Chalyb.]		79° 33⅔′
	declination [Declinatio]		45° 29′
			45° 28⅚′
The right shoulder of Erichthonius [Dexter humerus] [Erichtonij]	by the revolving [quadrant] [per Volub.]		78° 53′
	by the steel [quadrant] [per Chalyb.]		78° 53¾′
	declination, north [Declin. B.]	with both pinnules [vtroque pin.]	44° 48½′

[2336] "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *vno*, *alt.* and *vtroq.* stand directly before their figures. *Repet.* is given as "Repeated". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2337] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. *minima* stands indented on the second line, before *per Chalyb.*; it completes *Alt.* and is given with the label on the first row. *A. M.* is kept abbreviated. The altitudes, printed without unit marks, are given as degrees and minutes. *P. 2 M. 55 S. 30.* is printed with the letters *P.*, *M.* and *S.*, which fix degrees, minutes and seconds; *2° 55′ 40″* is printed with its marks. *in conſilium adhibebis* is given as "take into account".

Reading	Detail	Remark	Value
The right hand of Erichthonius [Dextra manus Ericht.]			
	by the steel [quadrant] [per Chalyb.]		71° 10⅓′
	by the revolving [quadrant] [per Volub.]		71° 10¼′
	its declination [Declin. eius]	with one [vno]	35° 5⅓′
		with the other [altero]	35° 5½′
Of the bright [star] of the head of Draco [Lucidæ Capitis Draconis]			
	minimum altitude by the steel [quadrant] [Alt. min. per Chalyb.]		17° 31¾′
	its declination [Declin. eius]	with one [vno]	51° 37¼′
		with the other [alt.]	51° 37′

2338

On 14 February [DIE 14 FEBRUARIJ.]

Reading	Detail	Remark	Value
Minimum altitude of the tail of Cygnus [Caudæ Cygni Alt.] [minima]	by the revolving [quadrant] [per Volub.]		9° 50′
	by the steel [quadrant] [per Chalyb.]		9° 50½′
	declination of the same [Declin. eiusdem,]	with one [vno]	43° 55½′
		with the other [altero]	43° 55¼′

2339

On 15 February [DIE 15 FEBRUARIJ.]

2338 "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The label *Dexter humerus Erichtonij* runs over two lines, each with an instrument and its figures; it is given whole on the fifth row. *B.* stands after *Declin.* and before the figures; it is given as "north" (*Borealis*); "northern declination" is the other construal. *Ericht.* is given as "Erichthonius", as *Erichtonij* is printed in full in the label above. *vno*, *altero* and *alt.* stand directly before or at the right of their figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2339 "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. *minima* stands indented on the second line, before *per Chalyb.*; it completes *Alt.* and is given with the label on the first row. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Remark	Value
The preceding [star] of the brighter [stars] in the head of Draco, in the meridian [Præced. Lucidiorum in capite] [Draconis in Merid.,]			
	minimum altitude by the revolving [quadrant] [Alt. min. per. Volub.]		18° 35′
	by the steel [quadrant] [per Chalyb.]		18° 35¼′
	declination of the same by the armillae [Declin. eiusdem] [per Arm.,]	with one [vno]	52° 40½′
		with the other [altero]	52° 40⅔′
Of the following [star] of the head of Draco [Sequentis capitis Draconis]			
	minimum altitude [Alt. minima]		17° 31⅔′
			17° 31⅓′
	declination by the armillae [Declin. per Armill.]	with one [vno]	51° 36¾′
		with the other [altero]	51° 37′

2340

On 20 February, in the morning [DIE 20 FEBRUARIJ, MANE.]

Reading	Detail	Value
Minimum altitude of the pole star [Stellæ Polaris Alt. min.]		
	by the steel [quadrant] [per Chalyb.]	52° 59′ 20″
	by the revolving [quadrant] [per Volub.]	52° 59′ 15″

The distance of the pole star from the pole itself is inferred from the observations of the preceding year made in January: 2° 55′ 35″. [Diſtantia Stellæ Polaris

2340 "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The first label runs over two lines with no figures; it is given whole on the first row. *Præced.* is "the preceding [star]" and *Lucidiorum* a genitive plural, "of the brighter [stars]"; the label can also be read "the preceding [star] of those brighter [stars]". The page prints a point after *per* in *per. Volub.. Declin. eiusdem* stands on a line of its own and *per Arm.,* on the next, with *vno* and the figures; the two are given together on one row. *per Arm.* and *per Armill.* are "by the armillae". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

ab ipſo polo] [colligitur ex obſeruationibus antece-] [dentis anni in Januario habitis P. 2] [M. 55 S. 35.]

Reading	Detail	Value
Minimum altitude of the pole star [Altitudo Stellæ polaris minima]		
	by the steel [quadrant] [per Chalyb.]	52° 59′ 20″
Distance from the pole [Diſtantia a polo]		2° 55′ 35″

2341

Reading	Value
The true altitude of the pole [Vera poli altitudo]	55° 54′ 55″
If the same is tried by the revolving [quadrant], the same [altitude] results [Si per Volub. idem tentetur,] [prouenit eadem]	55° 54′ 50″

2342

On 25 February [DIE 25 FEBRUARIJ.]

Reading	Value
Declination of the bright [star] in the □ of Ursa Minor, when [it] was toward the east from the pole [Lucidæ in □ vrſæ min. Declin. cum] [eßet verſus] [ortum a polo]	75° 50½′
	75° 50¾′
The other, less bright [star] [Altera minus lucida]	73° 19′
	73° 19¼′

2343

2341 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The values in both tables, printed as three figure groups without unit marks, are given as degrees, minutes and seconds; in the sentence between them *P. 2 M. 55 S. 35.* is printed with the letters *P.*, *M.* and *S.*, which fix degrees, minutes and seconds. *colligitur* is given as "is inferred". The page ends its left-hand column with the distance from the pole; the rows at the head of the right-hand column follow below. Empty cells are empty on the page.

2342 These rows stand at the head of the right-hand column under no date heading; in the page's order they follow the entries of 20 February in the left-hand column. "Reading" and "Value" are this edition's heads; the page prints none. The second label runs over two lines, the figures on the second; it is given whole on its row. *eadem* is feminine and agrees with *altitudo*; "[altitude]" is supplied from it. *tentetur* is given as "is tried". The values, printed as three figure groups without unit marks, are given as degrees, minutes and seconds.

2343 "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over three lines, the figures on the second and third; it is given whole on the first row. *verſus ortum* is given as "toward the east". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

On 28 February [DIE 28 FEBRUARIJ.]

Reading	Remark	Value
Declination of the bright [star] in the □ of Ursa Minor [Lucidæ in □ vrſæ min. decl.,]		
	with one [vno]	75° 50½′
	with the other [altero]	75° 50¾′
Of the other, less bright [star] [Alterius minus lucidæ]	with one [vno]	73° 19½′
	with the other [altero]	73° 19¼′

When [they] were from the pole toward the east. [Cum a polo ad ortum eßent.][2344]

On 24 July, in the evening [DIE 24 JULIJ, VESPERI.]

Reading	Value
The bright [star] of the Crown was distant from the left shoulder of Hercules [Diſtabat lucida Coronæ a ſiniſtro hu-] [mero Herculis]	22° 40⅙′
	22° 40½′
Between the left shoulder of Hercules and the bright [star] of the Vulture [Inter ſiniſt. humerum Her-] [culis & Lucidam Vulturis]	40° 18½′
	40° 18′
Between the bright [star] of the left shoulder of Ophiuchus and the Vulture [Inter lucidam ſiniſtri hum.] [Ophiuchi & Vulturem]	42° 37′
	42° 36½′
Between the right shoulder of Ophiuchus and the bright [star] of the Vulture [Inter dext. hum. Ophiuchi &] [lucidam Vulturis]	31° 48′
	31° 48′
Declination of the left shoulder of Hercules [Declin. ſiniſt. hum. Herculis]	25° 25⅙′
	25° 25′
Declination of the left shoulder of Ophiuchus [Declin. ſiniſt. hum. Ophiuchi]	10° 6⅓′
	10° 7′
Declination of the right shoulder of Ophiuchus [Declin. dext. hum. Ophiuchi]	4° 50′ twice [4 50 bis]

2345

[2344] "Reading", "Remark" and "Value" are this edition's heads; the page prints none. *vno* and *altero* stand directly before their figures. The sentence *Cum a polo ad ortum eßent.* stands indented below the last row; its verb is plural and it is given after the table. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2345] "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, divided *hu-* / *mero*, the figures on the second; the next three labels each run over two lines with figures on both; each label is given whole on its first row. *hum.* is "shoulder", *ſiniſt.* "left", *dext.* "right". *Vulturem* is "the Vulture" and *Lucidam Vulturis* / *lucidam Vulturis* "the bright [star] of the Vulture", as each is printed. The values, printed without unit marks, are given as degrees and minutes.

On 10 August, in the evening [DIE 10 AUGUSTI, VESPERI.]

Reading	Remark	Value
Between the bright [star] of the Vulture and the tail of the same [Inter lucid. Vult. & caudam] [eiusdem]		12° 10⅙′
		12° 10⅙′
		12° 10′
Between the bright [star] of the Vulture and that which is in the right angle of the tail of the Vulture and of the beak of Cygnus [Inter lucidam Vulturis & eam quæ eſt] [in angulo recto caudæ] [Vulturis & Roſtri Cygni]		13° 55⅚′
		13° 56′
Its declination [Declin. eius]	with one [vno]	14° 35½′
	with the other [alt.]	14° 35′
Declination of the tail of the Vulture [Declin. caudæ Vulturis]	with one [vno]	13° 19⅙′
		13° 19½′
	with the other [alt.]	13° 20′
Declination of the extreme [star] in the southern wing of Cygnus [Decl. extremæ in] [auſtr. ala Cygni]	with one [vno]	28° 35½′
	with the other [alt.]	28° 36′

2346

[2346] "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, *eiusdem* on the second, with figures on both and on a third line; the second label runs over three lines, the figures on the second and third; the last label runs over two lines with figures on both; each is given whole on its first row. *Vult.* is "the Vulture"; *eiusdem* is taken as the Vulture's. *eam quæ eſt in angulo recto caudæ Vulturis & Roſtri Cygni* is given as "that which is in the right angle of the tail of the Vulture and of the beak of Cygnus", that is, the star at the right angle formed with those two; it can also be read as "the right angle between the tail of the Vulture and the beak of Cygnus". *eius*, "its", is taken as referring to the star just named; the page does not say. *Declin. caudæ Vulturis* has three figure lines, the second with no word before it. *extremæ* is "the extreme [star]"; *auſtr.* is "southern". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Remark	Value
Declination of the middle [star] between the breast and the far end of the left wing of Cygnus [Decl. mediæ inter pectus & extremam] [ſiniſtræ] [alæ Cygni]		44° 10⅓′
		44° 10′
Declination of that [star] which is below the left wing of Cygnus [Declinatio eius quæ eſt infra] [ſiniſt. alam Cygni,]	with one [vno]	20° 53¾′
	with the other [altero]	20° 54′

2347

On 3 October, P. M. [DIE 3 OCTOBRIS P. M.]

Reading	Value
Distance between the mouth of Pegasus and the preceding [star] of the two lower [stars] of Lyra [Diſtantia inter os Pegaſi &] [præcedentem ex duabus] [inferioribus Lyræ]	46° 16⅔′
	46° 16⅚′
	46° 16⅚′
Distance between the mouth of Pegasus and the following [star] of the two lower [stars] of Lyra [Diſt. inter os Pegaſi &] [ſequentem ex duabus] [inferioribus Lyræ]	44° 18¾′
	44° 19′
	44° 19′
Declination of the preceding [star] of the lower [stars] in Lyra [Decl.præced.ex infer.in Lyra]	32° 57′ twice [32 57 bis]
Of the following [star] of the same [stars] [Sequentis ex iisdem]	32° 10½′ twice [32 10½ bis]
Between the mouth of Pegasus and the far end of the upper wing of Cygnus [Inter os Pegaſi & extremam] [ſuperioris alæ Cygni]	52° 31′
	52° 31½′
	52° 31′
Between the mouth of Pegasus and the penultimate [star] of the upper wing of Cygnus [Inter os Pegaſi & penultimam] [ſuperioris alæ Cygni]	50° 0′ twice [50 0 bis]
Between the mouth of Pegasus and the first and brighter [star] of the northern wing of Cygnus [Inter os Pegaſi & primam &] [lucidiorem bor. alæ] [Cygni]	43° 34′
	43° 33⅚′
	43° 33⅚′
Between the mouth of Pegasus and the upper [star] of the northern foot of Cygnus [Inter os Pegaſi & ſuperiorem] [borealis pedis Cygni]	44° 11½′
	44° 11′

2347 These rows stand at the head of the left-hand column under no date heading; the last heading before them is "On 10 August, in the evening" on p. 315. "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over three lines, the figures on the second and third; the second runs over two lines, *vno* and the figures on the second; each is given whole on its first row. *extremam* is "the far end"; *ſiniſt.* is "left". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Value
Between the mouth of Pegasus and the lower [star] of the northern foot of Cygnus [Inter os Pegaſi & inferiorem] [borealis pedis Cygni]	41° 34′ twice [41 34 bis]
Between the mouth of Pegasus and the middle [star] of the lower wing of Cygnus [Inter os Pegaſi & mediam] [inferioris alæ Cygni]	27° 30½′
	27° 30¾′
Declination of the middle [star] of the southern wing of Cygnus [Decl. mediæ auſtr. alæ Cygni]	32° 28½′
Declination of the far end of the southern wing of Cygnus [Decl. extrem. auſtr. alæ] [Cygni]	28° 35½′

2348

On 24 October, in the evening [DIE 24 OCTOBRIS, VESPERI.]

Reading	Value
Between the mouth of Pegasus and the far end of the upper wing of Cygnus [Inter os Pegaſi & extremam] [ſuperioris alæ Cygni]	52° 30¾′
Between the mouth of Pegasus and the penultimate [star] of the upper wing of Cygnus [Inter os Pegaſi & penultimam] [ſuperioris alæ Cygni]	50° 0¼′
Between the mouth of Pegasus and the first [star] of the northern wing of Cygnus [Inter os Pegaſi & primam] [borealis alæ Cygni]	43° 33½′
Between the mouth of Pegasus and the upper [star] of the northern foot of Cygnus [Inter os Pegaſi & ſuperiorem] [borealis pedis Cygni]	42° 11¼′
Between the mouth of Pegasus and the lower [star] of the northern foot of Cygnus [Inter os Pegaſi & inferiorem] [borealis pedis Cygni]	41° 35′
Distance of the mouth of Pegasus and the preceding [star] of the lower [stars] of Lyra [Diſt. oris Pegaſi & præced.] [ex inferioribus Lyræ]	46° 16½′
	46° 17′

2349

[2348] "Reading" and "Value" are this edition's heads; the page prints none. Labels printed over two or three lines are given whole on their first rows; where the first line carries no figures (the sixth, ninth and twelfth labels' first lines, the twelfth being the last), the figures stand on the following line. *Decl.præced.ex infer.in Lyra* is printed set close, without spaces after the points, and is given as printed. *P. M.* is kept abbreviated. *os Pegaſi* is "the mouth of Pegasus" (glossary); *bor.* and *borealis* "northern", *auſtr.* "southern", *infer.* "lower", *extrem.* / *extremam* "the far end", *penultimam* "the penultimate [star]". *bis* is "twice". The values, printed without unit marks, are given as degrees and minutes; *50 0* is given as 50° 0′. Empty cells are empty on the page.

[2349] "Reading" and "Value" are this edition's heads; the page prints none. Each label runs over two lines; the first five carry their figures on the second line, the sixth on both; each label is given whole on its first row. *Diſt. oris Pegaſi* is "Distance of the mouth of Pegasus", as printed with the genitive. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page. The distance from the mouth of Pegasus to the upper [star] of the northern foot of Cygnus is printed 42 11¼ here (the *42* confirmed on a native-resolution crop), while 3 October above prints the same distance as 44 11½ and 44 11; the other distances repeated between the two days agree within about 1′. The figures are given as printed, and no correction is made.

On 25 October [DIE 25 OCTOBRIS.]

Reading	Value
Between the mouth of Pegasus and the bright first [star] of the lower wing of Cygnus [Inter os Pegaſi & lucidam] [primam infer. alæ Cygni]	27° 31⅝′
	27° 31¾′

2350

Reading	Remark	Value
Between the mouth of Pegasus and the lower [star] of the same wing of Cygnus, toward the south [Inter os Pegaſi & inferiorem] [eiusdem alæ Cygni verſ.] [auſt.]		21° 38′
		21° 38′
Declination of the first [star] of the lower wing of Cygnus [Decl. primæ inferi-] [oris alæ Cygni]	with one [vno]	32° 29¼′
	with the other [alt.]	32° 29¼′
Declination of the following [star] in the same wing [Decl. ſequentis in eadem ala]		28° 35½′
		28° 35⅓′
Of the first [star] of the upper wing of Cygnus [Primæ ſuperioris alæ Cygni]		44° 11′
		44° 10¾′
Of the preceding [star] in the northern foot of Cygnus [Præcedentis in bor. pede] [Cygni]		45° 33¼′
Of the following or upper [star] in the northern foot [Sequent. ſive ſuper. in pede] [bor.]		46° 30½′
Of the far end of the upper wing of Cygnus [Extremæ ſuper. alæ Cygni]		52° 38¾′
Of the penultimate [star] of the same wing of Cygnus [Penultimæ eiusdem alæ] [Cygni]		50° 54½′
Of the upper of the two [stars] in the lower part of the body of Lyra [Superioris duarum in infer.] [parte corporis Lyræ]		32° 57′
		32° 56⅝′
Of the lower of the two [stars] in Lyra [Inferioris duarum in Lyra]		32° 10¾′
		32° 10⅝′

2350 "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines with figures on both and is given whole on its first row. *lucidam primam* is given as "the bright first [star]"; "the first, bright [star]" is the other construal. The values, printed without unit marks, are given as degrees and minutes. The page ends its left-hand column here; the rows at the head of the right-hand column follow below. Empty cells are empty on the page.

2351

On the same day, 25, in the evening [Eodem die 25 Veſperi.]

Reading	Detail	Re-mark	Value
Declination of the preceding [star] in the lower part of Lyra [Declin. præcedentis in inferiori] [parte Lyræ]			32° 57′ north [B.]
	repeated [Repetita]		32° 57⅙′
Declination of the following [star] in the lower part of Lyra [Decl. ſequent. in infer.] [parte Lyræ]			32° 11′
	repeated [Repetita]		32° 11¼′
Between the mouth of Pegasus and the preceding [star] of the two in the lower [parts] of Lyra [Inter os Pegaſi &] [præcedentem ex duabus] [in inferioribus Lyræ]			46° 17′ twice [46 17 bis]
Between the mouth of Pegasus and the following [star] of the lower [stars] of Lyra [Inter os Pegaſi & ſequent. ex] [infer. Lyræ]			44° 18⅔′
			44° 18½′
Between the far end of the wing of Pegasus and the first [star] in the right hand of ♒, which is the preceding [one] [Inter extremam alæ Pegaſi &] [primam in dextra] [manu ♒ quæ] [præcedens eſt]		I	32° 10⅚′
		II	32° 11½′
		III	32° 11⅔′
You can put here 32° 11′ or [Potes hic ponere 32° 11′ vel]			32° 11¼′
Distance between the far end of the wing of Pegasus and the middle [star] of the three lower [stars] in the right hand of ♒ [Diſt. inter extremam alæ] [Pegaſi & med. inferiorum] [trium in dextra manu ♒]			29° 57⅓′ three times [29 57⅓ ter]
Declination of the same in the hand of ♒ [Declin. eiusdem in manu ♒]			2° 4½′
			2° 5′
Between the far end of the wing of Pegasus and the last of the three lower [stars] in the right hand of ♒ [Inter extremam alæ Pegaſi &] [vltimam trium inferio-] [rum in dextra manu ♒]			28° 35¾′
			28° 35⅔′
Maximum altitude of the pole star [Alt. ſtellæ Polaris max.]			

2351 These rows stand at the head of the right-hand column under no date heading; in the page's order they follow the entry of 25 October at the foot of the left-hand column. "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over three lines, figures on its first and third; *verſ.* ends the second line and *auſt.* stands alone on the third; *verſ. auſt.* is given as "toward the south". *eiusdem alæ* is taken as the wing named in the row before, the lower wing of Cygnus. The second label is divided *inferi- / oris*; *vno* and *alt.* stand before the figures. From the seventh row on, the labels are genitives and the page names no quantity for them. *ſive* is printed with *v*; it is given as "or". *ſuper.* is "upper", *bor.* "northern", *infer.* "lower". Labels over two lines are given whole on their first rows. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Re-mark	Value
	by the iron quadrant [per Q. Ferreum]		58° 49⅔′
	by the wooden quadrant [per Q. Ligneum]		58° 49¾′

[It] was not clear enough. [Non erat ſatis ſerenum.][2352]

On 5 December, in the evening [DIE 5 DECEMBRIS, VESPERI.]

Reading	Detail	Value
Distance between the Vulture and the little star forming a right angle with the beak of Cygnus and the bright [star] of the Vulture, which I used for the comet of the year 80¹ [Diſt. inter Vult. & ſtellulam conficien-] [tem angulum rectum] [cum roſtro Cygni &] [LucidaVulturis, qua vſus] [ſum in Cometa anni 80¹.]		13° 54⅚′
		13° 54′
		13° 54⅚′
Declination of the same little star, mentioned above [Decl. eiusdem] [prædictæ ſtellulæ]		14° 38′
	the same declination repeated [Eadem declin. repetita]	14° 37½′
	repeated [Repetita]	14° 37½′

[2352] "Reading", "Detail", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. Labels printed over two to four lines are given whole on their first rows; where the first line carries no figures, the figures stand on the following lines. *B.* stands after the figures 32 57 and is given as "north". The Roman numerals I, II and III stand before the three figure groups of the fifth label and are given in the third column. *Potes hic ponere 32° 11′ vel* is a line of words, *32° 11′* printed with degree and minute marks; its last value, 32 11¼, stands in the figure column. *quæ præcedens eſt* is given as "which is the preceding [one]"; it refers to the first star in the hand. *med.* is "the middle [star]"; *eiusdem* in the declination line is taken as that middle star; the page does not say. *ter* is "three times", *bis* "twice". *Q.* is "quadrant"; *Ferreum* "iron", *Ligneum* "wooden". *ſatis* is "enough". *Eodem die 25* is given as "On the same day, 25". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2353

On 6 December, in the evening [DIE 6 DECEMBRIS, VESPERI.]

Reading	Detail	Value
Declination of the tail of Aquila [Declin. caudæ Aquilæ]		13° 21½′
Its distance from the bright [star] of the Vulture [Eius diſt. a lucida Vult.]		12° 9½′
	repeated [Repetita]	12° 9¼′
[At] 6^{h} 55^{m} [Greek: ἐν πλάτει (en platei, "in breadth")] the pole star passed the meridian, having maximum altitude [H. 6 M. 55 ἐν πλάτει tranſijt ſtella Pola-] [ris Meridianum habens alt. max.]		
	by the steel [quadrant] [per Chalyb.]	58° 49½′
	by the revolving [quadrant] [per Volub.]	58° 49⅔′

The truer and more exact maximum altitude is 58° 49′ 35″, which is the middle between both observations. For the one who was observing by the steel [quadrant] saw a little more than half a minute beyond 49′; but the one who [was observing] by the revolving [quadrant] [saw] a little less than ⅔ of one minute, as each soon reported, the observation therefore agreeing on approximately the same second, so that for this reason the exact maximum altitude is 58° 49′ 35″. [Verior & exquiſitior alt. max. eſt 58°] [49′ 35″ quod eſt medium inter vtram-] [que obſeruationem, nam is qui per] [Chalyb. obſeruabat paululum plus vi-] [debat quam ſemißem minuti vltra 49′.] [Is vero qui per Volub. paululum minus] [quam ⅔ vnius minuti, vt vterque mox] [referebat,

2353 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The first label runs over five lines, figures on its second, third and fourth lines; the second runs over two lines, figures on the second; each is given whole on its first row. *LucidaVulturis* is printed without a space between the two words. *qua vſus ſum in Cometa anni 80* is given as "which I used for the comet of the year 80"; "in the comet" is the more literal construal. *qua* is singular and may refer to the little star or to the bright [star] of the Vulture; the page does not say, and the English keeps the relative where the page sets it. *Vult.* is "the Vulture"; *ſtellulam* "the little star"; *eiusdem prædictæ ſtellulæ* is given as "of the same little star, mentioned above"; "of the same, the little star mentioned above" is the other construal. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

conſentiente ob id obſerua-] [tione in idem quaſi ſcrupulum ſecun-] [dum, vt ob id ſit exacta altitudo maxi-] [ma 58° 49′ 35″.][2354]

On 14 December, in the evening [DIE 14 DECEMBRIS, VESPERI.]

Reading	Value
Distance between the bright [star] of Lyra and the bright [star] of the head of Draco which is number 5 [Diſt. inter lucidam Lyræ & lucidam] [capitis Draconis quæ] [eſt 5 numero]	14° 33¾′
	14° 33⅝′ nearly [14 33⅝ fere]
To examine the new sextant, the distance between the eye of ♉ and the bright [star] of ♈ was observed [Pro examine Sextantis noui obſerua-] [batur diſt. inter oculum ♉ & luci-] [dam ♈]	35° 32½′ three times [35 32½ ter]
Between the bright [star] of the ◻ of Ursa Minor and the bright [star] of the head of Draco [Inter lucidam ◻ vrſæ minoris &] [lucid. cap. Draconis]	29° 32⅝′ twice [29 32⅝ bis]
Between the tail of Cygnus and the bright [star] in the head of Draco which is number 5 [Inter caudam Cygni &] [lucid. in capite Draconis] [quæ eſt numero 5]	27° 39′
	27° 39¼′
Between the bright [star] of the head of Draco and the uppermost of the preceding [stars] in the ◻ of Ursa Major, which is in the back [Inter luc. cap. Drac. & ſupremam præ-] [cedentium in ◻ vrſæ] [maior. quæ eſt in dorſo]	51° 31⅓′
	51° 31¼′
Between the bright [star] of the head of Draco and the lower of the foremost [stars] in the ◻ of Ursa Major, which is in the belly [Inter lucid. cap. Drac. & inferio-] [rem priorum in ◻ vrſæ] [maioris quæ eſt in aluo]	55° 15½′
	55° 15⅝′

[2354] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The sentence beginning with the time runs over two lines and is given whole on one row; the two instrument lines follow it. *Aquilæ* is kept as "Aquila", *Vult.* is "the Vulture". *H. 6 M. 55* is given as $6^{h}\ 55^{m}$, by its letters. The values in the table, printed without unit marks, are given as degrees and minutes. The paragraph below the table prints its values with degree, minute and second marks. *medium* is given as "the middle"; *vtramque obſeruationem* "both observations"; *vterque* "each", since the Latin distributes the reporting; *mox* "soon"; *quaſi* "approximately"; *ſcrupulum ſecundum* "second". The second clause, *Is vero qui per Volub.* …, prints no verb; "[was observing]" and "[saw]" are supplied from the first. Empty cells are empty on the page.

2355

Reading	Value
Between the bright [star] of the head of Draco and the lower and brighter of the two following [stars] in the □ of Ursa Major, which is in the thigh [Inter lucid. cap. Draconis & inferior.] [ac lucidior. duarum ſequentium] [in □ vrſæ maioris quæ] [eſt in femore]	51° 13⅙′
	51° 13′
Between the bright [star] of the head of Draco and the first [star] of the tail of Ursa Major [Inter lucid. cap. Drac. & pri-] [mam caudæ vrſæ maior.]	42° 42½′
	42° 42¼′
Between the bright [star] of the head of Draco and the middle [star] of the tail of Ursa Major [Inter lucidam cap. Drac. &] [mediam caudæ vrſæ mai.]	39° 20⅙′
	39° 19¾′
Distance between the bright [star] of the head of Draco and the far end of the tail of Ursa Major [Diſt. inter luc. cap. Drac. &] [extrem. caudæ vrſæ mai.]	38° 31′
	38° 30¾′
Between the bright [star] of the head of Draco and the upper of the two following [stars] in the □ of Ursa Major, which is less bright [Inter lucid. cap. Drac. &] [ſuperiorem duarum ſe-] [quentium in □ vrſæ ma-] [ioris quæ eſt minus lucida]	46° 49¾′
	46° 50¼′
	46° 49¾′

2356

On 15 December, in the morning [DIE 15 DECEMBRIS, MANE.]

2355 "Reading" and "Value" are this edition's heads; the page prints none. Labels printed over two or three lines are given whole on their first rows; the first line of every label carries no figures, and the figures stand on the following lines. *fere* is "nearly", *ter* "three times", *bis* "twice", each printed in smaller type after the figures. *quæ eſt 5 numero* and *quæ eſt numero 5* are given as "which is number 5". *Pro examine Sextantis noui* is "To examine the new sextant"; *oculum* ♉ "the eye of ♉"; *lucidam* ♈ "the bright [star] of ♈". *lucid.*, *luc.* are "the bright [star]"; *cap.*, *Drac.* "head", "Draco"; *vrſæ maior.* and *vrſæ maioris* "Ursa Major", *vrſæ minoris* "Ursa Minor". The sign □ is kept as printed; the page does not say what case it stands for, and "of the □" and "in the □" follow the Latin. *ſupremam* is "the uppermost"; *priorum* is given as "of the foremost [stars]", "of the former [stars]" being the other construal. *dorſo* is "the back", *aluo* "the belly". The values, printed without unit marks, are given as degrees and minutes. The page ends its left-hand column here; the rows at the head of the right-hand column follow below.

2356 These rows stand at the head of the right-hand column under no date heading; in the page's order they follow the entry of 14 December, in the evening, at the foot of the left-hand column. "Reading" and "Value" are this edition's heads; the page prints none. Labels printed over two to four lines are given whole on their first rows; where the first line carries no figures (the first and fifth labels), the figures stand on the following lines. *inferior. ac lucidior.* is "the lower and brighter"; *mai.* and *maior.* are taken as *maioris*, "Ursa Major", as the page prints it in full in the first and fifth labels; *extrem.* is "the far end"; *femore* is "the thigh". The values, printed without unit marks, are given as degrees and minutes.

Reading	Detail	Value
[At] 6^{h} $1\frac{1}{6}^{m}$, the minimum altitude of the pole star by the corrected clock [H.6 M.1⅙ Alt. ſtellæ Polaris minima per] [correctum] [Horologium]	by the steel [quadrant] [per Chalyb.]	53° 0′ 8″
	by the revolving [quadrant] [per Volub.]	52° 59½′

2357

On the same day, in the evening [EODEM DIE VESPERI]

After both instruments had been corrected again and better, the pole star was observed in maximum meridian altitude [at] 5^{h} 51^{m}, very nearly, by the clock: [poſt denuo & melius correcta vtraque] [inſtrumenta obſeruabatur ſtella Pola-] [ris in maxima altitudine meridiana] [H. 5 M. 51 proxime per horologium,]

Detail	Value
by the steel [quadrant] [per Chalyb.]	58° 49⅚′
by the revolving [quadrant] [per Volub.]	58° 49⅔′

Left	Right
53° 0′ 8″	52° 59′ 30″
58° 49′ 50″	58° 49′ 40″
5° 49′ 42″	5° 50′ 10″
2° 54′ 51″	2° 55′ 5″
55° 54′ 59″	55° 54′ 35″

Reading	Detail	Value
[At] 5^{h} 57^{m}, by the revolving [quadrant], as before [H. 5 57 per Volub. vt prius]		58° 49⅔′
	by the steel [quad-rant] [per Chalyb.]	58° 49¾′

2357"Reading", "Detail" and "Value" are this edition's heads; the page prints none. The label runs over three lines: *per* ends the first, and *correctum* and *Horologium* stand alone at the head of the second and third, with *per Chalyb.* and *per Volub.* and their figures to the right of them; *per correctum Horologium* is read down the column as "by the corrected clock", and the label is given whole on its first row. *H.6 M.1⅙* is given as 6^{h} $1\frac{1}{6}^{m}$, by its letters. The first value, printed as three figure groups without unit marks, is given as degrees, minutes and seconds, and the second, two groups, as degrees and minutes; the computation that follows on this page sets the same readings as *53 0 8* and *52 59 30*.

Reading	Detail	Value
Between the tail of Cygnus and the other bright [star] in the head of Draco, which is in the eye, number 3 [Inter caudam Cygni & alteram in cap.] [Draconis lucidam quæ eſt in oculo] [numero 3]		31° 35¼′
	repeated [Repetita]	31° 35′
Distance between the tail of Cygnus and the less bright [star] in the □ of Ursa Major [Diſt. inter caudam Cygni &] [minus lucidam in □] [vrſæ maioris]		44° 30¾′
		44° 31¼′
		44° 31′
Distance of the tail of Cygnus and of that [star] which is in a straight line with the bright [star] of the □ of Ursa Minor and the bright [star] of the head of Draco, which is 25 of Draco [Diſt. caudæ Cygni & illius quæ] [eſt in recta linea cum lu-] [cida □ vrſæ minoris &] [lucid. cap. Drac. quæ] [eſt 25 Drac.]		39° 49½′
		39° 49¾′
Between the tail of Cygnus and the more northern [star] in the triangle of Draco [Inter caudam Cygni &] [borealiorem in triangulo] [Draconis]		31° 55¼′ twice [31 55¼ bis]

2358

[1] This star is ε Aquilae, observed by Paulo Wittichio [Paul Wittich] on 1580 October 26 with the comet (7^h 45^m). [Hæc ſtella eſt ε Aquilæ, a Paulo Wittichio die 26 Octobris 1580 cum cometa obſervata (H. 7 M. 45).]

Reading	Value
Between the tail of Cygnus and the bright [star] of the body of Draco which is nearly in a straight line with the tail of Cygnus and the bright [star] of Ursa Minor [Inter caudam Cygni & lucidam cor-] [poris Drac. quæ eſt fere in recta] [linea cum cauda Cygni&] [lucida minoris vrſæ]	25° 11¼′
	25° 11′

2358 "Detail", "Value", "Left", "Right" and "Reading" are this edition's heads; the page prints none. The sentence opening the entry runs over four lines and is given before its two instrument lines. *poſt … correcta vtraque inſtrumenta* is given as "After both instruments had been corrected"; *proxime* is "very nearly" and stands after the time, as printed. The computation is printed as two blocks side by side, five lines each, with a rule under the second and fourth lines of each block; it is given as a table of two columns in the page's order. Its figures are printed as three groups without unit marks and are given as degrees, minutes and seconds: the page's own figures fix them, *58 49 50* and *58 49 40* standing for the readings 58° 49⅚′ and 58° 49⅔′ above, and *52 59 30* for 52° 59½′ of the morning. The page prints no word in the computation. *H. 5 57* prints *H.* and no *M.*; the bare 57 is given as minutes. *vt prius* is "as before". *alteram … lucidam* is "the other bright [star]"; *numero 3* "number 3". In the fourth label, *quæ eſt 25 Drac.* may refer to *illius* (the star in the straight line) or to the bright star of the head of Draco; the English keeps the relative clause where the page sets it. *Drac.* is "Draco"; *borealiorem* "the more northern [star]"; *bis* "twice". The values, printed with two figure groups and no unit marks, are given as degrees and minutes. Lines printed indented under a label stand in the second column. Empty cells are empty on the page.

2359

On 16 December, in the morning [DIE 16 DECEMBRIS, MANE.]

After both quadrants had been rectified: [Poſt rectificatos vtrosque quadrantes]

Reading	Detail	Value
Minimum altitude of the pole star [Altit. ſtellæ Polaris minima]		
	by the revolving [quadrant] [per Volub.]	52° 59′ 35″
	by the steel [quadrant] [per Chalyb.]	52° 59′ 40″

N.B. From these the altitude of the pole results: 55° 54¾′. [N.B. Prouenit ex his Alt. Poli 55 54¾.][2360]

On the same day, 16 December, in the evening [Eodem Die 16 Decemb. Veſperi.]

After the instrument had been corrected still more. [Poſt adhuc magis correctum inſtru-] [mentum.]

Reading	Detail	Value
[At] 5^{h} 53½^{m}, the pole star in maximum meridian altitude [H. 5 53½ Stella Polaris in maxima Altit.] [mer.]	by the steel [quadrant] [per Chalyb.]	58° 49′ 45″
	or [vel]	50″
	by the revolving [quadrant] [per Volub.]	58° 49′ 42½″
Meridian altitude of I in the tail of Ursa Major [Alt. merid. I in cauda vrſæ maioris]		

[2359] These rows stand at the head of the left-hand column under no date heading; the last heading before them is "On the same day, in the evening" (15 December) on p. 317. "Reading" and "Value" are this edition's heads; the page prints none. The label runs over four lines, figures on its third and fourth, and is given whole on its first row. *Cygni&* is printed without a space before the ampersand. *fere* is "nearly". *Drac.* is "Draco"; *minoris vrſæ* "Ursa Minor". The values, printed without unit marks, are given as degrees and minutes.

[2360] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *Poſt rectificatos vtrosque quadrantes* stands on its own line above the table and is given as "After both quadrants had been rectified". The values in the table, printed as three figure groups without unit marks, are given as degrees, minutes and seconds; *55 54¾* in the note below, two groups, as degrees and minutes. *N.B.* is kept as printed; *Prouenit* is "results", *ex his* "from these".

Reading	Detail	Value
	by the revolv- ing [quad- rant] [per Volub.]	24° 8′
	by the steel [quad- rant] [per Chalyb.]	24° 9′
Declination of the knee of the front (left) [foot] of Ursa Major [Declin. genu anterioris(ſiniſtri)] [vrſæ maioris]	with both [vtroque]	53° 30′
Declination of the upper of the two [stars] in the preceding [one] of the front feet [Decl. ſuperioris duarum in] [præcedente ante-] [riorum pedum]	with one [vno]	49° 37′
	with the other [alt.]	49° 36½′
Declination of the more southern of the two [stars] of the same foot [Declin. auſtralioris duarum] [eiusdem pedis]	with one [vno]	48° 43½′
	with the other [altero]	48° 43⅔′
Declination of the knee of the preceding [one] of the hind feet of Ursa Major [Declin. genu præcedentis] [poſteriorum pedum vrſæ] [maioris]	with one [vno]	46° 43⅓′
	with the other [altero]	46° 43′
Declination of the upper of the two [stars] in the preceding [one] of the hind feet [Declin. ſuperioris duarum] [in præcedente pedum] [poſteriorum]	with one [vno]	44° 57⅓′
	with the other [altero]	44° 57′
Declination of the lower of the two [stars] in the leading [one] of the hind feet [Declin. inferioris duarum in] [antecedente poſteriorum] [pedum]	with both [vtroque]	43° 32½′
Between the bright [star] of the □ of Ursa Minor and the snout and mouth of Ursa Major [Inter luc. □ vrſæ min. & ro-] [ſtrum & os vrſæ maioris]		34° 11′ twice [34 11 bis]
Between the bright [star] of the □ of Ursa Minor and the brighter [star] in the neck of Ursa Major [Inter luc. □ vrſæ minoris &] [lucidiorem in collo vrſæ] [maioris]		28° 25½′
		28° 25⅔′
Between the bright [star] of the □ of Ursa Minor and the brighter [star] in the breast of Ursa Major, which is in a straight line with the two more southern [stars] in the □ of the same Greater Wain [Inter lucidam □ vrſæ minoris & lu-] [cidiorem in pectore vrſæ maioris,] [quæ eſt in recta linea cum duabus] [auſtralioribus in □ eiusdem ma-] [ioris plauſtri]		30° 28¾′

2361

Reading	Remark	Value
Between the upper head of Ⅱ and the more northern [star] in the preceding or left foot of Ursa Major [Inter ſuper. caput Ⅱ & borealiorem in] [præcedente ſeu ſiniſtro] [pede vrſæ maioris]		22° 46′
		22° 45⅚′
Between the upper head of Ⅱ and the more southern [star] in the same foot [Inter ſuper. caput Ⅱ & auſtra-] [liorem in eodem pede]		22° 48⅙′
		22° 48¼′
Between the upper head of Ⅱ and that [star] which is in the left front knee [Inter ſuperius caput Ⅱ &] [illam quæ eſt in genu ſin.] [anteriori]		29° 20¾′
		29° 20⅚′
Between the upper head of Ⅱ and the upper or more northern of the two [stars] in the preceding [one] of the hind feet [Inter ſuper. caput. Ⅱ & ſupe-] [riorem vel borealiorem] [duarum in præced. pe-] [dum poſterior.]		33° 43′
		33° 43⅔′
Between the upper head of Ⅱ and the more southern of the two [stars] in the same foot [Inter ſuper. cap. Ⅱ &] [auſtralior. duarum in] [eodem pede]		34° 35½′
		34° 36′
Between the upper head of Ⅱ and the knee of the same foot, the front [one] of the hind [feet] [Inter ſuper. cap. Ⅱ & genu] [eiusdem pedis anterio-] [ris poſteriorum]	with one [vno]	43° 15¾′
	with the other [altero]	43° 15¾′

2361 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The sentence *Poſt adhuc magis correctum inſtrumentum.* stands above the table and is given before it. The first label runs from the time to *mer.*, which begins the next line before *per Chalyb.*; it is given whole on its first row. *H. 5 53½* prints *H.* and no *M.*; the bare 53½ is given as minutes. *vel* stands alone right of centre, and its *50* stands under the seconds of the line above; it is given as seconds, "or 50″". The other values of the first label, printed as three figure groups without unit marks, are given as degrees, minutes and seconds; all later values, two groups, as degrees and minutes. *I* in *Alt. merid. I in cauda* is a capital I, kept as printed; on 18 December, in the evening (p. 318), the page names *primæ in cauda vrſæ maioris*, "the first [star] in the tail of Ursa Major". *anterioris* is "front"; the noun it qualifies is understood and is given as "[foot]", following the *pedum* of the next labels ("[leg]" is the other construal). *præcedente* is "preceding"; *antecedente* is given as "leading" to keep the two words apart. *poſteriorum* is "hind". *vno*, *alt.*, *altero* stand before the figures; *vtroque* is "with both". *roſtrum* is given as "the snout" of the Bear; *plauſtri* is "Wain". *luc.* is "the bright [star]", *min.* "Minor". *bis* is "twice". Empty cells are empty on the page. The page ends its left-hand column here; the rows at the head of the right-hand column follow below.

2362

On 18 December, in the morning [DIE 18 DECEMBRIS, MANE.]

Reading	Detail	Value
Minimum altitude of the pole star [Alt. ſtellæ Pol. min.]		
	by the steel [quadrant] [per Chal.]	52° 59⅔′
	by the revolving [quadrant] [per Volub.]	52° 59′ 35″
Minimum altitude of the bend of Cassiopeia [Alt. min. Flexuræ Caßiopeæ]		
	by the steel [quadrant] [per Chalyb.]	24° 24⅚′
	by the revolving [quadrant] [per Volub.]	24° 23⅚′

2363

Of the pole star in this year 88, in December, by the rectified steel [quadrant] [Stellæ polaris hoc anno 88 in] [Decembri per Chal. rectificatum.]

Quantity	Value
Maximum altitude [Alt. maxima]	58° 49′ 50″
Minimum altitude [Alt. minima]	52° 59′ 40″
Diameter of the circle [Diam. circuli]	5° 50′ 10″
Distance from the pole [Diſt. a Polo]	2° 55′ 5″
Elevation of the pole [Eleuatio Poli]	55° 54′ 45″

[2362] These rows stand at the head of the right-hand column under no date heading; in the page's order they follow the entry of 16 December, in the evening, at the foot of the left-hand column. "Reading", "Remark" and "Value" are this edition's heads; the page prints none. Labels printed over two to four lines are given whole on their first rows; where the first line carries no figures (the first, third, fourth, fifth and sixth labels), the figures stand on the following lines. *ſuper. caput* II, *ſuperius caput* II and *ſuper. cap.* II are "the upper head of II"; the fourth label prints a full point after *caput*. *ſeu* is "or", *vel* "or". *genu ſin. anteriori* is "the left front knee". *præced.* is "preceding"; *poſterior.* and *poſteriorum* "hind". *eiusdem pedis anterioris poſteriorum* is given as "of the same foot, the front [one] of the hind [feet]"; "of the same front foot of the hind [feet]" is the other construal. The foot of Ursa Major is named only in the first label; the later labels name no constellation for *pede* and *pedum*. *vno* and *altero* stand before their figures. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2363] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *Pol.* is taken as *Polaris*, which the page prints in full in the next heading and elsewhere on this page. *Flexuræ Caßiopeæ* is "the bend of Cassiopeia". Values printed as two figure groups without unit marks are given as degrees and minutes, and as three groups as degrees, minutes and seconds. Empty cells are empty on the page.

Quantity	Value
Altitude of the equator [Alt. Æquatoris]	34° 5′ 15″
Altitude of Spica [Alt. Spicæ]	25° 8′ 25″
Declination of Spica [Decl. Spicæ]	8° 56′ 50″

2364

On the same day, 18 December, in the evening [Eodem die 18. Dec., Veſperi.]

Reading	Detail	Value
Maximum meridian altitude of the pole star [Altit. merid. ſtellæ Polaris max.]		
	by the revolving [quadrant] [per Volub.]	58° 49′ 40″
	by the steel [quadrant] [per Chalyb.]	58° 49′ 45″
Minimum meridian altitude of the first [star] in the tail of Ursa Major [Alt. merid. min. primæ] [in cauda vrſæ maioris]		
	by the steel [quadrant] [per Chalyb.]	24° 8⅚′
	by the revolving [quadrant] [per Volub.]	24° 8′
Meridian altitude of the bright [star] of the girdle of Andromeda [Alt. mer. lucidæ cinguli Androm.]		
	by the steel [quadrant] [per Chalyb.]	67° 30¾′
	by the revolving [quadrant] [per Volub.]	67° 30⅓′

2365

Reading	Detail	Value
Altitude of the middle [star] in the tail of Ursa Major [Alt. mediæ in cauda vrſæ mai.]		
	by the steel [quadrant] [per Chalyb.]	23° 2′

2364 "Quantity" and "Value" are this edition's heads; the page prints none. The two-line heading above the list is centred on the page's column; *rectificatum* agrees with *Chal.* (the steel [quadrant]) and is given as "the rectified steel [quadrant]"; "rectified by the steel [quadrant]" is the other construal. *88* is the year as printed. *Diam. circuli* is "Diameter of the circle". The values, printed as three figure groups without unit marks, are given as degrees, minutes and seconds.

2365 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *merid.* and *mer.* after an altitude are "meridian". *Androm.* is "Andromeda"; *cinguli* "the girdle". *Dec.* is "December". Values printed as three figure groups without unit marks are given as degrees, minutes and seconds, and as two groups as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
	by the revolving [quadrant] [per Volub.]	23° 1′
Minimum meridian altitude of the bright [star] in the □ of Ursa Minor [Alt. merid. min. lucidæ in □ vrſæ min.]		
	by the steel [quadrant] [per Chalyb.]	41° 44⅝′
	by the revolving [quadrant] [per Volub.]	41° 44⅝′
Of the following, less bright [star] in the □ of the same [Bear] [Sequentis minus lucidæ in □ eiusdem]		
	by the steel [quadrant] [per Chalyb.]	39° 13′
	by the revolving [quadrant] [per Volub.]	39° 12⅓′

2366

On 19 December, in the evening [DIE 19 DECEMBRIS, VESPERI.]

Reading	Detail	Value
Maximum meridian altitude of the pole star [Alt. Merid. ſtellæ Polaris maxima]		
	by the steel [quadrant] [per Chalyb.]	58° 49′ 43″
	by the revolving [quadrant] [per Volub.]	58° 49′ 45″
Minimum meridian altitude of I in the tail of Ursa Major [Alt. Merid. min. I in cauda vrſæ maior.]		
	by the steel [quadrant] [per Chalyb.]	24° 8⅔′
	by the revolving [quadrant] [per Volub.]	24° 8′
Meridian altitude of the bright [star] of the girdle of Andromeda [Alt. merid. lucidæ cinguli Andromedæ]		

2366 These rows stand at the head of the left-hand column under no date heading; the last heading before them is "On the same day, 18 December, in the evening" on p. 318. "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Each label stands on a line of its own with no figure; the instruments stand indented under it, each with its figures, and are given in the second column. *mai.* is given as "Major", as *maioris* is printed in full further down this column. *Sequentis* is "the following [star]"; *eiusdem* is "of the same", and the noun it leaves understood is given as "[Bear]". The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
	by the steel [quadrant] [per Chalyb.]	67° 30′ 35″
	by the revolving [quadrant] [per Volub.]	67° 30⅔′
Altitude of the middle [star] in the tail of Ursa Major [Alt. mediæ in cauda vrſæ maioris]		
	by the steel [quadrant] [per Chalyb.]	23° 1⅚′
	by the revolving [quadrant] [per Volub.]	23° 1⅓′
Declination of the first [star] in the tail of Ursa Major [Decl. primæ in cauda] [vrſæ maioris]	with one [vno]	58° 13⅚′
	with the other [alt.]	58° 13½′
Declination of the middle [star] in the tail of the same [Bear] [Decl. mediæ in cauda] [eiusdem]	with one [vno]	57° 7½′
	with the other [alt.]	57° 7′
Between the bright [star] of the Vulture and 4 of the same Vulture, once only [Inter Vulturis lucidam & 4 eiusdem] [Vult., ſemel tantum]		2° 1′
Minimum meridian altitude of the last [star] in the tail of Ursa Major [Alt. min. Merid. vltimæ in] [cauda vrſæ maioris]		
	by the steel [quadrant] [per Chalyb.]	17° 20⅓′
	by the revolving [quadrant] [per Volub.]	17° 19¾′
Declination of the same, the third [star] in the tail [Declin. eiusdem tertiæ] [in cauda]	with one [vno]	51° 25⅚′
	with the other [alt.]	51° 26′
Declination of the bright [star] in the □ of Ursa Minor by the armillae [Declin. lucidæ in □ vrſæ] [minoris per Armill.]	with one [vno]	75° 50⅚′
	with the other [alt.]	75° 50¾′
Declination of the other, less bright [star] in the □ of the same Ursa Minor [Declin. alterius minus lucidæ] [in □ eiusdem] [vrſæ min.]	with one [vno]	73° 19′
	with the other [alt.]	73° 18¾′
Repeated declination of the other [star] [Repetita declin.] [alterius]	with one [vno]	73° 19′
	with the other [alt.]	73° 18½′
Minimum meridian altitude of the bright [star] in the □ of Ursa Minor [Minima alt. Merid. lucidæ in] [□ vrſæ minoris]		
	by the steel [quadrant] [per Chalyb.]	41° 44′ 50″
	by the revolving [quadrant] [per Volub.]	41° 44¾′
Meridian altitude of the following, less bright [star] [Sequentis minus lucidæ alt. Merid.]		

Reading	Detail	Value
	by the steel [quadrant] [per Chalyb.]	39° 13′
	by the revolving [quadrant] [per Volub.]	39° 12½′

2367

On 20 December [DIE 20 DECEMBRIS.]

Reading	Detail	Value
Maximum meridian altitude of the pole star [Alt. Merid. ſtellæ Polaris maxima]		
	by the steel [quadrant] [per Chalyb.]	58° 49′ 45″
	by the revolving [quadrant] [per Volub.]	58° 49′ 40″

2368

On 21 December, in the evening [DIE 21 DECEMBRIS, VESPERI.]

Reading	Detail	Value
Minimum meridian altitude of the less bright of the two [stars] at the end of the □ of Ursa Minor [Alt. Merid. minima minus lucidæ du-] [arum in extremitate □ vrſæ min.]		

[2367] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. Labels printed over two or three lines are given whole on their first rows. Where *vno* and *alt.* stand in a label, *vno* and its figures are on the label's first line and *alt.* and its figures on its last line; in the label beginning *Declin. alterius* the first line carries no figures, *vno* stands on the second line and *alt.* on the third. In the label beginning *Declin. lucidæ, per Armill.* is printed on the second line, after *minoris* and before *alt.*; it is given within the label. In the label beginning *Inter Vulturis* the figures stand on the second line, after *ſemel tantum. maior., mai.* and *min.* after *vrſæ* are "Major" and "Minor"; *Vult.* is "the Vulture", as *Vulturis* is printed in full on the line above. *I* in the second label is a capital I, kept as printed. *eiusdem tertiæ* is given as "of the same, the third [star]"; "of the third [star] … of the same [Bear]" is the other construal. *alterius* is "of the other"; *ſemel tantum* "once only"; *Repetita* "Repeated". Values printed as three figure groups without unit marks are given as degrees, minutes and seconds, and as two groups as degrees and minutes. Empty cells are empty on the page. The page ends its left-hand column here; the entries at the head of the right-hand column follow below.

[2368] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The values, printed as three figure groups without unit marks, are given as degrees, minutes and seconds. Empty cells are empty on the page.

Reading	Detail	Value
	by the steel [quadrant] [per Chalyb.]	39° 12⅝′
	by the revolving [quadrant] [per Volub.]	39° 12½′

2369

On 22 December [DIE 22 DECEMBRIS.]

Reading	Detail	Value
Maximum altitude of the pole star [Alt. ſtellæ Pol. maxima]		
	by the steel [quadrant] [per Chalyb.]	58° 49′ 45″
	by the revolving [quadrant] [per Volub.]	58° 49′ 40″

2370

On 25 December, in the evening[1] *[DIE 25 DECEMBRIS, VESPERI.[1]]*

Examination of the circumpolar stars for the altitude of the pole and the agreement of the instruments and the other [matters] necessary for this [Examinatio] [ſtellarum circumpolarium] [pro altitudine poli & inſtrumentorum] [correſpondentia ceterisque huc] [neceßarijs.]

Reading	Detail	Value
Maximum altitude of the pole star [*Stellæ Polaris Alt. maxima*]		
	by the revolving [quadrant] [*per Volub.*]	*58° 49′ 40″*
	by the steel [quadrant] [*per Chalyb.*]	*58° 49′ 40″*

2371

With both instruments in the same way. [*vtroque inſtrumento eodem modo.*]

2369 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The label runs over two lines, the word *duarum* divided between them, and is given whole on its first row. *in extremitate* is given as "at the end"; literally "at the extremity". The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2370 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. *Pol.* is taken as *Polaris*, which the page prints in full in the entries of 19 and 20 December. The values, printed as three figure groups without unit marks, are given as degrees, minutes and seconds. Empty cells are empty on the page.

2371 "Reading", "Detail" and "Value" are this edition's heads; the page prints none.

The minimum altitude of the first [star] in the tail of Ursa Major was taken by three instruments. [*Alt. min. Iæ in cauda vrſæ maioris ac-*] [*cipiebaturperterna inſtrumenta.*]

Reading	Detail	Value
By the greatest steel [quadrant] [*Per max. Chalyb.*]		*24° 8′ 40″*
	by the old sextant [*per Sext. vet.*]	*24° 8′ 30″*
	by the revolving [quadrant] [*per Volub.*]	*24° 7′ 55″*
Its declination by the armillae [*Declin. eius per*] [*Armillas*]	*with one* [*vno*]	*58° 13′ 15″*
	with the other [*alt.*]	*58° 12′ 50″*
	The middle of this [*Medium huius*]	*58° 13′ 2½″*
The middle [star] in the tail of Ursa Major [*Media in cauda vrſæ maioris*]		
Declination [*Declinatio*]		*57° 7′*
	with the other pinnule [*pin. altero*]	*57° 7½′*
Altitude of the same middle [star] [*Alt. eiusdem mediæ*]		
	by the steel [quadrant] [*per Chalyb.*]	*23° 1′ 50″*
	by the revolving [quadrant] [*per Volub.*]	*23° 1′ 10″*
	by the old sextant [*per Sext. vet.*]	*doubtful* [*dubia*] *23° 0′ 45″*
The third [star] in the tail of the Bear [*Tertia in cauda vrſæ*]		*51° 25½′*
	Declination [*Declinatio*]	*51° 26′*
Minimum altitude of the same [star] [*Alt. eiusdem minima*]		
	by the steel [quadrant] [*per Chalyb.*]	*17° 21′ 5″*
	by the revolving [quadrant] [*per Volub.*]	*17° 19′ 45″*
	by the sextant [*per Sext.*]	*17° 21′*

2372

1 From codex D (up to the end of the day of 28 December). [E codice D (usque ad finem diei 28 Dec.).]

Reading	Detail	Value
The brighter [star] of the □ of Ursa Minor [*Lucidior □ vrſæ minoris*]		
	Declination by the armillae below the pole [*Decl. per Arm. infra*] [*Polum*]	*75° 50½′*
		75° 50⅔′
The other, less bright [star] [*Altera minus lucida,*]	*with both* [*vtroq.*]	*73° 18¾′*
Altitude of the star of Draco which is the third in the tail [*Alt. ſtellæ Draconis quæ*] [*tertia eſt in cauda*]		
	by the steel [quadrant] [*per Chalyb.*]	*32° 16′ 40″*
	by the sextant [*per Sext.*]	*doubtful* [*dubia*] *32° 15′*
	by the revolving [quadrant] [*per Volub.*]	*32° 16′ 25″*
Declination of the same star by the armillae [*Eiusdem ſtellæ decl.*] [*per Armillas*]	*with one* [*vno*]	*66° 21¾′*
	with the other [*alt.*]	*66° 21½′*
Repeated declination of the two [stars] in Ursa Minor: the greater [star] [*Repetita decl. duarum in*] [*vrſa minore: Maior.*]	*with one* [*vno*]	*75° 50′ 35″*
	with the other [*alt.*]	*75° 50′ 30″*
	the lesser [star], below [*Minor. inf.*], *with one* [*vno*]	*73° 18′ 30″*
	with the other [*alt.*]	*73° 18′ 30″*

2372 Everything under this date is set in italic on the page, figures included. "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The five-line heading *Examinatio … neceßarijs.* is centred under the date and is given as a lower-level heading; *correſpondentia* is "agreement", *huc* "for this", and the noun *ceteris* leaves understood is given as "[matters]". *vtroque inſtrumento eodem modo.* stands on a line of its own after the two pole-star readings and is given after them. The sentence *Alt. min. … inſtrumenta.* runs over two lines, the word *accipiebatur* divided between them, and its second line is set close, with no visible space before or after *per*; *Iæ* is a capital I with a superscript æ and is given as "the first [star]"; *accipiebatur* is "was taken"; *terna* is given as "three". *Per max. Chalyb.* stands flush with the labels, its figures on the same line; the two instruments after it stand indented. *Medium huius* stands right of centre before its figures, and is given as "The middle of this". *Declinatio* under *Media in cauda vrſæ maioris* stands flush with the labels; *pin. altero*, "with the other pinnule", stands indented below it. *Tertia in cauda vrſæ* carries figures on its own line, and *Declinatio* stands indented on the line below with the second figures; the page names no Bear beyond *vrſæ* in this label, and "the Bear" is kept bare. *eiusdem* is "of the same"; *eius* (in *Declin. eius*) is "its". *dubia*, "doubtful", stands before the figures of the old sextant. Values printed as three figure groups without unit marks are given as degrees, minutes and seconds, and as two groups as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
Minimum altitude of the bright [star] in the □ of Ursa Minor [*Lucidæ in □ vrſæ minor. alt.minima*]		
	by the steel [quadrant] [*per Chalyb.*]	*41° 44⅔′*
	by the revolving [quadrant] [*per Volub.*]	*41° 44½′*
	by the sextant [*per Sext.*]	*41° 45′*
Of the less bright [star] in the □ of the same [Bear] [Minus lucidæ in □ eiusdem]		
	by the steel [quadrant] [per Chalyb.]	39° 12′ 30″
	by the revolving [quadrant] [per Volub.]	39° 12′ 25″
	by the sextant [per Sext.]	39° 12′ 30″

2373

On 27 December, in the morning *[*DIE 27 DECEMBRIS, MANE.*]*

Reading	Detail	Value
Minimum altitude of the pole star [*Altit. ſtellæ Polaris minima*]		
	by the steel [quadrant] [*per Chalyb.*]	*52°59′ 30″*
	by the revolving [quadrant] [*per Volub.*]	*52°59′ 35″*

2374

2373 These rows stand at the head of the left-hand column under no date heading; they follow the entry "On 25 December, in the evening" and its five-line heading on p. 319. "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The first eighteen rows are set in italic on the page, figures included; the last four rows (from *Minus lucidæ*) are set in roman. Lines printed indented under a label stand in the second column. *Decl. per Arm. infra Polum* runs over two indented lines, each carrying figures, and is given whole on its first row; *Arm.* is "the armillae", as *Armillas* is printed in full below. *vtroq.* stands before the figures of *Altera minus lucida,* and is given as "with both". *dubia*, "doubtful", stands before the figures of the sextant line. *Maior.* stands on the label's second line with *vno* and the first figures; *Minor. inf.* stands indented on a line of its own with *vno* and figures. *Maior.* and *Minor.* are given as "the greater [star]" and "the lesser [star]"; *inf.* is given as "below", following *infra Polum* printed above; "lower" (*inferior*) is the other expansion. *minor.* after *vrſæ* is "Minor"; *eiusdem* is "of the same", and the noun it leaves understood is given as "[Bear]". Values printed as three figure groups without unit marks are given as degrees, minutes and seconds, and as two groups as degrees and minutes. Empty cells are empty on the page.

2374 The heading and the label are set in italic at the foot of the left-hand column; the two instrument lines that carry the label's figures stand, also in italic, at the head of the right-hand column, and are given here under the label. "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The values, printed as three figure groups without unit marks, are given as degrees, minutes and seconds. Empty cells are empty on the page.

On the same day, in the evening [EODEM DIE VESPERI.]

Reading	Detail	Value
Minimum altitude of the far end of the tail of Ursa Major [Extremæ caudæ vrſæ maior. Alt.min.]		
	by the steel [quadrant] [per Chalyb.]	17° 19′
	by the revolving [quadrant] [per Volub.]	17° 20′
Minimum altitude of the bright [star] in the □ of Ursa Minor [Lucidæ in □ vrſæ min. Alt. min.]		
	by the steel [quadrant] [per Chalyb.]	41° 45′
	by the revolving [quadrant] [per Volub.]	41° 45′
Minimum altitude of the other, less bright [star] in Ursa Minor [Alterius minus lucidæ] [in vrſa minore alt. min.]		
	by the steel [quadrant] [per Chal.]	39° 13′
	by the revolving [quadrant] [per Volub.]	39° 12½′

2375

On 28 December [DIE 28 DECEMBRIS.]

Reading	Detail	Value
Of the middle [star] of the tail of Ursa Major [Mediæ caudæ vrſæ maior.]		
	by the steel [quadrant] [per Chalyb.]	23° 2′
	by the revolving [quadrant] [per Volub.]	23° 1′
The extreme [star] in the tail of Ursa Major [Extr. in cauda vrſæ mai.]		
	by the steel [quadrant] [per Chalyb.]	17° 20⅓′
	by the revolving [quadrant] [per Volub.]	17° 19⅔′
Of the bright [star] in the □ of Ursa Minor [Lucidæ in □ vrſæ min.]		
	with both quadrants [vtroque quadrante]	41° 44′ 30″

2375 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *Extremæ caudæ* is given as "the far end of the tail"; "the extreme [star] of the tail" is the other construal. *maior.* and *min.* after *vrſæ* are "Major" and "Minor". The third label runs over two lines and is given whole on its first row. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
Minimum altitude of the other, less bright [star] [Alterius minus luc. Alt. min.]		
	by both quadrants [per vtrumque quadrant.]	39° 12½′

2376

Observations of stars in the southern constellations outside the zodiac [OBSERUATIONES STELLARUM IN ASTERISMIS] [AUSTRALIBUS EXTRA ZODIACUM.][2377]

On 19 January, in the evening [DIE 19 JANUARIJ, VESPERI.]

Reading	Detail	Value
Maximum altitude of the bright [star] of the head of Cetus [Lucidæ cap. Ceti Alt. max.]		36° 32⅙′
	by the revolving [quadrant] [per Vol.]	36° 31½′
Declination of the bright [star] of the head of Cetus [Declin. capitis Ceti lucidæ]		2° 25′
		2° 25½′

2378

On 24 January [DIE 24 JANUARIJ.]

Reading	Detail	Value
The bright foot of Orion [Luc. pes Orionis]		
	by the steel quadrant [per Q. Chalyb.]	25° 21¼′

[2376] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The page does not name the quantity measured for the first three labels. *Extr.* is given as "the extreme [star]", following *Extremæ* printed in the evening entry of 27 December above. *luc.* is "bright"; *quadrant.* is "quadrants", the one value being taken from the two instruments. *mai.*, *maior.* and *min.* after *vrſæ* are "Major" and "Minor". Values printed as three figure groups without unit marks are given as degrees, minutes and seconds, and as two groups as degrees and minutes. Empty cells are empty on the page.

[2377] This heading is set in capitals across the full width of the page, below the two columns of the December entries; the entries under it again stand in two columns. *ASTERISMIS* is given as "constellations".

[2378] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The first label carries its figures on its own line and names no instrument; the line below, indented, names the revolving [quadrant]. *cap.* is "the head", as *capitis* is printed in full on the line below. The second declination figure stands alone on the next line, under the first. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
	by the revolving quadrant [per Q. Volub.]	25° 23′
		doubtful [dubia]
The left shoulder of Orion [Sin. humerus Orio.]	by the steel [quadrant] [per Chal.]	40° 0½′
	by the revolving [quadrant] [per Volub.]	40° 0′

2379

Afterwards [it] was not clear enough. [Poſtea non erat ſatis ſerenum.]

Reading	Detail	Value
The first [star] of the belt of Orion [Prima balthei Orion.]		
	by the steel [quadrant] [per Chal.]	33° 26′
	by the revolving [quadrant] [per Volub.]	33° 25′
The second [star] of the belt [Secunda balthei]	by the steel [quadrant] [per Chal.]	32° 34⅓′
	by the revolving [quadrant] [per Volub.]	32° 34⅓′
The third [star] of the belt [Tertia balthei]	by the revolving [quadrant] [per Volub.]	31° 51⅔′
	by the steel [quadrant] [per Chalyb.]	31° 52⅔′
The right shoulder of Orion [Dexter humer. Or.]	by the steel [quadrant] [per Chal.]	41° 20⅚′
	by the revolving [quadrant] [per Volub.]	41° 20⅚′

2380

At the same time, altitudes by the mural [quadrant]: [Eodem tempore altitudines per Mu-] [ralem:]

2379 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *dubia*, "doubtful", stands alone on its own line at the right, over the figure column, between the line of the revolving quadrant and the line of the left shoulder; the page does not show which of the two values it qualifies. *Sin.* is "left"; *Orio.* is "Orion", as *Orionis* is printed in full above. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2380 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The first label and its two instrument lines stand at the foot of the left-hand column; the rows from *Secunda balthei* stand at the head of the right-hand column. Lines printed indented under a label stand in the second column; where a label, its instrument and its figures share one line, the instrument is given in the second column of that row. The second and third labels name no constellation; the belt is the belt of Orion named in the first. *Orion.* is "Orion"; *Or.* is given as "Orion", as *Orionis* is printed in full in this entry; "eastern" (*or.*, as elsewhere in this work) is the other expansion. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
The preceding foot of Orion [Præced. pes Orion.,]	with both [vtroque]	25° 21½′
The preceding shoulder of Orion [Præcedens humerus] [Orionis]	with the new [novo]	39° 59¾′
	with the old [vet.]	40° 0′

2381

A beam hindered [it] somewhat. [Trabs nonnihil impediuit.]

I could not observe the other [stars] in the belt of Orion because of a beam fixed there [Cæteras in baltheo Orionis ob tra-] [bem illic affixam obſeruare non potui]

Reading	Detail	Value
The following shoulder of Orion [Sequens hum. Orion.]	with the new [nouo]	41° 20⅓′
	with the old [vet.]	41° 20½′

2382

On 30 January [DIE 30 JANUARIJ.]

Reading	Detail	Value
The left shoulder of Orion [Sinister humerus Orionis]		
	by the revolving [quadrant] [per Volub.]	39° 59⅚′
	by the steel [quadrant] [per Chal.]	40° 0′
The first [star] of the belt [Prima balthei]	by the revolving [quadrant] [per Volub.]	33° 25′
The middle [star] in the belt [Media in baltheo]	by the revolving [quadrant] [per Volub.]	32° 33¼′
	by the steel [quadrant] [per Chalyb.]	32° 33⅔′
The third [star] of the belt [Tertia balthei]	by the revolving [quadrant] [per Volub.]	31° 51⅔′
	by the steel [quadrant] [per Chalyb.]	31° 52⅙′
The right foot of Orion [Dexter pes Orion.]	by the revolving [quadrant] [per Volub.]	24° 13′
	by the steel [quadrant] [per Chalyb.]	24° 14′

2381 "Reading", "Detail" and "Value" are this edition's heads; the page prints none.

2382 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. *Mu- / ralem* is divided between two lines. *vtroque*, *novo* (printed with v), *nouo* (printed with u) and *vet.* stand before their figures and are given as "with both", "with the new" and "with the old", as on earlier pages; the page does not name what is new or old. The label *Præcedens humerus Orionis* runs over two lines, *novo* and its figures on the first and *vet.* and its figures on the second, and is given whole on its first row. The sentence beginning *Cæteras* ends without a full point. *Cæteras* is "the other [stars]"; *ob* "because of". The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
The right shoulder of Orion [Dexter hum. Orion.]		41° 20⅔′
		41° 20¼′

2383

On 4 February, in the evening [DIE 4 FEBRUARIJ, VESPERI.]
By the mural [quadrant]. [Per Muralem.]

Reading	Detail	Value
Meridian altitude of the bright [star] of the pelt [Lucidæ exuviarum alt. mer.]		28° 25′
Of the bright [star] of the foot of Orion [Lucidæ pedis Orionis]		25° 21½′
Of the preceding shoulder [Humeri præcedentis]	with the new [nouo]	39° 59⅚′
	with the old [vet.]	40° 0′
The first [star] in the girdle of Orion [I in cingulo Orionis]		33° 25′
The second [star] [II]	with the old [vet.]	32° 33⅔′
	with the new [nouo]	32° 33½′
The third [star] [III]		31° 51⅚′
Of the following foot of Orion [Sequentis pedis Or.]	with the old [vet.]	24° 13⅙′
	with the new [nouo]	24° 13′
Of the following shoulder of Orion [Humeri Or. fequent.]		41° 20⅙′
		41° 20¼′

2384

[2383] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column; where a label, its instrument and its figures share one line, the instrument is given in the second column of that row. The three labels of the belt name no constellation. *Orion.* is "Orion", as *Orionis* is printed in full in this entry; *hum.* is "shoulder". The label of the right shoulder names no instrument; its second value stands alone on the next line, under the first. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2384] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. *By the mural [quadrant].* stands centred on its own line under the date line. *alt. mer.* is "meridian altitude". *nouo* and *vet.* stand before their figures and are given as "with the new" and "with the old", as on earlier pages; the page does not name what is new or old. *II* and *III* stand alone at the left of their lines, under *I in cingulo Orionis*; the page leaves the girdle understood with them. *Or.* is given as "Orion", as *Orionis* is printed in full in this entry; "eastern" (*or.*, as elsewhere in this work) is the other expansion. *fequent.* is "following". The last label's second value stands alone on the next line, under the first. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
The bright foot of Orion [Lucidus pes Orion.]		
	by the revolving [quadrant] [per Volub.]	25° 21⅓′
	by the steel [quadrant] [per Chalyb.]	25° 22⅙′
The left shoulder [Sinister humerus]	by the steel [quadrant] [per Chal.]	40° 0′
	by the revolving [quadrant] [per Volub.]	39° 59¾′
The first [star] of the belt [Prima balthei]	by the steel [quadrant] [per Chalyb.]	33° 25⅙′
	by the revolving [quadrant] [per Volub.]	33° 25′
The second [star] of the belt [Secunda balthei]	by the steel [quadrant] [per Chalyb.]	32° 33½′
	by the revolving [quadrant] [per Volub.]	32° 33⅓′
The third [star] of the belt [Tertia balthei]	by the steel [quadrant] [per Chalyb.]	31° 52′
The right foot of Orion [Dexter pes Orionis]		
	by the steel [quadrant] [per Chalyb.]	24° 13½′
	by the revolving [quadrant] [per Volub.]	24° 13′
The right shoulder of Orion [Dexter humerus Orionis]		
	by the steel [quadrant] [per Chal.]	41° 20½′
	by the revolving [quadrant] [per Volub.]	41° 20¾′
The first [star] of Eridanus [Prima Eridani]	by the steel [quadrant] [per Chalyb.]	28° 25′
	by the revolving [quadrant] [per Volub.]	28° 24⅓′

2385

On 5 February [DIE 5 FEBRUARIJ.]

Reading	Detail	Value
Of the upper [star] of the three brighter [stars] in the pelt of ♌ [Superioris trium lucidiorum] [in exuvijs ♌,]	with the old [vet.]	40° 15½′
Of the lowest [star] of the same [stars] [Infimæ earundem]	with the old [vet.]	35° 47½′
Of the bright [star] in the pelt [Lucidæ in exuvijs]		28° 24⅚′
Of the bright foot of Orion [Lucidi pedis Orionis]		25° 21⅓′

[2385] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. These rows stand after a blank line, below the rows given under *By the mural [quadrant].*, and under no new date line. Lines printed indented under a label stand in the second column; where a label, its instrument and its figures share one line, the instrument is given in the second column of that row. *Orion.* is "Orion", as *Orionis* is printed in full in this entry. The left shoulder and the three stars of the belt are named without a constellation. The fraction of the last value is ⅓: its broken, faintly inked denominator is read as 3 on a native-resolution crop, open on the left like the 3 of 25 21⅓ above it. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
		25° 21½′
Of the preceding shoulder of Orion [Humeri præced. Orionis]		40° 0′
		40° 0$\frac{1}{12}$′
The first [star] in the girdle of Orion [I in cingulo Orionis]		33° 25′
Of the second [star] in the girdle [Secundæ in cingulo]		32° 33⅔′
Of the third [star] in the girdle [Tertiæ in cingulo]		31° 51¾′
Of the following foot of Orion [Pedis Orion. ſequentis]	with the new [nouo]	24° 13′
	with the old [vet.]	24° 13¼′
Of the following shoulder of Orion [Humeri Orion. ſequentis]		
	with the new [nouo]	41° 20½′
	with the old [vet.]	41° 20⅔′
Of the preceding of the two [stars] in the □ of the hare's body [Duarum præcedentis in □] [corporis leporini]		12° 59¼′
Of the following [star] in the □ of the body of the Hare [Sequentis in □ corp. Leporis]		15° 56⅔′
In the foot of Canis Major [In pede Canis maioris]		16° 18⅙′
		16° 18⅓′

2386

Reading	Detail	Value
The preceding [star] of the brighter [stars] in the pelt which Orion holds [Præcedens lucidiorum in ex-] [uvijs quas tenet Orion]		
	by the steel [quadrant] [per Chalyb.]	40° 15½′
	by the revolving [quadrant] [per Volub.]	40° 15½′
The following [star] in the pelt [Sequens in exuvijs]		

2386 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The first label runs over two lines at the foot of the left-hand column and is given whole on its first row; the rows from *Infimæ earundem* stand at the head of the right-hand column, which carries no date line. The sign ♌ stands after *exuvijs*, followed by a comma; it is kept as printed. *earundem* is "of the same", and the noun it leaves understood is given as "[stars]". *præced.* is "preceding"; *Orion.* is "Orion", as *Orionis* is printed in full in this entry. *leporini* (an adjective, printed with a lower-case l) is "hare's"; *corp. Leporis* (printed with a capital) is "the body of the Hare", *corp.* being *corporis* printed in full on the line above. *nouo* and *vet.* stand before their figures and are given as "with the new" and "with the old". The label of the preceding of the two stars runs over two lines and is given whole on its first row; its figures stand on its second line. Where a label carries no instrument, a second value stands alone on the next line, under the first. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
	by the steel [quadrant] [per Chalyb.]	38° 55½′
	by the revolving [quadrant] [per Volub.]	38° 55½′
The third [star] in the pelt [Tertia in exuvijs]	by the steel [quadrant] [per Chalyb.]	35° 47½′
	by the revolving [quadrant] [per Volub.]	35° 47½′
The first [star] of Eridanus [Prima Eridani]	by the steel [quadrant] [per Chalyb.]	28° 25′
	by the revolving [quadrant] [per Volub.]	28° 24½′
The bright foot of Orion [Lucidus pes Orionis]		
	by the steel [quadrant] [per Chalyb.]	25° 21½′
	by the revolving [quadrant] [per Volub.]	25° 21¼′
The hilt of the sword of Orion [Capulus enſis Orionis]		
	by the steel [quadrant] [per Chalyb.]	31° 14¾′
	by the revolving [quadrant] [per Volub.]	31° 14½′
The left shoulder of Orion [Iniſter humerus Orionis]		
	by the steel [quadrant] [per Chal.]	40° 0′
	by the revolving [quadrant] [per Volub.]	39° 59¾′
The first [star] of the belt of Orion [I balthei Orionis]		
	by the steel [quadrant] [per Chalyb.]	33° 25′
	by the revolving [quadrant] [per Volub.]	33° 25′
The second [star] of the belt [II balthei]	by the steel [quadrant] [per Chalyb.]	32° 33½′
	by the revolving [quadrant] [per Volub.]	32° 33⅓′
The third [star] of the belt [III balthei]	by the steel [quadrant] [per Chalyb.]	31° 52′
	by the revolving [quadrant] [per Volub.]	31° 51¾′
The right foot of Orion [Dexter pes Orionis]		
	by the steel [quadrant] [per Chalyb.]	24° 13⅔′

2387

Reading	Detail	Value
The right shoulder of Orion [Dexter humerus Orionis]		
	by the steel [quadrant] [per Chal.]	41° 20½′
	by the revolving [quadrant] [per Volub.]	41° 20⅔′
The preceding foot of Canis Major [Præcedens pes Canis maioris]		
	by the steel [quadrant] [per Chal.]	16° 18⅔′
	by the revolving [quadrant] [per Volub.]	16° 18⅔′

2388

On 7 February [DIE 7 FEBRUARIJ.]

Reading	Detail	Value
Of the bright [star] of the pelt [Lucidæ exuviarum]		28° 24⅚′
		28° 24¾′
Of the bright foot of Orion [Lucidi pedis Orionis]		25° 21½′
		25° 21⅓′
Of the preceding shoulder of Orion [Præced. humeri Orionis]		39° 59⅚′
		40° 0′
The first [star] of Eridanus [Prima Eridani]	by the steel [quadrant] [per Chalyb.]	28° 25′
	by the revolving [quadrant] [per Volub.]	28° 24½′
The bright foot of Orion [Lucidus pes Orion.]		
	by the steel [quadrant] [per Chalyb.]	25° 22′
	by the revolving [quadrant] [per Volub.]	25° 21½′
Declination by the armillae [Declin. per Armillas]		8° 43′
The left shoulder of Orion [Sinifter humerus Orionis]		

[2387] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. These rows stand after a blank line in the right-hand column, under no new date line. The first label runs over two lines, divided *ex-* / *uvijs*, and is given whole on its first row. Lines printed indented under a label stand in the second column; where a label, its instrument and its figures share one line, the instrument is given in the second column of that row. *Capulus* is "the hilt"; *enſis* "of the sword". The values, printed as two figure groups without unit marks, are given as degrees and minutes. The column ends with the steel-quadrant line of the right foot. Empty cells are empty on the page.

[2388] These rows stand at the head of the left-hand column under no date line; they follow the entry "On 5 February" begun on p. 321. "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *Canis maioris* is "Canis Major". The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
	by the steel [quadrant] [per Chalyb.]	40° 0′
	by the revolving [quadrant] [per Volub.]	39° 59⅔′
Its declination by the armillae [Decl. eius per Arm.,]	with both pinnules [vtroq. pin.]	5° 55′
The first [star] of the belt, declination south [I Balthei Decl. Auſt.]	with one [vno]	0° 40′
	with the other [altero]	0° 39¾′
The second [star] of the belt by the armillae [II Balthei per Arm.]	with one [vno]	1° 31¼′
	with the other [altero]	1° 31′
The third [star] of the belt, declination south [III Balthei Decl. M.]	with one [vno]	2° 13′
	with the other [altero]	2° 13′
Of the right shoulder of Orion, declination north [Dextri humeri Orion.] [Declin. B.]	with one [vno]	7° 15¾′
	with the other [alt.]	7° 16′

2389

On 8 February [DIE 8 FEBRUARIJ.]

Reading	Detail	Value
The left shoulder of Orion [Sin. humerus Orionis]		39° 59⅓′
	by the steel [quadrant] [per Chalyb.]	40° 0′
The first [star] of the belt [Prima balthei]		33° 24′
	by the steel [quadrant] [per Chalyb.]	33° 25⅓′
The right shoulder of Orion [Dexter humerus Orion.]		
	by the steel [quadrant] [per Chalyb.]	41° 20¾′
	by the revolving [quadrant] [per Volub.]	41° 20½′

2389 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column; where a label, its instrument and its figures share one line, the instrument is given in the second column of that row. The first three labels name no instrument; each second value stands alone on the next line, under the first. *Orion.* is "Orion", as *Orionis* is printed in full in this entry. *Declin. per Armillas* names no star; it stands directly below the lines of the bright foot of Orion. *Decl. eius per Arm.,* stands on a line of its own ending in a comma; *vtroq. pin.* and the figures stand on the next line and are given on the label's row. *eius* is "its" ("of it"); the star is the left shoulder named on the line above. *Auſt.* and *M.* after *Decl.* are "south"; *B.* after *Declin.* is "north". *II Balthei per Arm.* names no quantity; the values stand with the declinations above and below it. *Dextri humeri Orion.* and *Declin. B.* stand on two lines, each with figures; the label is given whole on its first row. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2390

On 10 February [DIE 10 FEBRUARIJ.]

Reading	Detail	Value
The left shoulder of Orion [Sin. humerus Or.]	by the steel [quadrant] [per Chalyb.]	39° 59⅚′
	by the revolving [quadrant] [per Volub.]	39° 59⅔′
Declination of the same [star] [Declin. eiusdem]	with one [vno]	5° 55′
	with the other [altero]	5° 54⅚′

2391

On 11 February [DIE 11 FEBRUARIJ.]

Reading	Detail	Value
The first [star] of Eridanus [Prima Eridani]	by the steel [quadrant] [per Chal.]	28° 25′
	by the revolving [quadrant] [per Volub.]	28° 25′
Declination of the same [star], south [Decl. eiusdem Auſt.]		
	by the armillae [per Armillas], with one [vno]	5° 40′
	with the other [altero]	5° 39⅚′
The bright foot of Orion [Lucidus pes Orionis]		
	by the steel [quadrant] [per Chalyb.]	25° 22′
	by the revolving [quadrant] [per Volub.]	25° 21½′
Its declination by the armillae [Declin. eius per Armill.]	with one [vno]	8° 43¼′
	with the other [alt.]	8° 43⅓′
The left shoulder of Orion [Sin. humerus Orionis]		
	by the steel [quadrant] [per Chalyb.]	40° 0′
	by the revolving [quadrant] [per Volub.]	39° 59⅚′
Its declination by the armillae [Declin. eius per Armill.]	with one [vno]	5° 55′
	with the other [alt.]	5° 54⅚′

2390 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The first two labels carry a value on their own line and name no instrument there; the indented line below each names the steel [quadrant]. *Sin.* is "left"; *Orion.* is "Orion", as *Orionis* is printed in full in this entry. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2391 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. *Or.* is given as "Orion", as *Orionis* is printed in full on this page; "eastern" (*or.*, as elsewhere in this work) is the other expansion. *eiusdem* is "of the same", and the noun it leaves understood is given as "[star]". The declination names no instrument. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
The first [star] of the belt [Prima balthei]	by the steel [quadrant] [per Chalyb.]	33° 25′
	by the revolving [quadrant] [per Volub.]	33° 24¾′
Declination of the same [star] by the armillae [Decl. eiusd. per Arm.]	with one [vno]	0° 39⅝′
	with the other [altero]	0° 40′
The second [star] of the belt [Secunda balthei]	by the steel [quadrant] [per Chalyb.]	32° 33½′
	by the revolving [quadrant] [per Volub.]	32° 33½′
Declination of the same [star] by the armillae [Declin. eiusdem] [per Armillas]	with one [vno]	1° 31¾′
	with the other [alt.]	1° 31½′
The third [star] of the belt [Tertia balthei]	by the steel [quadrant] [per Chalyb.]	31° 52′
	by the revolving [quadrant] [per Volub.]	31° 51⅔′
Declination of the same [star] [Declin. eiusdem]	with one [vno]	2° 13⅓′
	with the other [alt.]	2° 13¼′
The right foot of Orion [Dexter pes Orionis]		
	by the steel [quadrant] [per Chalyb.]	24° 13′
	by the revolving [quadrant] [per Volub.]	24° 12¾′
Its declination, south [Declin. eius auſt.]	with one [vno]	9° 52′
	with the other [altero]	9° 51⅝′
The right shoulder [Dexter humerus]	by the steel [quadrant] [per Chalyb.]	41° 20½′
	by the revolving [quadrant] [per Volub.]	41° 20½′
Its declination, north [Declin. eius bor.]	with one [vno]	7° 16′
	with the other [altero]	7° 16¼′

2392

On 14 February [DIE 14 FEBRUARIJ.]

[2392] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column; where a label, its instrument and its figures share one line, the instrument is given in the second column of that row. *Decl. eiusdem Auſt.* stands on its own line; *per Armillas* and *vno* with the first figures stand on the indented line below it. *Declin. eiusdem / per Armillas* (the second [star] of the belt) runs over two lines, *vno* and figures on the first and *alt.* and figures on the second, and is given whole on its first row. *eius* is "its" ("of it"), and *eiusdem / eiusd.* "of the same [star]"; each refers to the star named on the lines above. *Auſt.* and *auſt.* are "south", *bor.* "north". *Dexter humerus* names no constellation here. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
The neck of Canis Minor [Ceruix Canis min.]		
	by the steel [quadrant] [per Chalyb.]	43° 8½′
	by the revolving [quadrant] [per Volub.]	43° 8½′
Its declination by the armillae [Decl. eius per Armill.,]	with one [vno]	9° 3⅓′
	with the other [altero]	9° 3½′

2393

On 15 February [DIE 15 FEBRUARIJ.]

Reading	Detail	Value
The neck of Canis Minor [Ceruix Canis min.]		
	by the revolving [quadrant] [per Volub.]	43° 8⅓′
	by the steel [quadrant] [per Chalyb.]	43° 8¾′

2394

Reading	Detail	Value
Its declination, north [Decl. eius B.]	with one [vno]	9° 3½′
	with the other [altero]	9° 3¼′
Canis Minor [Canis minor]	by the steel [quadrant] [per Chalyb.]	40° 18½′
	by the revolving [quadrant] [per Volub.]	40° 18¾′
Its declination, north [Declin. eius B.]	with one [vno]	6° 13½′
	with the other [alt.]	6° 13¼′

2395

2393 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *Ceruix Canis min.* is "the neck of Canis Minor". A comma follows *Armill.* on the page. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2394 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2395 These rows stand at the head of the left-hand column under no date line; they follow the entry "On 15 February" on p. 322, whose last label, at the foot of that page, is the neck of Canis Minor. "Reading", "Detail" and "Value" are this edition's heads; the page prints none. *eius* is "its" ("of it"): the first declination refers to the star named last before it, the neck of Canis Minor on p. 322; the second to Canis Minor named on the lines above it. *B.* after *Decl.* and *Declin.* is "north". Where a label, its instrument and its figures share one line, the instrument is given in the second column of that row; the line printed indented below it stands in the second column. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

On 19 February [DIE 19 FEBRUARIJ.]

Reading	Detail	Value
The right foot of Orion [Dexter pes Orionis]		
	by the revolving [quadrant] [per Volub.]	24° 12½′
The right shoulder of Orion [Dexter humerus Orionis]		41° 20⅔′
	declination [Declin.]	7° 16′
Canis Major [Canis maior]	by the revolving [quadrant] [per Volub.]	17° 54′
	by the steel [quadrant] [per Chalyb.]	17° 55½′
		uncertain [incerta]
Between Canis Major and its foot [Inter Canem maiorem &] [pedem eius]		5° 35½′ twice [bis]
		5° 35′ once [femel]

2396

On 28 February [DIE 28 FEBRUARIJ.]

Reading	Detail	Value
Canis Minor in the meridian [Canis minor in Merid.]		
	by the Tychonic [quadrant] [per Tychon.]	40° 18⅓′
	by the revolving [quadrant] [per Volub.]	40° 18½′

2397

2396 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column; where a label, its instrument and its figures share one line, the instrument is given in the second column of that row. The right shoulder of Orion carries a value on its own line and names no instrument there; *Declin.* stands on the indented line below it. *incerta* "uncertain" stands alone at the right of the column, below the figures 17 55½ and above the line beginning *Inter*; the page does not show whether it qualifies the value above it or the distance below it. *Inter Canem maiorem & pedem eius* runs over two lines, each with figures, and is given whole on its first row. *bis* "twice" is set in smaller type after the first figures; *femel* "once" stands alone below the second. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2397 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

On 29 February [DIE 29 FEBRUARIJ.]

Reading	Value
Meridian altitude of Canis Major [Canis maioris alt. merid.]	17° 54¼′

2398

On 5 December, in the evening [DIE 5 DECEMBRIS, VESPERI.]

Reading	Detail	Value
Distance between the bright [star] of the head of Cetus and the brighter [star] among the northern [stars] in the tail of the same, at the end of the tail [Diſt. inter lucidam capitis Ceti & luci-] [diorem inter boreales in cauda] [eiusdem in extremitate caudæ]		42° 34⅝′
	repeated [Repetita]	42° 34⅔′
Declination of the same, the preceding [star] in the tail of Cetus [Declin. eiusdem præceden-] [tis in cauda Ceti]		11° 5′ south [M.]
		11° 5¼′
Declination of the brighter [star] in the tail of Cetus, south [Decl. lucidioris in cauda Ceti Mer.]		
	with the other pinnule[1] [alt. pin.[1]]	20° 13½′
Distance between the bright [star] of the head of Cetus and the more southern and brighter [star] of the tail of the same [Diſt. inter luc. capitis Ceti & au-] [ſtraliorem & lucidiorem] [caudæ eiusdem]		40° 42′
		40° 42′
Distance between the bright [star] of the head of Cetus and the preceding brighter [star] in the back [Diſt. inter lucidam capitis Ceti] [& præcedentem lucidio-] [rem in dorſo]		31° 43½′
		31° 43½′
Declination of the same, the lower [star] in the back of Cetus [Decl. eiusdem inferioris in] [dorſo Ceti,]	with both pinnules [vtroque pin.]	12° 21′ south [M.]
Distance between the bright [star] of the head of Cetus and the brighter following [star] in the back [Diſt. inter luc. capitis Ceti &] [lucidiorem ſequentem] [in dorſo]		27° 22⅝′
Declination of the following [star] in the back of Cetus [Decl. ſequentis in dorſo Ceti,]	with both [vtroq.]	10° 19′
Distance between the bright [star] of the head of Cetus and Aldebaran [Diſt. inter lucidam capitis] [Ceti & Aldeboram]		26° 6½′ or 6⅔′ [vel]
Declination of the bright [star] in the head of Cetus [Decl. lucid. in cap. Ceti,]	with both [vtroq.]	2° 25⅔′ north [B.]

2398 "Reading" and "Value" are this edition's heads; the page prints none. The value, printed as two figure groups without unit marks, is given as degrees and minutes.

Reading	Detail	Value
Distance between the bright [star] of the head of Cetus and the far end of the wing of Pegasus [Diſt. inter lucid. cap. Ceti &] [extremam alæ Pegaſi]		43° 2⅓′
The same repeated [Eadem repetita]		43° 2⅔′
Declination of the bright [star] in the head of Cetus [Decl. lucid. in cap. Ceti]	with one [vno]	2° 25⅔′ north [B.]
	with the other [alt.]	2° 26′
Distance between 15 and 16 of Cetus, that is, between the two brighter [stars] in the back of Cetus [Diſt. inter 15 & 16 Ceti,] [id eſt inter binas lu-] [cidiores in dorſo Ceti]		4° 22½′
		doubtful [dubia]
		4° 20′
	Set for all these 4° 21′ [Pone pro his omni-] [bus 4° 21′]	4° 21⅓′
		4° 21′

2399

On 15 December [DIE 15 DECEMBRIS.]

2399 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. The rows from the left-hand column come first; the rows from "Distance between the bright [star] of the head of Cetus and the more southern and brighter [star]" onward stand at the head of the right-hand column, under no date line, and follow this entry in reading order. Labels printed over two or three lines are given whole on their first row. The first distance's three label lines carry no figures; its value stands alone on the next line and is given on the label's row. *Declin. eiusdem præcedentis* is given as "Declination of the same, the preceding [star]"; "of the same preceding [star]" is the other construal; *M.* stands after the first value only. *Decl. lucidioris in cauda Ceti Mer.* stands on a line of its own; *Mer.* after a declination is given as "south", and "meridian" is the other expansion; *alt. pin.* and the figures stand on the indented line below, and *alt. pin.* is given as "with the other pinnule". *Decl. eiusdem inferioris* is given as "Declination of the same, the lower [star]"; "of the same lower [star]" is the other construal; *dorſo Ceti, vtroque pin.* stands on one line, *vtroque pin.* is given in the second column. *luc.*, *lucid.* and *lucidam* are "the bright [star]"; *in cap.* is "in the head", *capitis* / *cap.* without *in* "of the head". *Aldeboram* is "Aldebaran". In the distance between the bright [star] of the head of Cetus and Aldebaran the page sets *26* once, then *6½ vel 6⅔* in the minutes place. *dubia* "doubtful" stands at the right of the line *id eſt inter binas lu-*, in the place of the figures, below 4 22½; the page does not show which value it qualifies. *Pone pro his omnibus 4° 21′* runs over two lines, beside the figures 4 21⅓ and 4 21, and is given whole on the first of them; *Pone* is "Put". *B.* is "north" and *M.* "south" after a declination. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Detail	Value
Meridian altitude of the bright [star] in the jaw of Cetus [Alt. mer. luc. in mandibula Ceti]		
	by the revolving [quadrant] [per Volub.]	36° 31⅔′
	by the steel [quadrant] [per Chalyb.]	36° 32′

2400

Reading	Longitude [Longitudo]	Latitude [Latitudo]
The right shoulder of Orion [Dext. hum. Orion.]	23° 2′ ♊	16° 6′ south [M.]
Of Canis Minor [Canis minoris]	20° 7′ ♋	15° 56½′ south [M.]
Of Canis Major [Canis maioris]	8° 23′ ♋	39° 30′ south [M.]

2401

Stars which Mästlin used for the comet of the year 80² [STELLÆ QUIBUS MÆSTLINUS EST VSUS IN COMETA ANNI 80².]

On 15 February [DIE 15 FEBRUARIJ.]

By the sextant △. [Per Sext. △.]

Reading	Value
Between 21 of Cetus and 2 of ♓ [Inter 21 Ceti & 2 ♓]	19° 46′
	19° 45½′
Between 15 and 16 of Cetus [Inter 15 & 16 Ceti]	4° 8′
	4° 7′
	4° 8′
Between 16 of Cetus and the bright [star] of the head of Cetus [Inter 16 Ceti & lucidam] [capitis Ceti]	31° 41′
	31° 41½′

2400 "Reading", "Detail" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label stand in the second column. *mer.* is "meridian". The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2401 "Reading" is this edition's head; *Longitudo* and *Latitudo* are printed over the figures. Degree and minute marks are printed on the first row only; the bare figures of the second and third rows are given as degrees and minutes, as the first row fixes them. *M.* after a latitude is "south". *Orion.* is "Orion", as *Orionis* is printed in full on this page. In *Canis maioris* the page sets a wider space between *r* and *i*.

2402

[1] Thus in codex V. [Sic in codice V.]
[2] From codex V. [E codice V.]

Reading	Value
Between 15 of Cetus and the bright [star] of the head of the same [Inter 15 Ceti & lucidam] [capitis eiusdem]	27° 20¾′
	27° 21′
Between the eye of ♉ and the bright [star] of the head of Cetus [Inter oculum ♉ & lucidam] [capitis Ceti]	three times [ter]
	26° 7′
Between 21 and the bright [star] of the head of Cetus [Inter 21 & luc. capitis Ceti]	42° 33½′

2403

Declination. [Declinatio.]

Reading	Detail	Value
21 of Cetus, the northern [star] at the end of the tail [21 Ceti borealis in extremi-] [tate caudæ]		11° 4′ south [auſt.]
22 of Cetus, the southern [star] at the end of the tail [22 Ceti auſt. in extrem.] [caudæ]		20° 10¼′ south [auſt.]
16 of Cetus, of the [star] next after the tail in the back [16 Ceti proximæ poſt cau-] [dam in dorſo]		12° 21′ south [auſt.]
15 of Cetus, of the [star] following from the tail in the back [15 Ceti ſequentis a cauda] [in dorſo]		10° 18′
2 of ♓ in the back of the head, of the preceding [star] of the two [2 ♓ in occipite duarum] [præcedentis]		1° 0′
5 of ♓ in the back, of the following [star] [5 ♓ in dorſo ſequentis]		3° 26′
8 of the tail of ♓ [8 caudæ ♓]		4° 37′
The bright [star] of the head of Cetus, in the jaw [Lucida capitis Ceti] [in mandibula]		2° 26⅙′ north [B.]

[2402] "Reading" and "Value" are this edition's heads; the page prints none. The first label, with its two values, stands in the left-hand column below *Per Sext.* △.; the other two labels stand in the right-hand column, in reading order. The last label runs over two lines, each with figures, and is given whole on its first row. In the heading, *QUIBUS MÆSTLINUS EST VSUS IN COMETA ANNI 80* is given as "which Mästlin used for the comet of the year 80"; "in the comet" is the more literal construal. The numbers before *Ceti* and before ♓ are given as printed. The distance between 15 and 16 of Cetus is also printed on this page under 5 December, as 4° 22½′, 4° 20′ (with *dubia* "doubtful" on the line between them), 4° 21⅓′ and 4° 21′, with 4° 21′ put for all of them; the page does not say whether the two lists number the stars alike. The values, printed as two figure groups without unit marks, are given as degrees and minutes.

[2403] These rows stand at the head of the left-hand column under no date line or heading; they follow the list "Stars which Mästlin used for the comet of the year 80" on p. 323 in reading order. "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, each with figures; the second runs over two lines, with *ter* "three times" and the figures on its second line; each is given whole on its first row. *eiusdem* is "of the same", Cetus being named in the same label. The values, printed as two figure groups without unit marks, are given as degrees and minutes.

Reading	Detail	Value
Its meridian altitude [Altitudo eius merid.]	by the old [instrument] [per vet.]	36° 31½′

2404

Observations of the Year 1589 [OBSERUATIONES ANNI 1589.]

Observations of the Sun [OBSERUATIONES SOLIS.][2405]

On 3 January[1] *[DIE 3 JANUARIJ[1]]*

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	*by the steel [quadrant] [per Chalyb.]*	*12° 42⅓′*	
	by the revolving [quadrant] [per Volub.]	*12° 41′*	
	by the sextant [per Sext.]	*12° 42¼′*	or ⅓ [vel ⅓]
	by the Tychonic [Quadrant] [per Tychon.]	*12° 41½′*	*with both [vtroque]*
Declination [Declin.]	*by the armillae [per Armillas,]*	*21° 23′*	*with one [vno]*
		21° 23½′	*with the other pinnule [alt. pinn.]*
Repeated declination [Repetita declinatio]		*21° 23⅙′*	
		21° 23½′	*with the other [alt.]*
Middle [medium]		*21° 23⅓′*	

[2404] "Reading", "Detail" and "Value" are this edition's heads; the page prints none. *Declinatio.* stands centred in the left-hand column above the first two rows; the rows from "16 of Cetus" onward stand in the right-hand column, which begins level with the first line of the page, and follow in reading order. Labels printed over two lines are given whole on their first row. *auſt.* within the second label is "southern", describing the star; after a value it is "south", and *B.* after a value "north". *proximæ*, *ſequentis* and *præcedentis* are genitive, given as "of the [star] …". The fifth, sixth and seventh rows carry no *auſt.* or *B.*; none is supplied. *eius* is "its", the bright [star] of the head of Cetus named on the line above. *per vet.* names no instrument; "[instrument]" is supplied for the noun the Latin leaves understood. The values, printed as two figure groups without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2405] below the two headings the page is set in two columns divided by a vertical rule; the English gives the left column first. No running head is printed on this page.

2406

On 6 January[1] [DIE 6 JANUARIJ[1].]

At $6\frac{1}{2}^{h}$ the clock was being verified. [H.6½ Horologium verificabatur.]

At $8^{h}\ 6^{m}\ 40^{s}$ the uppermost limb of ⊙ was rising. [H.8 6′40″ ⊙ ſupremus limb. oriebatur]

$8^{h}\ 9^{m}\ 55^{s}$: the middle of ⊙ risen. [8 9 55 Medius ⊙ ortus.]

$8^{h}\ 11^{m}\ 35^{s}$: ⊙ wholly risen. [8 11 35 ⊙ totus ortus.][2407]

At the following noon the clock was moving $8\frac{1}{2}^{m}$ slower than it should, from $6\frac{1}{2}^{h}$ in the morning. [In Meridie ſequenti horologium 8½] [Min. iuſto tardius mouebatur ab Hora] [6½ matutina.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	13° 14⅔′	
	by the revolving [quadrant] [per Volub.]	13° 13½′	
	by the new sextant [per Sext. nou.]	13° 14⅔′	
Declination [Declin.]	by the subterranean armillae [per] [Armill. ſubterr.]	20° 51′	with one pinnule [vno pin.]
		20° 51¼′	with the other [alt.]

2408

On 7 January[1] [DIE 7 JANUARIJ[1].]

At 5^{h} the clock was rectified by Spica ♍ and the heart of ♌, and some weight was put on it. [H.5 horologium rectificatum eſt ad] [Spicam ♍ & cor ♌ & aliquid pon-] [deris ei iniectum eſt.]

At $8^{h}\ 5^{m}\ 20^{s}$ ⊙ was rising [Greek: ἐν πλάτει (en platei, "in breadth")]. [H.8 5′20″ ⊙ oriebatur ἐν πλάτει.]

[2406] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The entry is set in italic, except *vel* ⅓, which is roman and in smaller type. *Alt.* ⊙ *Merid.* stands on the line of the first instrument and the other instruments are indented below it. *vel* ⅓ stands alone on its line at the right of the figures, between the sextant and the Tychonic lines; the page does not tie it to either, and the ⅓ is given bare. *vtroque* and *vno* stand between the label and the figures. *alt.* standing alone before the figures is given as "with the other", as *alt. pinn.* two lines above it; it can also be expanded *alt[itudo]*, "altitude". *medium* stands before the figures in the place of a label and is given as "Middle". The values, printed without unit marks, are given as degrees and minutes.

[2407] The second time is printed with *H.* and a single and a double prime; the third and fourth are printed as three figure groups without marks and are given as hours, minutes and seconds, as the line above them fixes. *Medius* ⊙ *ortus* can also be taken as "⊙ half risen".

[2408] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The label *Declin. per / Armill. ſubterr.* runs over two lines, with *vno pin.* and the first value on the first line and *alt.* and the second value on the second; it is given whole on the first row. *alt.* can also be expanded *alt[itudo]*, "altitude". The values, printed without unit marks, are given as degrees and minutes.

8^h 10^m 0^s: ⊙ wholly raised above the horizon. [8 10 0 ⊙ totus ſupra Horizontem] [eleuatus.][2409]

On the same day at noon the clock was moving $5½^m$ slower than it should; this error crept in from 5^h in the morning. [Eodem die in Meridie horologium] [mouebatur iuſto tardius 5½ M., qui er-] [ror irrepſit ab Hora 5 matutina.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	13° 25⅔′	
	by the sextant [per Sext.]	13° 26½′	
	by the steel [quadrant] [per Chalyb.]	13° 26′ 25″	
	by the mural [quadrant] [per Mural.]	13° 25¾′	with both [vtroque]
Declination [Declin.]	by the armillae [per Armill.]	20° 39½′	
		20° 39¼′	with the other [alt.]

2410

Then, P. M., with the Sun inclined toward setting, its declination was observed at a certain altitude, as follows, to determine the refraction. [*Deinde P. M. Sole verſus occaſum*] [*inclinato obſeruabatur eius declina-*] [*tio in certa altitudine vt ſequitur pro*] [*refractione eruenda.*]

Time [H.]	Altitude of ⊙ [Alt. ⊙]	Declination [Decl.]
2^h 50^m	*5° 30′*	*20° 33½′*
2^h 55^m	*5° 0′*	*20° 32½′*
3^h 2^m	*4° 16′*	*20° 31⅔′*
		good [bona]

2411

[2409] *ad Spicam* can also be construed "to Spica" or "against Spica". The time *8 10 0* is printed as three figure groups without marks and is given as hours, minutes and seconds, as the line above it fixes.

[2410] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *vtroque* stands between the instrument and the figures. *alt.* can also be expanded *alt[itudo]*, "altitude". The values, printed without unit marks, are given as degrees and minutes; the steel-quadrant value is printed with three figure groups and is given as degrees, minutes and seconds.

[2411] These rows stand at the head of the right-hand column, with no date line above them, and follow the paragraph that ends the left-hand column. *H.*, *Alt.* ⊙ and *Decl.* are printed on the first line only, each before its figures, and are given as the heads of the three columns. The page prints *H.* and a single prime with the first time only; the other times are given as hours and minutes, as the first fixes. The altitudes and declinations, printed without unit marks, are given as degrees and minutes. *bona* stands alone on its line under the declinations; the page does not tie it to one row.

And this corresponds sufficiently with the preceding observations made before noon, for the change is 3′, which the daily declination, changed over 6 hours, will also be able to cause. [*Idque ſatis correſpondet antece-*] [*dentibus ante Meridiem habitis ob-*] [*ſeruationibus, nam mutatio eſt M. 3*] [*quam etiam declinatio diurna per-*] [*mutata cauſari poterit per Horas 6.*][2412]

On 8 January [DIE 8 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	13° 38½′	
	by the revolving [quadrant] [per Volub.]	13° 37′	
	by the Tychonic [quadrant] [per Tychon.]	13° 38$\frac{1}{12}$′	with both [vtroque]
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.]	20° 27½′	
		20° 28′	with the other [alt.]

2413

N. B. The clock was corrected at noon. [N. B. Horol. in Meridie correctum eſt.]

On 9 January [DIE 9 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	13° 50⅓′	
	by the revolving [quadrant] [per Volub.]	13° 49⅓′	
	by the mural [quadrant] [per Mural.]	13° 50⅓′	
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.]	20° 15′	
		20° 15½′	with the other [alt.]

2414

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

[2412] *per Horas 6* can also be taken with *cauſari poterit*: "which the daily declination, changed, will also be able to cause over 6 hours".

[2413] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *alt.* can also be expanded *alt[itudo]*, "altitude". The values, printed without unit marks, are given as degrees and minutes.

[2414] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *alt.* can also be expanded *alt[itudo]*, "altitude". The values, printed without unit marks, are given as degrees and minutes.

On 21 January [DIE 21 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	16° 49′	
	by the sextant [per Sext.]	16° 48⅚′	
	by the revolving [quadrant] [per Volub.]	16° 48½′	
	by the mural [quadrant] [per Mural.]	16° 48⅔′	with both [vtroque]
Declination of ⊙ [Declin. ⊙]		17° 16⅚′	
		17° 16¾′	

2415

Reading	Value	Remark
Observed altitude [Alt. obſeruata]	*16° 49′ 0″*	*better [Melior]*
Refraction subtracts [Refractio ſubtrahit]	*6′ 35″*	
Parallax adds [Parallaxis addit]	*2′ 53″*	
True altitude [Vera Alt.]	*16° 45′ 18″*	
Declination [Declin.]	*17° 19′ 57″*	
Longitude of ⊙ [Long. ⊙]	*11° 43⅓′ ♒*	
Our ephemerides [Ephemerides noſtræ]	*11° 45′*	

2416

Perhaps it was not sufficiently clear, or too much [was] gradually subtracted on account of refraction. The following observation is more certain. [*Forte non erat ſatis ſerenum, vel*] [*paulatim nimium ob refractionem*] [*ſubductum. Sequens obſeruatio cer-*] [*tior eſt.*][2417]

[1] Morning observations of the Sun's declination are found among the observations of Venus. [Obſeruationes matutinæ declinationis Solis inter obſeruationes Veneris reperiuntur.]

___[2418]

[2415] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The fraction in the first declination is ⅚: its denominator, which does not separate 6 from 8 at lower magnification, is read as 6 on a native-resolution crop, with the light gap below its upper-right ball that the 6 of 48⅚ above shows. The values, printed without unit marks, are given as degrees and minutes.

[2416] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The figures carry no unit marks. The three-group values are given as degrees, minutes and seconds; the refraction and the parallax, two figure groups each, are given as minutes and seconds, as the page's own reckoning fixes (16° 49′ 0″ less 6′ 35″ plus 2′ 53″ gives the printed 16° 45′ 18″); the longitude and the ephemerides, two groups each, as degrees and minutes. *Melior* is set in smaller type after the observed altitude, on its line.

[2417] *nimium … ſubductum* can also be construed "[it was] gradually drawn down too much on account of refraction".

[2418] the whole of this page is set in italic.

On 29 January *[*DIE 29 JANUARIJ.*]*

Note. On this day it was exceptionally clear, and [there were] good observations by the steel [quadrant] and the sextant. [*Nota. Hoc die fuit apprime ſerenum*] [*& bonæ obſeruationes per Chalyb. &*] [*Sextant.*]

On this day, after long-lasting spells of gloom and unpleasantness, an exceptionally opportune and clear sky returned for testing the place of the Sun near the middle degrees of ♒, at around precisely the same altitude at which Copernicus observed it when it was passing the middle of Scorpio, at the altitude of the pole that is Frombork's. For this reason, with all the instruments rectified very well, a little before the time of noon I observed the following. [*Hoc die poſt diutinas obſcuritates*] [*& inamænitates reſtituta eſt apprime*] [*opportuna & clara ſerenitas experi-*] [*endi locum Solis iuxta medias partes*] [*♒ circa eandem prorſus altitudinem*] [*in qua eum Copernicus obſeruauit,*] [*cum medietatem Scorpij tranſiret in*] [*illa, quæ Fruenburgi eſt Poli altitu-*] [*dine, quapropter optime rectificatis*] [*omnibus inſtrumentis paulo ante*] [*Meridiei tempus ſequentia obſer-*] [*uaui.*]

Reading	Instrument	Value Remark
Meridian altitude [Alt. Merid.]	*by the greatest steel quadrant [per quadrantem Maxi-] [mum Chalyb.]*	*19° 12′ 38″*
	by the rectified sextant [per Sext. rectific.]	*19° 12′ 40″*
	by the mural [quadrant] [per Mural.]	*19° 12′ 20″ with one [vno]*
		19° 12′ 15″ with the other pinnule [alt. pinn.]
	by the revolving quadrant [per Q. Volub.]	*19° 11′ 45″*
Declination, repeated three times [Declin.] [ter] [repetita,]	*by the greatest armillae [per Armill. maximas]*	*14° 52½′ with one pinnule [vno pinn.]*
		14° 52⅓′ with the other pinnule [alt. pinn.]
The altitude of the equator [Alt. æquat.]		*34° 5′ 15″*
Declination [Declin.]		*14° 52′ 30″*
The altitude comes out [as] [Alt. prouenit]		*19° 12′ 45″*

2419

N.B. The observation by the revolving [quadrant] is not sufficiently sound, because the revolving quadrant has contracted some defect, so that it does not represent the

2419 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The first label runs over two lines, *Alt. Merid. per quadrantem Maxi- / mum Chalyb.*, the figures on the second, and is given whole on the first row; no ⊙ is printed in it. The declination label runs over two lines, *Declin. per Armill. maximas ter / repetita,*, with *vno pinn.* and the first value on the second, and is given whole on its row. *quadrantem Maximum* and *Armill. maximas* are given as "great", as *max.* is given with these instruments elsewhere in this volume. The last three rows are indented further than the rows above. The values, printed without unit marks, are given as degrees, minutes and seconds where the page sets three figure groups, and as degrees and minutes where it sets two.

lower altitudes sufficiently precisely; and the observation by the mural [quadrant] also falls somewhat short in the lower altitudes, though not so much. Therefore it is rather the observation made by the steel [quadrant] and the sextant that is to be relied on; these agree well, and the declination observed by the armillae also supports them — indeed, this [declination] requires a still slightly higher altitude, namely by 5″ or thereabouts. Taking, therefore, the truer altitude: [*N.B. Obſeruatio per Volubilem non*] [*ſatis bene ſe habet, quia Volubilis*] [*Quadrans contraxit aliquid vitij, ita*] [*vt decliuiores altitudines non ſatis*] [*præciſe repræſentet, & obſeruatio*] [*per Muralem etiam in decliuioribus*] [*nonnihil deficit altitudinibus licet*] [*non adeo, idcirco potius fidendum*] [*obſeruationi per Chalibeum & Sex-*] [*tantem habitæ, quæ bene conſenti-*] [*unt, quibus etiam aſtipulatur decli-*] [*natio per Armillas obſeruata, imo*] [*hæc adhuc paulo altiorem requirit*] [*Alt., vtpote 5 Secundorum vel circi-*] [*ter, accipiens itaque veriorem Altit.*]

Reading	Value
	19° 12′ 40″
Parallax at the mean distance [Parallaxis in media diſt.]	*2′ 50″*
Altitude free of parallax [Altitudo libera a Parallaxi]	*19° 15′ 30″*
Refraction subtracts [Refractio ſubtrahit]	*4′ 53″*
True altitude free of refraction and parallax [Vera Alt. a refract. &] [parall. libera]	*19° 10′ 37″*

2420

Reading	Value
Altitude of the equator [Altitudo æquatoris]	*34° 5′ 15″*
True declination of the Sun [Vera Solis declin.]	*14° 54′ 38″*

2421

To this there corresponds, from the table of declination: [*Huic reſpondet e tabula decl.*]

Reading	Value
Longitude [Long.]	*♒ 19° 51′ 38″*

2420 "Reading" and "Value" are this edition's heads; the page prints none. The first value stands alone on its line at the right of the column, under the paragraph's last words. The last label runs over two lines, the figures on the second, and is given whole on its row. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds, and the parallax and the refraction, two groups each, as minutes and seconds, as the page's own reckoning fixes (19° 12′ 40″ plus 2′ 50″ gives the printed 19° 15′ 30″, less 4′ 53″ the printed 19° 10′ 37″). *media* can also be taken as "middle".

2421 These rows stand at the head of the right-hand column, with no date line above them, and follow the left column's last line. "Reading" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees, minutes and seconds.

2422

Our modern tables give the place of the Sun in 19° 51′ 40″ ♒, which is almost the same. [*Tabulæ noſtræ neotericæ dant lo-*] [*cum Solis in 19 51 40 ♒ quod pene*] [*idem eſt.*]

On 30 January [DIE 30 JANUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	*by the steel [quadrant] [per Chalyb.]*	*19° 31′ 40″*	
	by the sextant [per Sext.]	*19° 32′ 15″*	
	by the mural [quadrant] [per Mural.]	*19° 31′ 20″*	
	by the revolving [quadrant] [per Volub.]	*19° 30′ 30″*	
Declination [Declin.]	*by the greatest armillae [per Armillas maximas]*	*14° 33¼′*	*with both pinnules [vtroque pin.]*
The same repeated [Repetita eadem]		*14° 33¼′*	
		14° 33½′	*with the other pinnule [altero pin.]*

2423

The declination represents an altitude of exactly 19° 32′; but rather trust the altitude taken by the steel [quadrant], and free it from parallax and refraction, so that the true altitude and declination may be known, in this way: [*Declinatio repræſentat Altitudinem*] [*P. 19 M. 32 præciſe, ſed fide potius Al-*] [*titudini per Chalyb. acceptæ, eam-*] [*que a parallaxi & refractione libera,*] [*vt cognoſcatur vera Altitudo & de-*] [*clinatio in hunc modum.*]

Reading	Value
Observed altitude [Altitudo obſeruata]	*19° 31′ 40″*
Refraction subtracts [Refractio ſubtrahit]	*4′ 45″*
Altitude without refraction [Altit. citra refract.]	*19° 26′ 55″*
Parallax adds [Parallaxis addit]	*2′ 50″*
Altitude without refraction and parallax [Alt. abſq. refr. & par.]	*19° 29′ 45″*
Elevation of the equator [Eleuatio Æquatoris]	*34° 5′ 15″*
True declination [Vera declinatio]	*14° 35′ 30″*
Corresponds [Reſpondet]	*20° 51⅝′ ♒*
The ephemerides give [Ephemerides dant]	*20° 52⅓′*

2422 "Reading" and "Value" are this edition's heads; the page prints none. ♒ stands before the figures, which carry no unit marks and are given as degrees, minutes and seconds.

2423 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Declin. per Armillas maximas* stands on a line of its own, with *vtroque pin.* and the figures set to the right on the line below; it is given whole on that row. The values, printed without unit marks, are given as degrees, minutes and seconds where the page sets three figure groups, and as degrees and minutes where it sets two.

2424

It is therefore evident that the altitude observed by the sextant is rather to be taken, in this way: [*Patet itaque potius ſumendam al-*] [*titudinem quæ per Sextantem obſer-*] [*uabatur in hunc modum.*]

Reading	Value
Altitude by the sextant [Altitudo per Sextantem]	*19° 32′ 15″*
	4′ 45″
Altitude free of refraction [Alt. libera a refract.]	*19° 27′ 30″*
Parallax adds [Parallaxis addit]	*2′ 50″*
True altitude [Alt. vera]	*19° 30′ 20″*
The altitude of the equator [Alt. æquat.]	*34° 5′ 15″*
True declination [Vera declinatio]	*14° 34′ 55″*
Corresponding longitude in [Reſp. Longitudo in]	*20° 53½′ ♒*

2425

This exceeds a little, just as the other fell short; it is therefore evident that, with both set as bounds, the place of ☉ is sufficiently correct. [*Hoc abundat aliquantulum quem-*] [*admodum alterum deficiebat, patet*] [*itaque limitato vtroque locum ☉ ſa-*] [*tis recte ſe habere.*][2426]

___[2427]

On 31 January *[*DIE 31 JANUARIJ.*]*

At noon the clock was sufficiently sound, for it was going only 1½^{m} slower. [*In Meridie horologium ſatis bene*] [*ſe habuit, nam ſaltem ſeſquialtero*] [*minuto tardius ibat.*]

It was not, indeed, sufficiently clear, but rather sparse vapours were covering the Sun; nevertheless these were observed with such diligence as was possible. [*Non quidem erat ſatis ſerenum,*] [*ſed rariuſculi vapores Solem obte-*] [*gebant, nihilominus hæc, qua fieri*] [*potuit diligentia obſeruata ſunt.*]

[2424] "Reading" and "Value" are this edition's heads; the page prints none. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds; the refraction and the parallax, two groups each, as minutes and seconds, as the page's own reckoning fixes (19° 31′ 40″ less 4′ 45″ gives the printed 19° 26′ 55″, plus 2′ 50″ the printed 19° 29′ 45″); the last two, two groups each, as degrees and minutes. *ſide* and *libera* are construed as imperatives; *libera* can also be read as an adjective with *eamque*, "and that [altitude] free from parallax and refraction".

[2425] "Reading" and "Value" are this edition's heads; the page prints none. The second value stands on its line with no label. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds; the two unlabelled and parallax values, two groups each, as minutes and seconds, as the page's own reckoning fixes (19° 32′ 15″ less 4′ 45″ gives the printed 19° 27′ 30″, plus 2′ 50″ the printed 19° 30′ 20″); the longitude as degrees and minutes. *Reſp.* can be expanded *Reſp[ondet]*, "There corresponds the longitude in", or *Reſp[ondens]*, "Corresponding longitude in".

[2426] *limitato vtroque* can also be construed "with each limited by the other".

[2427] the whole of this page is set in italic, except where noted.

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Mer.]	*by the greatest steel [quadrant] [per. Chal. max.]*	*19° 50½′*	
	by the sextant [per Sextant.]	*19° 51¼′*	
	by the revolving [quadrant] [per Volub.]	*19° 50¼′*	
	by the mural [quadrant] [per Mural.,]	*19° 51½′*	*with both pinnules [vtroq. pin.]*
Declination [Decl.]	*by the armillae [per Armill.]*	*14° 14′*	
		14° 14½′	*with the other pinnule [alt. pinn.]*

2428

If, therefore, by bounding everything, we take the observed altitude to have been exactly 19° 51′ 0″: [*Si itaque limitando omnia accepe-*] [*rimus altitudinem obſeruatam*] [*fuiße præciſe*][2429]

Reading	Value
Refraction takes away [Aufert Refractio]	*4′ 25″*
Without refraction [Absque refracttione] [recte: refractione]	*19° 46′ 35″*
Parallax adds [Parallaxis addit]	*2′ 50″*
True altitude [Vera altitudo]	*19° 49′ 25″*
The altitude of the equator [Alt. æquat.]	*34° 5′ 15″*
True declination [Vera declinatio]	*14° 15′ 50″*
Corresponding [Reſp.]	*21° 53′* ≈ nearly [fere]

2430

which agrees sufficiently exactly with our modern calculation. [*quod ſatis exacte conſentit cum no-*] [*ſtro neoterico calculo.*]

On 6 February [DIE 6 FEBRUARIJ.]

It was sufficiently well clear, and ⊙ was observed in this way. [*Fuit ſatis bene ſerenum & obſer-*] [*uabatur ⊙ hoc modo.*]

2428 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The values, two figure groups each and printed without unit marks, are given as degrees and minutes. The page prints a point after *per* in the first row. In the second row the 1 of *51* is printed from a broken sort, its stem interrupted above the foot; it is read as 1.

2429 The figures *19 51 0* stand at the right of the column on the line *fuiße præciſe*; printed without unit marks, they are given as degrees, minutes and seconds.

2430 "Reading" and "Value" are this edition's heads; the page prints none. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds; the refraction and the parallax, two groups each, as minutes and seconds, as the page's own reckoning fixes (19° 51′ 0″ less 4′ 25″ gives the printed 19° 46′ 35″, plus 2′ 50″ the printed 19° 49′ 25″); the last value, two groups, as degrees and minutes. *fere* is set smaller and upright. *Reſp.* can be expanded *Reſp[ondet]*, "Corresponds", or *Reſp[ondens]*, "Corresponding".

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	*by the steel [quadrant] [per Chalyb.]*	*21° 52′ 40″*	
	by the sextant [per Sext.]	*21° 52′ 30″*	
	by the revolving [quadrant] [per Volub.]	*21° 52′ 30″*	
	by the mural [quadrant] [per Mural.]	*21° 51′ 50″*	*with the old [vet.]*
		21° 52′ 10″	*with the new [nouo]*
Declination [Declin.]	*by the armillae [per Armill.]*	*12° 12′ 45″*	*with one [vno]*
		12° 12′ 50″	*with the other [alt.]*

2431

Reading	Value	Second reckoning
Observed altitude [Alt. obſeru.]	*21° 52′ 35″*	*alternatively [aliter] 21° 52′ 30″*
Refraction [Refr.]	*3′ 35″*	*3′ 40″*
Parallax [Parall.]	*2′ 50″*	*2′ 50″*
True altitude [Vera alt.]	*21° 51′ 50″*	*21° 51′ 40″*
True declination [Vera decl.]	*12° 13′ 25″*	*12° 13′ 35″*
Corresponding [Reſp.]	*27° 57⅚′ ♒*	*27° 57′ ♒*

2432

Our calculation 27° 56⅓′; the remainder is almost imperceptible. Moreover, it is evident from this that the refraction which is applied from our table is not excessive, but rather falls somewhat short. It may, however, be that the air, though clear, was nevertheless less pure at this time. [*Calc. noſt. 27 56⅓, reliquum eſt pene*] [*inſenſibile. Patet autem hinc refrac-*] [*tionem quæ e Tabella noſtra adhibe-*] [*tur non eße nimiam ſed potius ali-*] [*quantulum deficere. Poteſt tamen*] [*fieri quod aër, etſi ſerenus, minus*] [*tamen purus hoc tempore fuerit.*][2433]

On 9 February *[*DIE 9 FEBRUARIJ.*]*

[2431] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees, minutes and seconds.

[2432] "Reading", "Value" and "Second reckoning" are this edition's heads; the page prints none. The page sets two columns of figures, the second at the right with *aliter* printed before its first figures only. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds; the refraction and the parallax, two groups each, as minutes and seconds, as the page's own reckoning fixes (21° 52′ 35″ less 3′ 35″ plus 2′ 50″ gives the printed 21° 51′ 50″; 21° 52′ 30″ less 3′ 40″ plus 2′ 50″ the printed 21° 51′ 40″); the longitudes, two groups each, as degrees and minutes. *Reſp.* can be expanded *Reſp[ondet]*, "Corresponds", or *Reſp[ondens]*, "Corresponding".

[2433] The label *Calc. noſt.* and its figures stand on the last line of the figures, and the sentence runs on from them in the same line; it ends at the foot of the left column and is completed in the first two lines of the right column. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
[At] 11^{h} 52^{m} A. M., declination of ☉ [H. 11 52 A. M. Decl. ☉]			
		11° 10⅙′	*with one pinnule [vno pin.]*
		11° 10¼′	*with the other [altero]*
Meridian altitude [Alt. Merid.]	*by the steel [quadrant] [per Chalyb.]*	*22° 55⅔′*	
	by the sextant [per Sext.]	*22° 55⅚′*	
	by the mural [quadrant] [per Mural.]	*22° 55⅓′*	*with one [vno]*
		22° 55′	*with the other [alt.]*
	by the revolving [quadrant] [per Volub.]	*22° 54⅔′*	
Set here the bounded altitude [Pone hic alt. limitatam]		*22° 55½′*	
Declination repeated a little after noon [Declinatio paulo poſt Meridiem] [repetita]		*11° 10′ 0″*	*with one [vno]*
		11° 9′ 50″	*with the other [alt.]*
		34° 5′ 15″	
		12° 55′ 25″	
Observed altitude [Altit. obſeru.]	*by the steel [quadrant] [per Chalyb.]*	*22° 55′ 40″*	
Refraction takes away [Refractio aufert]		*3′ 10″*	
		22° 52′ 30″	
Parallax adds [Parallaxis addit]		*2′ 48″*	
		22° 55′ 18″	
Declination [Declinatio]		*11° 9′ 57″*	
Corresponding [Reſp.]		*0° 58′ 30″* ♓	
Therefore[1] on the preceding day [Ergo[1] die antecedente]		*29° 58⅙′*	
Greatest [Maxima]		*22° 55′ 50″*	
Least [Minima]		*22° 54′ 40″*	
		1′ 10″	
Half [Dimid.]		*35″*	
		22° 54′ 40″	
		22° 55′ 15″	
Corrected altitude [Altitudo correcta]		*22° 55′ 0″*	
		34° 5′ 30″	
		11° 10′ 30″	
Corresponding [Reſp.]		*0° 57′ 0″* ♓	
On the 8th [Die 8]		*29° 56′ 40″*	

[2434]

Note. There were very thin vapours in front of the Sun, and therefore the refraction will be able to subtract a little more. [*Nota. Erant tenuißimi vapores ante*] [*Solem, ideoque refractio poterit pau-*] [*lulum plus ſubtrahere.*]

If we take the altitude of ⊙ [as] 22° 55⅓′, as the mural [quadrant] gave [it], everything will agree sufficiently well. [*Si acceperimus Altudinem ⊙ P. 22*] [recte: Altitudinem] [*M. 55⅓ vt præbuit Muralis, omnia ſa-*] [*tis bene conuenient.*]

But it will not be possible to conclude anything certain from this, for it was not sufficiently clear and pure, but only moderate. [*Sed nihil certi hinc concludi pote-*] [*rit, non enim erat ſatis ſerenum &*] [*purum, ſed ſaltem mediocre.*]

[1] From codex V. [[1] E codice V.]

___[2435]

On 10 February *[*DIE 10 FEBRUARIJ.*]*

It was exceptionally clear and pure, with no vapours appearing. The meridian altitude of ⊙ was observed with various instruments in this way. [*Fuit apprime ſerenum & purum*] [*nullis apparentibus vaporibus. Altit.*] [*⊙ Merid. varijs inſtrumentis obſer-*] [*uabatur hoc modo.*]

Reading	Instrument	Value	Remark
	by the greatest steel [quadrant] [Per Chalyb. max.]	*23° 17′ 25″*	
	by one sextant [per Sext. vnum]	*23° 17′ 20″*	
	by the other sextant [per Sext. alterum]	*23° 17′ 10″*	
	by the revolving quadrant [per Q. Volub.]	*23° 16′ 40″*	

[2434] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The first line, *H. 11 52 A. M. Decl.* ⊙, stands alone, its two values on the lines below with *vno pin.* and *altero* set before them. The tenth row's label is printed over two lines, *Declinatio paulo poſt Meridiem / repetita*, with *vno* and the first value on the second, and is given whole on that row. Rows 12, 13, 16, 18, 24, 26, 27, 29 and 30 print figures only, with no label. The page prints a horizontal rule below the figures of rows 12, 23, 26 and 29. The figures carry no unit marks, except the time on the first row, where *H.* is printed before *11 52* and the time is given as hours and minutes; the two-group values are given as degrees and minutes and the three-group values as degrees, minutes and seconds, except where the page's own reckoning fixes smaller units: the refraction and the parallax (rows 15 and 17) as minutes and seconds (22° 55′ 40″ less 3′ 10″ gives the printed 22° 52′ 30″, plus 2′ 48″ the printed 22° 55′ 18″), row 24 as minutes and seconds and row 25 as seconds (22° 55′ 50″ less 22° 54′ 40″ gives 1′ 10″, its half 35″, and 22° 54′ 40″ plus 35″ the printed 22° 55′ 15″). No sign is printed on rows 21 and 32. Row 13 prints *12 55 25*; the figures above it (34° 5′ 15″ less 11° 9′ 50″) give 22° 55′ 25″, and the figure is given as printed. Row 29 prints *34 5 30*, where row 12 and the altitude of the equator under 31 January print 34° 5′ 15″; the reckoning closes with 34° 5′ 30″ (less 22° 55′ 0″ gives the printed 11° 10′ 30″). *limitatam* ("bounded") can also be taken as "fixed between limits". *Reſp.* can be expanded *Reſp[ondet]*, "Corresponds", or *Reſp[ondens]*, "Corresponding".

[2435] the whole of this page is set in italic, except where noted.

Reading	Instrument	Value	Remark
	by the mural [quadrant] [per Muralem,]	*23° 16′ 40″*	*with one [vno]*
		23° 17′ 0″	*with the other pinnule [alt. pin.]*
Declination of ⊙ [Declin. ⊙]		*10° 48⅓′*	*with one [vno]*
		10° 48½′	*with the other [alt.]*
Repeated, it gave the same. [Repetita idem dabat.]		*34° 5′ 15″*	
		10° 48′ 20″	
		23° 16′ 55″	

2436

Reading	By the steel [quadrant] [Per Chalyb.]	By the mural [quadrant] [Per Mural.]
Observed altitude [Alt. obſeruata]	*23° 17′ 25″*	*23° 17′ 0″*
Refraction to be subtracted [Refr. ſubtr.]	*3′ 5″*	*3′ 5″*
	23° 14′ 20″	*23° 13′ 55″*
Parallax to be added [Parall. addenda]	*2′ 47″*	*2′ 47″*
True altitude [Vera altit.]	*23° 17′ 7″*	*23° 16′ 42″*
The altitude of the equator [Alt. æquat.]	*34° 5′ 15″*	*34° 5′ 15″*
True declination [Vera decl.]	*10° 48′ 8″*	*10° 48′ 33″*
Corresponding [Reſp.]	*1° 59¾′* ♓	*1° 58½′*
	which agrees sufficiently [quod ſatis conuenit]	
Our calculation [Noſter calculus]	*1° 58′*	

2437

2436 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The altitude readings carry no label of their own; they follow the sentence above, which names the meridian altitude of ⊙. The figures *34 5 15* stand at the right on the line of *Repetita idem dabat.*, with no label of their own; the page prints a horizontal rule below *10 48 20*, and the last two rows print figures only. The values, printed without unit marks, are given as degrees, minutes and seconds where the page sets three figure groups and as degrees and minutes where it sets two.

2437 "Reading" is this edition's head; the two figure columns are headed on the page *Per Chalyb.* and *Per Mural.*, set in smaller italic. The third row prints figures only. *quod ſatis conuenit* stands on a line of its own, beginning under the first figure column and running to the right edge of the column. ♓ is printed after the first longitude only. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds; the refraction and the parallax, two groups each, as minutes and seconds, as the page's own reckoning fixes (23° 17′ 25″ less 3′ 5″ gives the printed 23° 14′ 20″, plus 2′ 47″ the printed 23° 17′ 7″; 23° 17′ 0″ less 3′ 5″ gives the printed 23° 13′ 55″, plus 2′ 47″ the printed 23° 16′ 42″); the longitudes, two groups each, as degrees and minutes. *ſubtr.* is given as "to be subtracted", answering *addenda*; it can also be expanded *ſubtr[ahit]*, "subtracts". *Reſp.* can be expanded *Reſp[ondet]*, "Corresponds", or *Reſp[ondens]*, "Corresponding".

On the same day, in the afternoon. [*Eodem die poſt Meridiem.*]
The following, for the refraction of ☉*:* [*Sequentia pro refractione* ☉]

Time [H. M.]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]	Declination of ☉, with one [Declin. ☉] [vno]	Declination of ☉, with the other [Declin. ☉] [alt.]
$4^h\ 26^m$	5° 0′	62° 46′	10° 39′	10° 39½′
$4^h\ 30^m$	4° 23⅔′	63° 45′	10° 38½′	10° 38¼′
$4^h\ 36^m$	3° 41¾′	64° 59′	10° 37′	10° 36½′
$4^h\ 39½^m$	3° 18½′	65° 41′	10° 35¾′	10° 35½′
$4^h\ 43½^m$	2° 48′	66° 34′	10° 34½′	*with one only [vno] [ſaltem]*
$4^h\ 46½^m$	2° 26½′	67° 8′	10° 33½′	
$4^h\ 49⅓^m$	2° 7¼′	67° 45′	10° 32½′	
$4^h\ 51⅔^m$	1° 49¼′	68° 15′	10° 30⅔′	
$4^h\ 54½^m$	1° 30′	68° 47′	10° 29¼′	

2438

☉ *was seen to set at* $5^h\ 5^m$*, very nearly.* [☉ *viſus eſt occidere H. 5 M. 5 proxime.*]

Note. At $7^h\ 12½^m$ *(verified:* $7^h\ 5'$*) the last moment of twilight was seen in the west, according to the clock; the left shoulder of Orion was then 3½° beyond the meridian toward the west.* [*Nota. Hora 7 12½ (verificata H. 7 5′)*] [*vltimum crepuſculi momentum vi-*] [*ſum eſt in occaſu iuxta Horologium,*] [*erat tunc ſiniſter humerus Orionis*] [*verſus occaſum vltra Meridianum*] [*P. 3½.*][2439]

Note. When the first [star] of the belt passed the meridian (corresponding: $7^h\ 0¼^m$)*, a little twilight was still seen; so twilight on the same day was [at]* $7^h\ 0^m$*. But* ☉ *set on the same day at* $4^h\ 56^m$*; therefore twilight lasted from the setting of the Sun for 2 hours* 4^m*, which make 31 in degrees of the equator, which would be the arc of evening twilight near the beginning of* ♓*. Nonius's [Pedro Nunes] reckoning has very nearly 29°, which does not differ much and is imperceptible. But when the middle [star] of the belt [passed], it could scarcely be made out whether there was [any] of this or not; yet something was still thought to remain, but it was imperceptible. When the first [star] of the belt [passed], something still remained perceptibly; but when the last [star] of the belt passed, nothing at all remained. Therefore rather use the middle [star] of the belt, or set limits with the observation of the star in the left shoulder, taking the middle between both times, so that you may be more certain. It was sufficiently clear, and it could not have been seen better.* [*Nota. Quando prima balthei tran-*] [*ſiuit*

[2438] The column heads are the page's own, set in smaller italic. The head *Declin.* ☉ spans the last two columns and is repeated over each; *vno* and *alt.* stand beneath it, one over each column. *vno* and *ſaltem* stand in the last column on the lines of the fifth and sixth rows, where the rows above carry figures; the phrase is given whole on the fifth row. The last three rows carry nothing in the last column. The figures carry no unit marks; the first column, under *H. M.*, is given as hours and minutes, and the other columns, two groups each, as degrees and minutes.

[2439] The page prints *Hora 7 12½* with no mark on the minutes, and a prime after the *5* in the parenthesis; both are given as times, the parenthesis keeping its printed prime. *iuxta Horologium* can also be taken with *viſum eſt* alone, "was seen … by the clock".

Merid.] [(Reſp. H. 7 M. 0¼)] [*adhuc*] [*aliquantulum de crepuſculo vide-*] [*batur; fuit itaque crepuſculum die*] [*eodem H. 7 M. 0. Occidit autem* ⊙] [*eodem die H. 4 M. 56, quapropter*] [*crepuſculum fiebat ab occaſu Solis*] [*Horis 2 M. 4, quæ efficiunt in gra-*] [*dibus æquatoris 31, qui eßet arcus*] [*crepuſculi veſpertini iuxta initia* ♓.] [*Nonij ratio habet proxime 29 partes,*] [*quod non multum differt, eſtque in-*] [*ſenſibile. Sed quando media balthei*] [*vix diſcerni poterat an huius eßet*] [*nec ne, putabatur tamen adhuc ali-*] [*quid reſtare, ſed erat inſenſibile.*] [*Quando prima balthei adhuc ſenſi-*] [*biliter, reſtabat aliquid, ſed cum vl-*] [*tima balthei tranſiret, prorſus nihil*] [*reſtabat. Vtere igitur potius media*] [*balthei, vel limita cum obſeruatione*] [*ſtellæ in ſiniſtro humero, accipiendo*] [*medium inter vtrumque tempus, vt*] [*ſias certior. Erat ſatis ſerenum &*] [*melius videri non potuit.*][2440]

Note.[1] *With the place of the Sun put at 2° 15′* ♓*, and the right ascension of the left shoulder of Orion at 75° 48′, the right ascension of the midheaven [M. C.] was 79° 18′; therefore* ⊙ *[was] below the horizon, in the vertical [circle], 17° 13′ on the globe. If you take the middle [star] of the belt in the meridian — which will be more correct — with its right ascension of 78° 52′, the corresponding arc of twilight [is] 16° 59′, which is more correct.* [*Nota*[1]*. Poſito loco Solis in 2 15* ♓ *&*] [*Aſc. R. humeri Orionis ſiniſtri 75 48,*] [*fuit Aſc. R. M. C. 79 18, ergo* ⊙ *infra*] [*Horizontem in verticali P. 17 13 in*] [*globo. Si mediam balthei aßump-*] [*ſeris quod rectius erit in Mer. cum*] [*ſua Aſc. R. 78 52, Reſp. arcus crepu-*] [*ſculi 16 59, quod eſt rectius.*][2441]

On 11 February [DIE 11 FEBRUARIJ.]

At noon the clock was going 23^{m} *faster.* [*Horologium 23 min. in Meridie ce-*] [*lerius ibat.*]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ *[Alt.* ⊙ *Merid.]*	*by the steel [quadrant] [per Chalyb.]*	*23°38′35″*	
	by the old sextant [per Sext. vet.]	*23°38′50″*	doubtful [dubia]
	by the new sextant [per Sext. nou.]	*23°38′30″*	
	by the revolving [quadrant] [per Volub.]	*23°38′20″*	
	by the mural [quadrant] [per Muralem,]	*23°38′30″*	*with the new [nouo]*

[2440] The parenthesis *(Reſp. H. 7 M. 0¼)* is set in roman within the italic paragraph, and is given in roman here; its *Reſp.* can also be expanded *Reſp[ondet]*, "corresponds to". *Nonij* is Pedro Nunes (Nonius). *huius* is construed with *crepuſculi* understood ("of this [twilight]"); it can also be taken with *balthei*. In *Quando prima balthei adhuc ſenſibiliter, reſtabat aliquid* the page sets the comma after *ſenſibiliter*, so *adhuc ſenſibiliter* can also go with the understood verb: "When the first [star] of the belt [passed] still perceptibly, something remained". *limita* is construed as an imperative, "set limits".

[2441] The figures printed without unit marks (*2 15*, *75 48*, *79 18*, *78 52*, *16 59*) are given as degrees and minutes; *17 13* follows a printed *P.*. *Poſito …* & governs both the place of the Sun and the right ascension of the shoulder ("put at"). *quod rectius erit* can also be taken with *in Mer.*, "which will be more correct in the meridian".

Reading	Instrument	Value	Remark
		23° 38′ 0″	*with the old [veteri]*; doubtful [dubia]
Declination [Declin.]	*by the armillae [per Armill.]*	*10° 26′ 45″*	
		10° 26′ 45″	*with the other [alt.]*
		34° 5′ 15″	
		23° 38′ 30″	

[2442]

[1] Compare *Epistolae Astronomicae*, p. 139 (vol. VI, p. 169). [[1] Cf. Epiſt. p. 139 (T. VI p. 169).][2443]

—[2444]

All the observations, therefore, agree ſufficiently — and the declination by the armillae itſelf alſo — that the meridian altitude of the Sun was 23° 38½′; ſo we ſhall uſe this as certain. [*Satis itaque conſentiunt omnes ob-*] [*ſeruationes & ipſa etiam declinatio*] [*per Armillas fuiſſe Solis altitudinem*] [*meridianam 23 38½, quare hac tan-*] [*quam certa vtemur.*][2445]

Reading	Value
Observed altitude [Altitudo obſeruata]	*23° 38′ 30″*
Refraction subtracts [Refractio ſubtrahit]	*3′ 0″*
	23° 35′ 30″
Parallax adds [Parallaxis addit]	*2′ 46″*
	23° 38′ 16″
Altitude of the equator [Altit. æquatoris]	*34° 5′ 15″*
	10° 27′ 0″
Corresponds [Reſpondet]	*2° 58⅓′ ♓*

[2442] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands on a line of its own, the instrument lines indented below it; it is given on the first row. *nouo* and *veteri* stand directly before the figures; *dubia*, set smaller and upright, follows the figures of the second and sixth rows and is given in roman. The page prints a horizontal rule below *34 5 15*; the last two rows print figures only. The values, printed without unit marks, are given as degrees, minutes and seconds. The page ends at *23 38 30*.

[2443] *Epiſt.* is expanded as the title of Tycho's book of astronomical letters.

[2444] the left column of this page and the upper and lower parts of the right column are set in italic; the middle of the right column, from *Eodem die P. M.* to *Totus horizontem ſubibat.*, is set in roman, as noted there.

[2445] *23 38½* is printed without unit marks and is given as degrees and minutes, as the observed altitude below (*23 38 30*) fixes. *hac* is construed with *altitudine* understood ("this [altitude]"), rendered "this".

2446

2447

Our ephemerides give 2° 58¼′ nearly, which agrees sufficiently. [*Ephemerides noſtræ dant 2 58¼*] [*ſere, quod ſatis conuenit.*][2448]

Observation of the dawn.[1] [*Obſeruatio diluculi*[1].]

N. B. On 12 February, in the morning, the morning dawn was carefully observed in this way. [*N. B. Die 12 Februarij mane obſer-*] [*uabatur diligenter diluculum matu-*] [*tinum hoc modo.*]

When Spica ♍ was 35° 20′ from the meridian toward the west, the first dawn appeared; for when the same star was 36° 15′ distant, the dawn was sufficiently manifest. [*Quando Spica ♍ abfuit a Merid.*] [*verſus occaſum P. 35 M. 20 prima*] [*aurora apparuit, nam quando eadem*] [*ſtella diſtabat P. 36 M. 15 fuit aurora*] [*ſatis manifeſta.*][2449]

I examined these [things] by the globe; and with the right ascension of Spica ♍ put at 195° 55′, and 35½° added, there was in the meridian, when the dawn began, 231¼°, and in the east 321° 15′. Hence, with the place of the Sun put at 3° 40′ ♓, I carefully concluded on the globe, testing it twice, that the Sun was 16½° below the horizon in the vertical arc. [*Examinaui hæc per globum & po-*] [*ſita Aſc. R. Spicæ ♍ P. 195 M. 55 ad-*] [*ditis 35½, fuit in Meridiano quando di-*] [*luculum incepit 231¼ & in ortu 321 15.*] [*Hinc poſito loco Solis in P. 3 M. 40 ♓*] [*collegi in globo diligenter Solem*] [*fuiße infra Horizontem in arcu ver-*] [*ticali P. 16½ bis experiendo.*][2450]

On 12 February *[*DIE 12 FEBRUARIJ.*]*

[It] was exceptionally clear, and these [things] were observed. [*Erat apprime ſerenum & hæc ob-*] [*ſeruabantur.*]

[2446] "Reading" and "Value" are this edition's heads; the page prints none. The third, fifth and seventh rows print figures only. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds; the refraction and the parallax, two groups each, as minutes and seconds, as the page's own reckoning fixes (23° 38′ 30″ less 3′ 0″ gives the printed 23° 35′ 30″, plus 2′ 46″ the printed 23° 38′ 16″); the last value, two groups with a fraction, as degrees and minutes. The seventh row does not close exactly: 34° 5′ 15″ less 23° 38′ 16″ is 10° 26′ 59″, where the page prints *10 27 0*; the figure is kept as printed. *Reſpondet* can also be rendered "It corresponds".

[2447] The fraction in *2 58⅓* is ⅓. Its denominator is set tight against the fraction bar, so that its upper-left end hangs straight down from the bar like a short upright stroke; on a native-resolution crop it shows the left-pointing middle stroke and the two bowls of a 3, open on the left, as the 3 of *45⅓* in the refraction table of this page, and it is not a 5.

[2448] *2 58¼* is printed without unit marks and is given as degrees and minutes, as the value above it is.

[2449] the page uses two words here, *diluculum* and *aurora*; both are rendered "dawn".

[2450] *35½*, *231¼* and *321 15* are printed without unit marks; they are given as degrees (and minutes), as the page's own *P. 195 M. 55* fixes. The figures do not close as printed: 195° 55′ plus 35½° is 231° 25′, whereas the page prints *231¼*; 195° 55′ plus the 35° 20′ printed above gives 231° 15′. The figures are kept as printed. *diligenter* can also be taken with *Solem fuiße infra Horizontem* rather than with *collegi*; *bis experiendo* is "testing it twice".

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt ⊙ Merid.]	*by the steel [quadrant] [per Chalyb.]*	*24° 0′ 40″*	
	by sextant I [per Sext. I]	*24° 0′ 50″*	
	by the other sextant [per Sext. alt.]	*24° 0′ 50″*	
	by the revolving quadrant [per Q. Volub.]	*23° 59¾′*	
	by the lesser portable quadrant [per Q. Port. min.]	*24° 0¾′*	
	by the mural [quadrant] [per Muralem,]	*23° 59⅝′*	*with the new [nouo]*
		24° 0¼′	*with the old [veteri]*
Observed declination [Declin. obſeruata]	*12^{h} 7^{m} [H. 12 M. 7,]*	*10° 5′*	*with one [vno]*
		10° 5⅛′	*with the other [alt.]*

2451

On this day the clock was going 23^{m} slower than it should, for yesterday too much was being taken off. [*Horologium hoc die 23 minutis*] [*iuſto tardius ibat, nam nimium heri*] [*eximebatur.*][2452]

Reading	Value
Altitude by the steel [quadrant] [Alt. per Chalyb.]	*24° 0′ 40″*
Refraction [Refractio]	*2′ 50″*
	23° 57′ 50″
Parallax [Parallaxis]	*2′ 45″*
	24° 0′ 35″
Altitude of the equator [Alt. æquat.]	*34° 5′ 15″*
Declination [Declin.]	*10° 4′ 40″*

2453

[2451] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt ⊙ Merid.* (printed with no point after *Alt*) stands on a line of its own, the instrument lines indented below it; it is given on the first row. *Declin. obſeruata* likewise stands on a line of its own, with *H. 12 M. 7,* indented below it on the line of the first declination. *nouo*, *veteri*, *vno* and *alt.* stand directly before their figures. On the second row a point is printed before *50*. *Sext. I* is printed with a capital I. *Port.* is expanded "portable"; *min.* is given as "lesser" and can also be expanded "least". The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds, and the two-group values as degrees and minutes.

[2452] *23 minutis* (minutes as a word) is given as a time, 23^{m}. *eximebatur* is "was being taken off" (the imperfect passive); the page does not say what was taken off.

[2453] "Reading" and "Value" are this edition's heads; the page prints none. The third and fifth rows print figures only. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds; the refraction and the parallax, two groups each, as minutes and seconds, as the page's own reckoning fixes (24° 0′ 40″ less 2′ 50″ gives the printed 23° 57′ 50″, plus 2′ 45″ the printed 24° 0′ 35″; 34° 5′ 15″ less 24° 0′ 35″ gives the printed 10° 4′ 40″).

Corresponding: 4° 0′ ♓; the ephemerides have 3° 58½′, a difference of 1½′. If you take the altitude 24° 0′ 15″, corresponding: 3° 58¾′ ♓, which agrees sufficiently. [*Reſp. 4 0′ ♓, Ephem. habent 3 58½,*] [*diff. 1½ minuti. Si acceperis altitudi-*] [*nem 24 0 15, reſp. 3 58¾ ♓, quod ſatis*] [*conſentit.*][2454]

On the same day, P. M., ☉ was observed for the refraction. [Eodem die P. M. pro refractione ☉] [obſeruatus eſt.]

Time [H. M.]	Azimuth of ☉ [Azim. ☉]	Altitude of ☉ [Altit. ☉]	Declination of ☉ [Declin. ☉]
$4^h\ 39^m$	64° 55′	4° 33′	9° 55½′
$4^h\ 43^m$	65° 50′	3° 58′	9° 54¾′
$4^h\ 45^m$	66° 24′	3° 37′	9° 54′
$4^h\ 48^m$	67° 10′	3° 14′	9° 52′
$4^h\ 52^m$	68° 11′	2° 38′	9° 50½′
$4^h\ 56^m$	68° 52′	2° 14′	9° 49′
$4^h\ 59^m$	69° 20′	1° 55′	9° 47½′
$5^h\ 2^m$	70° 6′	1° 34′	9° 45⅓′
$5^h\ 4^m$	70° 38′	1° 19′	9° 43½′

2455

Time	Remark
$5^h\ 14^m\ 15^s$	☉ was beginning to touch the horizon [Incipiebat ☉ attingere hori-] [zontem]
$5^h\ 16^m\ 28^s$	The upper half was being seen. [Conſpiciebatur ſuperior me-] [dia pars.]
$5^h\ 18^m\ 42^s$	The whole [☉] was going below the horizon. [Totus horizontem ſubibat.]

2456

It suffices in the intervals, but the time of the clock is not sufficiently right. [*In interuallis ſufficit, ſed tempus*] [*horologij non ſatis recte ſe habet.*]

N. B. On this day, after the setting of the Sun, the evening twilight was carefully noted, when the bright [star] of the shoulder of Orion was still before the meridian, toward the east, 1° 55′ in degrees of the equator. For when the same star was approaching the meridian by 1½°, it appeared perceptibly that there was no twilight, so much so

[2454] *4 0′* is printed with a prime after the *0* only; it and the other figures of this paragraph, printed without unit marks, are given as degrees and minutes (and seconds for *24 0 15*); *1½ minuti* (minutes as a word) is given as 1½′. *Reſp.* can also be expanded *Reſp[ondet]*, "corresponds"; *Ephem.* is "the ephemerides".

[2455] This sentence, the table and the three timed lines below it are set in roman on the page, and are given in roman here. The four column heads are the page's own, set in smaller roman. The figures carry no unit marks; the first column, under *H. M.*, is given as hours and minutes, and the other columns, two groups each, as degrees and minutes.

[2456] "Time" and "Remark" are this edition's heads. On the page these three times stand in the first column, below the table above, and the words run across the rest of the line, the first two turning over onto a second line. Each time, three figure groups printed without unit marks, is given as hours, minutes and seconds. *ſuperior media pars* is given as "the upper half"; it can also be rendered "the upper middle part".

that when this shoulder of Orion was in the meridian, no trace of twilight appeared anywhere. From this gather the time. [*N. B. Crepuſculum veſpertinum*] [*hoc die poſt occaſum Solis diligenter*] [*animadverſum fuit, quando lucida*] [*humeri Orionis erat adhuc ante Me-*] [*ridianum verſus ortum in gradibus*] [*æquatoris P. 1 M. 55. Nam quando*] [*eadem ſtella appropinquabat Meri-*] [*diano per gradus 1½ ſenſibiliter appa-*] [*ruit nullum eße crepuſculum, adeo*] [*vt cum humerus hic Orionis in Me-*] [*ridiano eßet, nullum vſpiam crepu-*] [*ſculi veſtigium apparuerit. Hinc col-*] [*lige Tempus.*][2457]

N. B. When the bright shoulder of Orion was 1° 55′ distant from the meridian toward the east, I gather that there was in the west, of the [*N. B. Quando lucidus humerus*] [*Orionis p. 1 M. 55 abfuit a Meridiano*] [*ad ortum, colligo fuiße in occaſu de*][2458]

[1] Compare *Epistolae Astronomicae*, p. 140 (vol. VI, p. 169). [[1] Cf. Epiſt. p. 140 (T. VI p. 169).]

---[2459]

equator, 171° 13′. And with the place of the Sun put at 4¼° ♓, the arc of evening twilight was then, from the globe, 16° 37′; but when [it] was 1½ from the meridian, the same arc is gathered [as] 16° 50′. [*Æquatore p. 171 13. Et poſito loco So-*] [*lis in 4¼ ♓ fuit arcus crepuſculi* ves-] [*pertini tunc e globo p. 16 M. 37, ſed*] [*quando abfuit a Meridiano 1½ colligi-*] [*tur arcus idem 16 50′.*][2460]

On 13 February, in the morning [DIE 13 FEBRUARIJ, MANE.]

At 5^{h} $0½^{m}$, when Spica was 27° 28½′ distant from the meridian toward the west, it seemed by estimation to be growing somewhat brighter in the east than in the west; but it could not be sufficiently noted because of clouds. [H. 5 M. 0½ cum Spica diſtaret a Me-] [rid. verſus occ. 27 28½, videbatur per] [æſtimationem nonnihil magis clare-] [ſcere in oriente quam in occidente,] [ſed non potuit ſatis animadverti prop-] [ter nubes.][2461]

[2457] *per gradus 1½* is given as "by 1½°" (*gradus* printed as a word); it can also be taken as "to within 1½°". *ſenſibiliter* can also be taken with *nullum eße crepuſculum*: "that there was perceptibly no twilight". *collige* is an imperative, "gather".

[2458] The page ends at *in occaſu de*; the sentence runs on at the head of p. 330. *p.* is printed in lower case.

[2459] on this page the first five lines of the left column (except *ves-* at the end of the second line, which is upright) and the 28 February reduction in the right column are set in italic; the rest is set in roman, as noted where it applies.

[2460] These lines complete the sentence that ends p. 329 (*colligo fuiße in occaſu de*): "I gather that there was in the west, of the equator, 171° 13′". *p. 171 13* and *p. 16 M. 37* print a lower-case *p.*; the figures are given as degrees and minutes; *4¼* is given as degrees, as *loco Solis* fixes; *1½* is given bare, as printed, with no unit; *16 50′* prints a prime on the minutes only. The subject of *abfuit* is not printed; it is taken to be the shoulder of Orion of the preceding note.

[2461] *27 28½*, printed without unit marks, is given as degrees and minutes, as the distances of Spica on p. 329 (*P. 35 M. 20*) fix. The subject of *videbatur … clareſcere* is not printed; "it" is the sky.

Time	Star	Dis-tance	Remark
5^h $6½^m$ [H. 5 6½]	Spica, west [Spica occid.]	28° 48′	the dawn seemed to be arising [aurora vi-] [debatur exoriri]
5^h $10½^m$		29° 48′	
5^h $18¼^m$		31° 41½′	Then the dawn was sufficiently manifest. [Tunc au-] [rora ſatis erat manifeſta.]

2462

But these considerations are not certain enough, because of thick clouds in the east. [Sed hæ conſiderationes non ſunt ſa-] [tis certæ propter nubes in ortu den-] [ſas.]

On 15 February [DIE 15 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the sextant [per Sext.]	25° 7′	
	by the steel [quadrant] [per Chalyb.]	25° 7′	
	by the revolving [quadrant] [per Volub.]	25° 6⅙′	
	by the mural [quadrant] [per Mural.,]	25° 6¾′	with the new [nouo]
		25° 6⅔′	with the old [veteri]
Declination of ⊙ [Declin. ⊙]		8° 59′	

2463

The clock was moving $0½^m$ slower than it should. [Horologium mouebatur 0½′] [iuſto tardius.][2464]

Reading	Value
Observed altitude of ⊙ [Altit. ⊙ obſeruata]	25° 6′ 45″
Refraction subt. [Refractio ſubt.]	2′ 31″
Parallax add. [Parallaxis add.]	2′ 42″

[2462] "Time", "Star", "Distance" and "Remark" are this edition's heads; the page prints none. *Spica occid.* stands on the first line only, between the time and the figures, and is given on the first row. The first time prints *H.* but no *M.*; the other two print neither; all three are given as hours and minutes. The distances, printed without unit marks, are given as degrees and minutes, as above. The words after the figures of the first and third rows turn over onto a second line on the page.

[2463] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Sext.* stands on one line; the label and the instrument are given in their own columns. *nouo* and *veteri* stand directly before their figures. The figures, printed without unit marks, are given as degrees and minutes.

[2464] The page prints a prime after *0½*; the value is given as a time, since the clock's rate is meant.

Reading	Value
True altitude of ☉ [Alt. ☉ vera]	25° 6′ 56″
Altitude of the equator [Alt. æquatoris]	34° 5′ 15″
True declination of ☉ [Decl. ☉ vera]	8° 58′ 19″
Corresponding, from the table of declinations [Reſp. ex tab. decl.]	7° 0′ 3″ ♓
Place of ☉ from our tables [Locus ☉ ex Tab. noſt.]	6° 59′ 48″ ♓
Our old ephemerides give [Ephemerides noſtræ] [*veteres* dant]	6° 58′ 55″ ♓

2465

On 15 February, in the evening [DIE 15 FEBRUARIJ, VESPERI.]

The clock [was] corrected today to the meridian altitude of the Sun. [Horologium hodie ad Solis meridi-] [anam altitudinem rectificatum.]

7^h 15¼^m. When the bright shoulder of Orion was 0° 49½′ distant from the meridian toward the west, in the equator, there seemed to have been no twilight. [H. 7 M. 15¼ Quando lucidus humerus] [Orionis diſtabat a merid. ad oc-] [caſ. in Æquatore 0° 49½′ videbatur] [nullum fuiße crepuſculum.]

7^h 16½^m. The bright shoulder of Orion [was] 1° 7′ toward the west. Twilight did not appear. [H. 7 16½ Lucidus hum. Orionis ad oc-] [caſum 1° 7′. Crepuſculum non ap-] [paruit.]

7^h 17½^m. When the bright shoulder of Orion was 1° 23′ from the meridian toward the west, no twilight at all could be noticed. [H. 7 17½ Cum lucid. hum. Orion. abeßet] [a Merid. ad occaſum 1° 23′, nul-] [lum omnino crepuſculum anim-] [adverti poterat.][2466]

On 28 February [DIE 28 FEBRUARIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	30° 4′ 50″	
	by the revolving [quadrant] [per Volub.]	30° 5′ 0″	
	by the trigonal sextant [per Sext. trig.]	30° 5′ 0″	

[2465] "Reading" and "Value" are this edition's heads; the page prints none. The figures carry no unit marks; the three-group values are given as degrees, minutes and seconds; the refraction and the parallax, two groups each, as minutes and seconds, as the page's own reckoning fixes (25° 6′ 45″ less 2′ 31″ plus 2′ 42″ gives the printed 25° 6′ 56″; 34° 5′ 15″ less 25° 6′ 56″ gives the printed 8° 58′ 19″). *ſubt.* and *add.* are kept abbreviated; they can be expanded "subtracts"/"to be subtracted" and "adds"/"to be added". *Tab.* can also be singular, "our table". *Ephemerides noſtræ* stands on a line of its own and *veteres dant* on the line below, with the figures; *veteres* is set in italic and is given in italic. The label is given whole on its row.

[2466] The first of these three times prints *H.* and *M.*, the other two *H.* only; all three are given as hours and minutes. The first stands at the foot of the left column, the other two at the head of the right column.

Reading	Instrument	Value	Remark
	by the mural [quadrant] [per Mural.,]	30° 5′ 10″	with the old [veteri]
		30° 5′ 15″	with the new [nouo]
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armillas,]	4° 0′	with one [vno]
		4° 0⅙′	with the other [alt.]

2467

N. B. [It] was very clear. [N. B. Erat bene ſerenum.]

Reading	Value
Observed altitude [Alt. obſeruata]	*30° 5′ 0″*
Refraction [Refractio]	*1′ 25″*
Parallax [Parallaxis]	*2′ 37″*
True altitude [Vera Altit.]	*30° 6′ 12″*
True declination of ⊙ [Decl. ⊙ vera]	*3° 59′ 3″*
Place of ⊙ [Locus ⊙]	*19° 58½′ ♓*

2468

Our ephemeris has 19° 58½′ precisely; so it is established that everything is right. [*Ephemeris noſter 19 58½ præciſe*] [*habet, quare conſtat omnia recte ſe*] [*habere.*][2469]

On 1 March [DIE 1 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	30° 28′	
	by the sextant [per Sext.]	30° 28½′	
	by the revolving [quadrant] [per Volub.]	30° 27⅔′	
	by the mural [quadrant] [per Mural.]	30° 28′	

[2467] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Decl. ⊙ per Armillas,* each stand on one line; label and instrument are given in their own columns. *veteri*, *nouo*, *vno* and *alt.* stand directly before their figures. The figures, printed without unit marks, are given as degrees, minutes and seconds where three groups are printed and as degrees and minutes where two are.

[2468] "Reading" and "Value" are this edition's heads; the page prints none. The reduction and the sentence below it are set in italic on the page. The figures carry no unit marks; the refraction and the parallax, two groups each, are given as minutes and seconds, as the page's own reckoning fixes (30° 5′ 0″ less 1′ 25″ plus 2′ 37″ gives the printed 30° 6′ 12″; 34° 5′ 15″, the altitude of the equator printed on the left column, less 30° 6′ 12″ gives the printed 3° 59′ 3″); the place of ⊙ as degrees and minutes.

[2469] *Ephemeris*, a feminine noun, is printed with the masculine *noſter*; it is kept as printed. *præciſe* can also be taken with the figures, "19° 58½′ precisely", as given, or with *habet*.

Reading	Instrument	Value	Remark
Declination [Declin.]	by the armillae [per Armill.]	3° 37′	with one [vno]
		3° 36¾′	with the other [alt.]

2470

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

On 7 March [DIE 7 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	32° 49⅔′	
	by the sextant [per Sext.]	32° 50′	
	by the revolving [quadrant] [per Volub.]	32° 50½′	
	by the Tychonic [quadrant] [per Tychon.]	32° 50′	with one [vno]
		32° 49½′	with the other [alt.]
Declination [Declin.]	by the armillae [per Armill.]	1° 15¾′	with one [vno]

2471

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

7^h $59\frac{1}{3}^m$ in the evening. When Canis Minor was 9° 37′ distant from the meridian toward the west, twilight did not seem to remain. [H. 7 59⅓′ Veſperi. Cum Canis minor] [diſtaret a mer. verſus occ. 9° 37′,] [non videbatur crepuſculum ſu-] [pereße.][2472]

8^h $1\frac{1}{2}^m$. Nothing more of the twilight was seen. Canis Minor was then 10° 15′ distant toward the west from the meridian. [H. 8 1½ Nihil de Crepuſculo amplius] [viſum eſt. Diſtabat tunc Canis mi-] [nor ad occ. a Merid. 10° 15′.][2473]

On 10 March [DIE 10 MARTIJ.]

At $12\frac{1}{4}^h$ the declination of ⊙ was 0° 3½′ south, with both pinnules. The clock was being verified today in the afternoon, to ⊙ from the equator. [Hora 12¼

2470 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Label and instrument stand on one line on the page and are given in their own columns. The figures, printed without unit marks, are given as degrees and minutes.

2471 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Label and instrument stand on one line on the page and are given in their own columns. The figures, printed without unit marks, are given as degrees and minutes. The declination carries only the one value, with *vno*.

2472 The page prints a prime after *59⅓*; the value is given as a time, after the printed *H.*. The page ends at *pereße.*; the lower part of both columns is blank.

2473 These lines carry on the evening entry of 7 March on p. 330; no new date stands above them. The time prints *H.* but neither *M.* nor a prime; it is given as hours and minutes.

fuit Declin. ☉ 0° 3½′ Mer. vtro-] [que pinn. Horologium verificaba-] [tur hodie poſt meridiem ad ☉ ex] [æquatore.][2474]

On the same day, in the evening. [Eodem die veſperi.]

7^h 57^m. When Canis Minor was 11° 57½′ distant from the meridian, twilight could no longer be discerned. [H. 7 57′ Cum diſtabat Canis min. a] [mer. 11° 57½, non poterat cerni am-] [plius Crepuſculum.]

8^h $0\frac{1}{6}^m$. When Canis Minor was 12° 36′ distant from the meridian, west, no trace of twilight at all seemed to remain. [H. 8 0⅙′ Cum diſtabat Canis min. a] [Mer. occ. 12° 36′, nullum omnino] [videbatur Crepuſculi veſtigium ſu-] [pereße.][2475]

On 11 March [DIE 11 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	34° 24′ 50″	
	by the revolving [quadrant] [per Volub.]	34° 25′	
	by the sextant [per Sextant.]	34° 24′ 55″	
	by the mural [quadrant] [per Mural.,]	34° 24′ 55″	with the old [veteri]
		34° 25′ 0″	with the new [nouo]
Declination of ☉, north [Declin. ☉ borea]		0° 19¾′	
		0° 19½′	with the other pinnule [alt. pinn.]

[2476]

[It] was very clear and calm. [Erat bene ſerenum & tranquillum.]

At noon the clock was moving 10^m slower than it should, from the nearly immediately preceding noon. [Horol. in Meridie 10′ iuſto tardius] [mouebatur a Meridie fere proxime] [antecedenti.][2477]

[2474] *Mer.* after the declination is given as "south". *ad* ☉ can also be taken as "by ☉" or "against ☉".

[2475] The primes after *57* and *0⅙* are printed on clock times; both are given as minutes of time. *57½* in the first sentence prints no prime; it is given as minutes of arc after the printed *11°*. *occ.* in the second sentence is given as "west".

[2476] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ☉ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *veteri*, *nouo* and *alt. pinn.* stand directly before their figures. The figures, printed without unit marks, are given as degrees, minutes and seconds where three groups are printed and as degrees and minutes where two are.

[2477] The prime after *10* is printed on the clock's rate; the value is given as minutes of time. *fere* stands before *proxime antecedenti* and is kept with it, "nearly immediately preceding".

On 12 March [DIE 12 MARTIJ.]

In the morning, at 4^{h} $0½^{m}$, [it] seemed to be growing light; the bright [star] of the Vulture was then present, from the meridian toward the east, in degrees of the equator, 51° 5′. But this observation of the dawn is uncertain because of mists. [Mane H. 4 0½′ videbatur illuceſcere,] [affuit tunc lucida Vulturis a meridi-] [ano verſus ortum in grad. Æquatoris] [51° 5′. Sed hæc obſeruatio auroræ eſt] [incerta propter nebulas.][2478]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	34° 48′ 25″	
	by the sextant [per Sext.]	34° 48′ 20″	
	by the revolving [quadrant] [per Volub.]	34° 48½′	
	by the mural [quadrant] [per Mural.]	34° 48′ 35″	
		34° 48′ 50″	
Declination of ⊙ [Declin. ⊙]		0° 43½′	with one [vno]

[2479]

[It] was very clear. [Erat bene ſerenum.]

The clock was moving 2^{m} 55^{s} faster than it should at this noon. [Horol. mouebatur in hoc meridie] [iuſto celerius 2′ 55″.][2480]

On 13 March, in the evening [DIE 13 MARTIJ, VESPERI.]

8^{h} $1½^{m}$. Canis Minor was distant from the meridian toward the west 15° 28′. At that time twilight was no longer appearing. [H. 8 1½′ Canis min. a Meridiano ad] [occ. diſt. 15 28. Tunc temporis non] [amplius apparebat crepuſculum.]

[2478] The prime after *0½* is printed on a clock time; the value is given as minutes of time. The subject of *videbatur illuceſcere* is not printed; "it" is the sky.

[2479] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. The fifth row's figures stand below those of the mural quadrant with no label of their own. *vno* stands directly before its figures. The figures, printed without unit marks, are given as degrees, minutes and seconds where three groups are printed and as degrees and minutes where two are.

[2480] The prime and double prime are printed on the clock's rate; the value is given as minutes and seconds of time.

8^h 2⅝^m. Canis Minor [was] 15° 48′ toward the west. Then no twilight at all was visible. [8 2⅝ Can. min. ad occaſum 15 48.] [Tum nullum omnino viſibile erat] [crepuſculum.][2481]

On 14 March, in the morning [DIE 14 MARTIJ, MANE.]

3^h 25^m. Spica, west, 40° 30′. Then [it] began to dawn. [H. 3 25′ Spica occ. 40 30. Tunc incepit] [dieſcere.]

3^h 26½^m. Spica, west, 40° 50′. The dawn was manifest. [3 26½ Spica occ. 40 50. Erat aurora] [manifeſta.][2482]

On 15 March, in the evening [DIE 15 MARTIJ, VESPERI.]

8^h 15½^m. Canis Minor, west, 17° 52′. Twilight did not appear. [H. 8 15½′ Canis minor occ. 17 52 Cre-] [puſculum non apparuit.]

8^h 16½^m. Canis Minor, west, 18° 14′. No trace of twilight at all was appearing. [8 16½ Canis min. occ. 18 14. Nullum] [omnino crepuſculi veſtigium ap-] [parebat.][2483]

On 16 March [DIE 16 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	36° 23′	
	by the steel [quadrant] [per Chalyb.]	36° 22½′	
	by the lesser azimuthal quadrant [per Q. min. Azim.]	36° 22′	
	by the revolving [quadrant] [per Volub.]	36° 22′	
Declination, north [Declin. Bor.]		2° 18′	with both [vtroque]

[2481]The first time prints *H.* and a prime; the second prints neither and is given as hours and minutes after its printed hour *8*. *diſt.* is given as *diſtabat*, "was distant"; it can also be expanded *diſtantia*, "distance". The distances, printed without unit marks, are given as degrees and minutes, as the distances printed with degree signs on this page (10° 15′, 12° 36′) fix. The first sentence stands at the foot of the left column, the second at the head of the right column.

[2482]The first time prints *H.* and a prime; the second prints neither and is given as hours and minutes after its printed hour *3*. The distances, printed without unit marks, are given as degrees and minutes, as above.

[2483]The first time prints *H.* and a prime; the second prints neither and is given as hours and minutes after its printed hour *8*. The distances, printed without unit marks, are given as degrees and minutes, as above. No point stands after *17 52*.

2484

On 18 March [DIE 18 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the lesser quadrant [per Q. Min.]	37° 9¾′	
	by the steel [quadrant] [per Chalyb.]	37° 9½′	
	by the revolving [quadrant] [per Volub.]	37° 9¼′	
	by the mural [quadrant] [per Mural.]	37° 9½′	
		37° 10′	with the other [alt.]
Declination of ☉ [Declin. ☉]	by the armillae [per Armill.]	3° 5′	
		3° 4¾′	with the other [alt.]

2485

On 23 March [DIE 23 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	39° 5′ 40″	
	by the revolving [quadrant] [per Volub.]	39° 5′ 20″	
	by the mural [quadrant] [per Mural.]	39° 5′	
		39° 5′ 20″	with the new [nouo]
Declination of ☉ [Declin. ☉]		5° 0¼′	
		5° 0½′	with the other [alt.]

2486

2484 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ☉ Merid. per Tychon.* stands on one line; the label and the instrument are given in their own columns. *Azim.* is given as "azimuthal", qualifying the quadrant; it can also be expanded "of azimuths", "the lesser quadrant of azimuths". *vtroque* stands directly before its figures. The figures, printed without unit marks, are given as degrees and minutes.

2485 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ☉ Merid. per Q. Min.* and *Declin. ☉ per Armill.* each stand on one line; label and instrument are given in their own columns. Each *alt.* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2486 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ☉ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees, minutes and seconds where three groups are printed and as degrees and minutes where two are.

The clock was being rectified. [Horologium rectificabatur.]

On 25 March [DIE 25 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	39° 51′	
	by the revolving [quadrant] [per Volub.]	39° 50⅚′	
	by the mural [quadrant] [per Mural.]	39° 51′	
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armill.]	5° 46⅓′	
		5° 46½′	with the other pinnule [alt. pinn.]

2487

[It] was not sufficiently clear. [Non erat ſatis ſerenum.][2488]

On 27 March [DIE 27 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the mural [quadrant] [per Mural.,]		
		40° 36½′	with the new [nouo]
		40° 36⅙′	with the old [vet.]
	by the steel [quadrant] [per Chalyb.]	40° 36½′	
	by the revolving [quadrant] [per Volub.]	40° 36¼′	
Declination of ⊙ [Declin. ⊙]		6° 31′	
		6° 30⅚′	with the other [alt.]

2489

The clock was being rectified. [Horologium rectificabatur.]
[It] was very clear. [Erat bene ſerenum.]

[2487] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Declin. ⊙ per Armill.* each stand on one line; label and instrument are given in their own columns. *alt. pinn.* stands directly before its figures. The figures, printed without unit marks, are given as degrees and minutes.

[2488] The page ends at *ſerenum.*; the lower part of both columns is blank.

[2489] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Mural.,* stands on one line with no figures; the two values of the mural quadrant stand on the two lines below it, after *nouo* and *vet.*. *alt.* stands directly before its figures. The figures, printed without unit marks, are given as degrees and minutes.

In the evening, at 8^h 56^m, the heart of ♌, west, 3° 0′. At that time the evening twilight was no longer appearing. [Veſperi, H. 8 56′, Cor ♌ occ. 3° 0′.] [Tunc temporis non amplius appare-] [bat crepuſculum veſpertinum.][2490]

On 28 March [DIE 28 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the revolving [quadrant] [per Volub.]	40° 59⅙′	
	by the steel [quadrant] [per Chalyb.]	40° 59′	
	by the sextant △ [per Sext. △]	40° 59⅓′	
	by the mural [quadrant] [per Muralem,]	40° 59⅙′	with the new [nouo]
		40° 58¾′	with the old [vet.]
	by the least quadrant [per Q. minim.]	40° 59½′	
Declination of ☉, north [Declin. ☉ Bor.]		6° 54′	with one [vno]
		6° 54⅓′	with the other pinnule [alt. pin.]

[2491]

[It] was very clear. [Erat bene ſerenum.]

On 29 March [DIE 29 MARTIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	41° 20⅚′	
	by the revolving [quadrant] [per Volub.]	41° 21′	
	by the least quadrant [per Q. Minim.]	41° 20′	
	by the mural [quadrant] [per Mural.,]	41° 21′	with the old [vet.]
		41° 21½′	with the new pinnule [nouo pin.]
Declination of ☉ [Declin. ☉]		7° 15½′	with one [vno]
		7° 16′	with the other pinnule [alt. pin.]

[2490] The prime after *56* is printed on a clock time; the value is given as minutes of time.

[2491] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ☉ Merid. per Volub.* stands on one line; the label and the instrument are given in their own columns. *nouo* and *vno* stand between the instrument or label and the figures; *vet.* and *alt. pin.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2492

At noon the clock was moving 21½^{m} faster than it should, from the immediately preceding noon. [Horologium in Meridie 21½ M. iuſto] [citius mouebatur a meridie proxime] [antecedente.]

On 1 April [DIE 1 APRILIS.]

At the following noon the clock was moving 14^{m} slower than it should. [Horologium in Meridie ſequenti 14′] [iuſto tardius mouebatur.][2493]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	42° 27⅚′	
	by the steel [quadrant] [per Chalyb.]	42° 27⅔′	
	by the mural [quadrant] [per Mural.,]	42° 28¼′	with the new [nouo]
		42° 27⅚′	with the old [vet.]
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armill.]	8° 22⅚′	
		8° 23¼′	with the other [alt.]

2494

On 5 April [DIE 5 APRILIS.]

The clock [was] corrected. [Horologium correctum.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	43° 55′	
	by the steel [quadrant] [per Chalyb.]	43° 54⅓′	
	by the mural [quadrant] [per Mural.,]	43° 55′	with the old [vet.]
		43° 55⅓′	with the new [nouo]
Declination of ⊙ [Declin. ⊙]		9° 49⅓′	

[2492] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *vet.* and *vno* stand between the instrument or label and the figures; *nouo pin.* and *alt. pin.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

[2493] The prime after *14* is printed on the clock's rate; the value is given as minutes of time.

[2494] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Volub.* and *Declin. ⊙ per Armill.* each stand on one line; label and instrument are given in their own columns. *nouo* stands between the instrument and the figures; *vet.* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes. The table stands at the foot of the left column; the entry of 5 April opens the right column.

Reading	Instrument	Value	Remark
		9° 49⅔′	with the other [alt.]

2495

On 11 April [DIE 11 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	45° 59⅚′	
	by the revolving [quadrant] [per Volub.]	46° 0′	
	by the mural [quadrant] [per Mural.]	46° 0 1/12′	
		46° 0′ 25″	with the new [nouo]
Declination of ⊙ [Declin. ⊙]		11° 55′	
		11° 54½′	with the other [alt.]

2496

On 12 April [DIE 12 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	46° 20′	
	by the revolving [quadrant] [per Volub.]	46° 20⅙′	
	by the mural [quadrant] [per Mural.]	46° 20⅔′	
		46° 20⅚′	with the new [nouo]
Declination of ⊙ [Declin. ⊙]		12° 15′	
		12° 14½′	with the other [alt.]

2495 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Volub.* stands on one line; the label and the instrument are given in their own columns. *vet.* stands between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2496 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *nouo* and *alt.* stand directly before their figures with no label at the left. The fraction after the mural quadrant's *0* is printed as one over twelve. The figures, printed without unit marks, are given as degrees, minutes and seconds where three groups are printed and as degrees and minutes where two are.

2497

On 14 April [DIE 14 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	47° 0¼′	
	by the revolving [quadrant] [per Volub.]	47° 0′	
	by the mural [quadrant] [per Mural.]	47° 0¾′	
		47° 1′	with the new [nouo]
Declination of ⊙ [Declin. ⊙]		12° 55′	
		12° 54½′	

2498

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

On 16 April [DIE 16 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	47° 39⅓′	
	by the revolving [quadrant] [per Volub.]	47° 39¼′	
	by the mural [quadrant] [per Mural.,]	47° 39⅓′	with the old [vet.]
		47° 39¾′	with the new [nouo]
Declination, north [Declin. B.]		13° 33½′	
		13° 33¾′	with the other [alt.]

2499

2497 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2498 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *nouo* stands directly before its figures with no label at the left. The second declination prints figures only, with no word before them. The figures, printed without unit marks, are given as degrees and minutes.

2499 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *vet.* stands between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

[It] was sufficiently clear. [Erat ſatis ſerenum.]

The clock was moving 6^{m} slower than it should. [Horol. 6 Mtis tardius iuſto mouebatur][2500]

On 18 April [DIE 18 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	48° 17⅓′	
	by the revolving [quadrant] [per Volub.]	48° 17¼′	
	by the mural [quadrant] [per Mural.,]	48° 17⅓′	with the old [vet.]
		48° 17⅚′	with the new [nouo]
Declination of ⊙ [Declin. ⊙]		14° 12′	with both pinnules [vtroque pinn.]

[2501]

[2502]

On 22 April [DIE 22 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	49° 30⅙′	
	by the revolving [quadrant] [per Volub.]	49° 30′	
	by the mural [quadrant] [per Mural.,]	49° 30½′	with the old [vet.]
		49° 31′	with the new [nouo]
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.]	15° 25⅓′	with one [vno]
		15° 25′	with the other [alt.]

[2503]

[2500] *Mtis* is given as *Minutis*, minutes of time. No point stands after *mouebatur*.

[2501] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *vet.* stands between the instrument and the figures; *nouo* stands directly before its figures with no label at the left. *Declin. ⊙ 14 12 vtroque pinn.* is set as one line, the figures following the label directly and *vtroque pinn.* following the figures. The figures, printed without unit marks, are given as degrees and minutes.

[2502] The page ends at *vtroque pinn.*; the lower part of both columns is blank.

[2503] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Decl. ⊙ per Armill.* each stand on one line; label and instrument are given in their own columns. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

On 24 April [DIE 24 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	50° 6′ 5″	
	by the revolving [quadrant] [per Volub.]	50° 6′	
	by the new Islandic quadrant [per nouum Isl. Q.]	50° 7′	
	by the mural [quadrant] [per Mural.]	50° 6¼′	with the old [vet.]
		50° 6⅝′	with the new [nouo]
Declination of ☉ [Decl. ☉]	by the armillae [per Armill.]	16° 0′	with one [vno]
		16° 0¼′	with the other [alt.]

2504

The clock was moving 6½^{m} slower. [Horologium mouebatur 6½ tardius.] [It was] rectified. [Rectificatum.][2505]

On 26 April [DIE 26 APRILIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	50° 40¼′	
	by the revolving [quadrant] [per Volub.]	50° 40½′	
	by the new Islandic [quadrant] [per nouum Islandic.]	50° 41′	
	by the mural [quadrant] [per Mural.,]	50° 40⅙′	with the old [vet.]
		50° 40⅓′	with the new [nouo]
Declination [Decl.]	by the armillae [per Armill.]	16° 34′	with one [vno]
		16° 35′	with the other [alt.]

[2504] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ☉ *Merid. per Chalyb.* and *Decl.* ☉ *per Armill.* each stand on one line; label and instrument are given in their own columns. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. *Isl.* is given as "Islandic", following the full form *Islandic.* the page prints in the entry of 26 April; *Q.* is given as "quadrant". The figures, printed without unit marks, are given as degrees, minutes and seconds where three groups are printed and as degrees and minutes where two are.

[2505] No unit is printed after *6½*; it is given as minutes of time, the unit *M.* that the page prints for the clock's rate in the entry of 26 April.

2506

The clock was going 7⅓[m] slower than it should, which error was being corrected. [Horologium ibat 7⅓ M. iuſto tardius,] [qui error corrigebatur.]

On 6 May [DIE 6 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	53° 13⅓′	
	by the revolving [quadrant] [per Volub.]	53° 14′	
	by the mural [quadrant] [per Mural.,]	53° 14′	with the old [vet.]
		53° 14⅙′	with the new [nouo]
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.,]	19° 8¾′	with one [vno]
		19° 9½′	with the other [alt.]

2507

On 7 May [DIE 7 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	53° 26⅚′	
	by the revolving [quadrant] [per Volub.]	53° 28′	
	by the mural [quadrant] [per Mural.,]	53° 28′	with the old [vet.]
		53° 27′ 45″	with the new [nouo]
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.,]	19° 22½′	with one [vno]
		19° 23′	with the other [alt.]

2506 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Decl. per Armill.* each stand on one line; label and instrument are given in their own columns. *Decl.* is printed here without ⊙. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2507 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Decl. ⊙ per Armill.,* each stand on one line; label and instrument are given in their own columns. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2508

The clock was being corrected. [Horologium corrigebatur.]

On 10 May [DIE 10 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	54° 6⅙′	
	by the revolving [quadrant] [per Volub.]	54° 7⅔′	
	by the mural [quadrant] [per Mural.,]	54° 6⅔′	with the old [vet.]
		54° 7′ nearly [fere]	with the new [nouo]
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.,]	20° 1′	with one [vno]
		20° 1½′	with the other [alt.]

2509

The clock was being corrected. [Corrigebatur Horologium.]

On 17 May [DIE 17 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	55° 26⅙′	
	by the revolving [quadrant] [per Volub.]	55° 26½′	
	by the mural [quadrant] [per Mural.,]	55° 25¾′	with the old [vet.]
		55° 26⅙′	with the new [nouo]
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.]	21° 21′	with one [vno]
		21° 21′	with the other [alt.]

2508 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Decl. ⊙ per Armill.,* each stand on one line; label and instrument are given in their own columns. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees, minutes and seconds where three groups are printed and as degrees and minutes where two are.

2509 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The first two rows stand at the foot of the left column; the rest stand at the head of the right column, under no heading. *Alt. ⊙ Merid. per Chalyb.* and *Decl. ⊙ per Armill.,* each stand on one line; label and instrument are given in their own columns. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. *fere* is printed in smaller type after *54 7*. The figures, printed without unit marks, are given as degrees and minutes.

2510

On 20 May [DIE 20 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	55° 54⅓′	
	by the revolving [quadrant] [per Volub.]	55° 54½′	
	by the mural [quadrant] [per Mural.,]	55° 54⅓′	with the old [vet.]
		55° 54⅚′	with the new [nouo]
Declination of ⊙ [Decl. ⊙]	by the armillae [per Armill.,]	21° 50⅔′	with one [vno]
		21° 50′	with the other [alt.]

2511

[It] was sufficiently clear. [Erat ſatis ſerenum.]

On 21 May [DIE 21 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	56° 3⅙′	
	by the revolving [quadrant] [per Volub.]	56° 3′	
Declination [Decl.]	by the armillae [per Armill.]	21° 59′	with one [vno]
		21° 59¼′	with the other [alt.]

2512

2510 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Decl. ⊙ per Armill.* each stand on one line; label and instrument are given in their own columns. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2511 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Decl. ⊙ per Armill.,* each stand on one line; label and instrument are given in their own columns. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2512 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Decl. per Armill.* each stand on one line; label and instrument are given in their own columns. *Decl.* is printed here without ⊙. *vno* stands between the instrument and the figures; *alt.* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

On 23 May [DIE 23 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	56° 19⅓′	
	by the revolving [quadrant] [per Volub.]	56° 19′	
	by the mural [quadrant] [per Mural.]	56° 19⅓′	with the old [vet.]
		56° 19⅚′	with the new [nouo]
Declination [Decl.]	by the armillae [per Armill.]	22° 15′	with one [vno]
		22° 14⅚′	with the other [alt.]

2513

On 24 May [DIE 24 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ☉ [Alt. ☉ Merid.]	by the steel [quadrant] [per Chalyb.]	56° 27⅙′	
	by the revolving [quadrant] [per Volub.]	56° 26½′	
	by the mural [quadrant] [per Mural.,]	56° 27′	with the old [vet.]
		56° 27⅔′	with the new [nouo]
Declination [Decl.]	by the armillae [per Armill.]	22° 21½′	with one [vno]
		22° 22′	with the other [alt.]

2514

[It] was moderately clear. [Erat mediocriter ſerenum.]

On 25 May [DIE 25 MAIJ.]

2513 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ☉ *Merid. per Chalyb.* and *Decl. per Armill.* each stand on one line; label and instrument are given in their own columns. *Decl.* is printed here without ☉. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2514 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ☉ *Merid. per Chalyb.* and *Decl. per Armill.* each stand on one line; label and instrument are given in their own columns. *Decl.* is printed here without ☉. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	56° 34⅔′	
	by the revolving [quadrant] [per Volub.]	56° 34¾′	
	by the mural [quadrant] [per Mural.,]	56° 34′	with the old [vet.]
		56° 34⅓′	with the new [nouo]
Declination [Decl.]	by the armillae [per Armill.]	22° 30′	with one [vno]
		22° 29¾′	with the other [alt.]

2515

2516

On 26 May [DIE 26 MAIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	56° 40¾′	
	by the revolving [quadrant] [per Volub.]	56° 41½′	
	by the mural [quadrant] [per Mural,]	56° 41′	with the old [vet.]
		56° 41¼′	with the new [nouo]
Declination [Decl.]	by the armillae [per Armill.]	22° 35½′	with one [vno]
		22° 35⅓′	with the other [alt.]

2517

[It] was sufficiently clear. [Erat ſatis ſerenum.]

On 28 May [DIE 28 MAIJ.]

2515 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ⊙ *Merid. per Chalyb.* and *Decl. per Armill.* each stand on one line; label and instrument are given in their own columns. *Decl.* is printed here without ⊙. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2516 The page ends at *alt. 22 29¾*; the lower part of both columns is blank.

2517 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ⊙ *Merid. per Chalyb.* and *Decl. per Armill.* each stand on one line; label and instrument are given in their own columns. *Decl.* is printed here without ⊙. *per Mural,* is printed with a comma and no point. *vet.* and *vno* stand between the instrument and the figures; *nouo* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	56° 53½′	
	by the revolving [quadrant] [per Volub.]	56° 54′	
	by the mural [quadrant] [per Mural,]	56° 53¾′	with the old [vet.]
		56° 54′	with the new [nouo]

2518

The clock was being corrected. [It] was sufficiently clear. The declination could not be taken by the armillae because of the beams placed above, from which a new roof was to be built. [Horologium corrigebatur. Erat ſatis] [ſerenum. Declinatio per Armillas non] [poterat accipi propter ſuprapoſitas] [trabes, ex quibus nouum tectum erat] [exſtruendum.]

On 2 June [DIE 2 JUNIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	57° 18′	
	by the revolving [quadrant] [per Volub.]	57° 18¼′	
	by the mural [quadrant] [per Mural.,]	57° 18′	with the old [vet.]
		57° 18′	with the new [nouo]

2519

The declination could not be taken by the armillae. [Declin. per Armill. non poterat accipi.]

On 11 June[1] [DIE 11 JUNIJ[1].]

2518 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *per Mural,* is printed with a comma and no point. *vet.* stands between the instrument and the figures; *nouo* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2519 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *vet.* stands between the instrument and the figures; *nouo* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]			
	by the greater steel [quadrant] [per Chalyb. maior.]	57° 35′ 30″	
		25″	or [vel]
	by the revolving [quadrant] [per Volubilem]	57° 35′ 45″	
	by the Tychonic [quadrant] [per Tychon.]	57° 35′ 45″	
		57° 35′ 50″	with the other [altero]
Declination of ⊙ [Decl. ⊙]	by the greater subterranean armillae [per Arm.] [ſubterr. mai.]	23° 29′ 50″	
		23° 29′ 45″	with the other pinnule [alt. pin.]

2520

[It] was sufficiently clear. The clock was being corrected. [Erat ſatis ſerenum. Horolog. corri-] [gebatur.]

The same day, 11 June, P. M. [Eodem die 11 Junij, P. M.]

For the refraction of the declination of ⊙ at the summer solstice, the following were observed. [Pro refractione declinationis ⊙ in Sol-] [ſtitio æſtiuo obſeruabantur ſequentia.]

Declination of ⊙ by the greater armillae, with one [Declin. ⊙ per] [Armillas maiores] [vno]	Declination of ⊙ by the greater armillae, with the other pinnule [Declin. ⊙ per] [Armillas maiores] [alt. pin.]	Altitude of ⊙ by the revolving [quadrant] [Altit. ⊙] [per Volub.]	Azimuth of ⊙ from the meridian toward the west [Azim. ⊙] [a Mer. ad occ.]	Remark
23° 29¾′	23° 29⅚′	35° 2½′	80° 40′	
23° 29¾′	23° 29⅔′	33° 22½′	83° 10′	
23° 29¾′	23° 29⅔′	30° 13¾′	87° 50′	
23° 29⅔′	23° 29¾′	29° 13′	89° 38′	
23° 29¾′	with both [vtroq.]	27° 10½′	92° 37′	

2520 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands alone on its line with no figures; the instruments and their values stand on the lines below it. *vel* stands before the figures at the right of the instrument column, and *25* stands alone in the place of the seconds under the *30* of the line above; it is given as seconds, and no degrees or minutes are printed with it. The instrument *per Arm. ſubterr. mai.* runs over two lines, *ſubterr. mai.* standing under *per Arm.* on the line of the second value; it is given whole on the first row. *altero* and *alt. pin.* stand directly before their figures. The figures, printed without unit marks, are given as degrees, minutes and seconds.

Declination of ⊙ by the greater armillae, with one [Declin. ⊙ per] [Armillas maiores] [vno]	Declination of ⊙ by the greater armillae, with the other pinnule [Declin. ⊙ per] [Armillas maiores] [alt. pin.]	Altitude of ⊙ by the revolving [quadrant] [Altit. ⊙] [per Volub.]	Azimuth of ⊙ from the meridian toward the west [Azim. ⊙] [a Mer. ad occ.]	Remark
23° 29¾′	23° 29⅝′	20⅝°		by both lesser quadrants [per vtrumq.] [min. Q.]
23° 30′	23° 30⅓′	18¾°		by the lesser quadrant [per Q. min.]
23° 30½′	23° 30′	17° 10′		by the greatest steel quadrant [per Q.max.] [Chalyb.]
		by the steel [quadrant] [Per Chalyb.]		
23° 30¼′	23° 30⅔′	15° 54′		
23° 30⅔′	23° 30⅓′	13° 44½′		
23° 32¼′	23° 31⅝′	10° 15′		
23° 32⅓′	23° 31⅝′	9° 47′		
23° 33′	23° 32⅔′	7° 45′		
23° 33¾′	23° 34′	7°		
23° 34¼′	23° 34′	6½°		
23° 34⅓′	23° 34′	6¼°		
23° 34′ 30″	23° 34′ 45″	5° 30′		
23° 35⅔′	23° 36¼′	4° 50′		
23° 36½′	23° 35¾′	4° 5′		The brightness of ⊙ was then dimmer because of the small clouds existing about the horizon. [Erat tunc ⊙] [ſplendor propter nubeculas circa] [Horizont. exiſtentes obſcurior.]
23° 37⅔′	23° 38′	3° 40′		
23° 38′	23° 38½′	3° 10′		
23° 40′	23° 39¾′	2° 45′		
23° 40½′	23° 40⅙′	2° 20′		
23° 41½′	23° 42′	1⅝°		by estimation [per æſtimationem.]
23° 42⅝′	with only a single pinnule [vnico ſaltem pinnac.]	1½°		by estimation [per æſtimationem.]
23° 44′				Then ⊙ could no longer be observed because of the horizon of the observatory; for it was sinking, and raised not more than half of itself above the horizon of the hemisphere. [Tunc ⊙ propter Obſeruatorij] [Horizontem non amplius poterat] [obſeruari, erat enim decliuis, &] [non vltra mediam ſui partem ſu-] [pra Horizontem hemiſphærij ele-] [uatus.]

2521

N. B. There was a moderate thickness of vapours about the horizon. [N. B. Erat circa Horizontem medio-] [cris vaporum craßities.]

On 12 June, morning [DIE 12 JUNIJ, MANE.]

Declination of ⊙ [Declinatio ⊙]	Declination of ⊙ [Declinatio ⊙]	Altitude of ⊙ [Altit. ⊙]	Azimuth of ⊙, to be counted from the east to the south [Azim. ⊙ ab] [ortu in Mer.] [numerand.]	Remark
23° 40½′	23° 40⅝′	2° 43½′		
23° 40½′		3° 17⅔′	129° 8′	
				With the other [it] could not be taken. [altero non poterat accipi.]
23° 37′	23° 36½′	4° 42′	126° 25′	
23° 35′	23° 35⅙′	5° 4′	125° 50′	
				Here a piece of timber placed in between, which could not be removed, was an obstruction. [Hic lignum interpoſitum, quod amo-] [ueri non poterat, impedimento erat.]
23° 34⅝′	23° 35′	5° 25′	125° 15′	
23° 34′	with both [vtroq.]	6° 54′	122° 32′	
23° 32⅓′	23° 32⅝′	8° 33½′	119° 55′	
23° 31⅔′	23° 32⅙′	10° 42′	116° 20′	
23° 31′	23° 31½′	11° 17′	115° 25′	

2521 "Remark" is this edition's head; the other four heads are the page's. The head *Declin. ⊙ per Armillas maiores* is printed once, centred over the first two columns, with *vno* and *alt. pin.* under it, one over each; it is repeated over both here. The first five rows stand at the foot of the left column under the page's heads; the rest stand at the head of the right column under no heading, in three figure columns — two declinations and an altitude — with no azimuth column, so the azimuth cells of those rows are empty. *vtroq.* stands directly after the first declination of the fifth row, in the place of the second; *vnico ſaltem pinnac.* likewise stands in the place of the second declination of its row, in smaller type. *per vtrumq. / min. Q.* and *per Q.max. / Chalyb.* each run over two lines after the altitude; each is given whole on its first row. *Per Chalyb.* stands in smaller type over the altitude column, in the place of a column head, with no figures on its line; it is given as a row of its own. *per æſtimationem.* is printed in smaller type after the altitude in its two rows. The words *Erat tunc ⊙* follow the altitude *4 5* on its line and the sentence runs on below the row; the sentence beginning *Tunc ⊙* follows the declination *23 44* on its line, with no second declination and no altitude. The altitudes printed as a single figure with or without a fraction (*20⅚*, *18¾*, *7*, *6½*, *6¼*, *1⅚*, *1½*) are given as degrees, since the column's other altitudes run from 35° 2½′ down to 2° 20′ through them; the other figures, printed without unit marks except the two double primes of *23 34 30″* and *23 34 45″*, are given as degrees and minutes. *hemiſphærij* can also be taken with *mediam ſui partem*, "half of its own hemisphere", rather than with *Horizontem*. *ſaltem* is given as "only".

2522

[1] From here to the end of the year, from codex V. [[1] Hinc vſque ad finem anni e codice V.][2523]

___[2524]

Declination of ⊙ [Declinatio ⊙]	Declination of ⊙ [Declinatio ⊙]	Altitude of ⊙ [Altit. ⊙]	Azimuth of ⊙, to be counted from the east to the south [Azim. ⊙ ab] [ortu in Mer.] [numerand.]	Re-mark
23° 30⅚′	twice with one, because with the other [it] could not [bis vno quia] [altero non potuit]	11° 50′	114° 35′	
23° 30¾′	with only a single pinnule [vnico tantum] [pinnac.]	13° 48′	111° 40′	
23° 30½′	23° 30¾′	16° 27½′	107° 45′	
23° 29⅚′	23° 30¼′	19° 57′	102° 40′	
23° 30⅓′	23° 29⅚′	22° 44′	99° 3′	
23° 29½′	23° 30⅓′	25° 36′	94° 35′	
23° 30¼′	23° 29½′	32° 10′	84° 50′	

2525

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	57° 35′ 30″	
		25″	or [vel]
	by the revolving [quadrant] [per Volub.]	57° 35′ 45″	

[2522]"Remark" is this edition's head; the other heads are the page's. *Declinatio* ⊙ is printed once, centred over the first two columns, and is repeated over both here; the page does not say what distinguishes the two declination columns. The azimuth head runs over three lines, its last line *numerand.* level with the first row of figures, which has no azimuth. The second row has no second declination. The two lines *altero non poterat accipi.* and *Hic lignum interpoſitum …* are printed as lines of their own between the rows, and are given as rows of their own where they stand. A brace to the right of the second declinations joins the fourth and fifth rows of the table; nothing is printed at its point. *vtroq.* stands directly after the first declination of its row, in the place of the second. The figures, printed without unit marks, are given as degrees and minutes.

[2523]The page ends at *23 31 23 31½ 11 17 115 25* at the foot of the right column; the lower part of the page below the footnote is blank.

[2524]The left column opens with no heading and no column heads: its first seven rows continue the 12 June morning table from the foot of p. 334, whose heads are repeated over them here.

[2525]"Remark" is this edition's head; the other heads are the ones printed over this table on p. 334, where *Declinatio* ⊙ is printed once over the two declination columns. *bis vno quia altero non potuit* and *vnico tantum pinnac.* each stand in the place of the second declination of their row and run over two lines, the second line on its own with no figures; each is given whole on its row. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
	by the Tychonic [quadrant] [per Tych.,]	57° 36 1/12′	with the new [nouo]
		57° 35⅚′	with the old [veteri]

2526

The steel and the revolving quadrant gave, as can be seen, the same altitude of ⊙ as yesterday, 11 June. [Quadrans Chalybeus &Volubilis da-] [bant, vt videre eſt, eandem ⊙ altitudi-] [nem quam heſterno die 11 Junij.]

Reading	Instrument	Value	Re-mark
Declination of ⊙ [Decl. ⊙]	by the greater armillae [per Armillas] [maiores]	23° 29⅚′	
		23° 30′	

2527

[It] was sufficiently clear. [Erat ſatis ſerenum.]

The same day, 12 [June], afternoon [Eodem die 12 P. M. diem.]

Declination of ⊙ [Declin. ⊙]	Declination of ⊙ [Declin. ⊙]	Altitude of ⊙ by the revolving [quadrant] [Altit. ⊙] [per Volub.]	Azimuth of ⊙ from the meridian, from the west [Azim. ⊙] [a Mer. a occ.]	Remark
23° 29½′	23° 29⅓′	28° 1¾′	91° 5′	
23° 29½′	23° 29⅓′	26° 57½′	92° 45′	
23° 29½′	23° 29⅓′	20¾°		by the lesser quadrant [per Q. Min.]
23° 29⅔′	23° 29⅚′	20 1/12°		by the lesser quadrant [per Q. Min.]
23° 30′	with both [vtroq.]	17°		by the lesser quadrant [per Q. Min.]
23° 30⅓′	23° 30⅙′	15⅙°		
23° 30¼′	23° 30⅓′	14° 0′		by the steel [quadrant] [per Chalyb.]

2526 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* stands on one line; the label and the instrument are given in their own columns. *vel* stands before the figures, and *25* stands alone in the place of the seconds under the *30* of the line above; it is given as seconds, and no degrees or minutes are printed with it. *per Tych.,* is printed with a point and a comma. *nouo* stands between the instrument and the figures; *veteri* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees, minutes and seconds.

2527 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The instrument *per Armillas maiores* runs over two lines, *maiores* standing under *per Armillas* on the line of the second value; it is given whole on the first row. The figures, printed without unit marks, are given as degrees and minutes.

Declination of ⊙ [Declin. ⊙]	Declination of ⊙ [Declin. ⊙]	Altitude of ⊙ by the revolving [quadrant] [Altit. ⊙] [per Volub.]	Azimuth of ⊙ from the meridian, from the west [Azim. ⊙] [a Mer. a occ.]	Remark
23° 30¼′	23° 30⅓′	13° 20′		
				N. B. On this day the air was purer, and ⊙ freer from vapours, than yesterday. [N. B. Hoc die erat aër purior, & a va-] [poribus liberior ⊙ quam heſterno die.]
23° 30⅝′	23° 30½′	12° 40′		
23° 30⅔′	23° 31⅓′	11⅙°		
23° 32′	23° 31⅓′	9¼°		
23° 32′	23° 32½′	8° 0′		by the lesser quadrant [per Q. min.]
23° 32⅓′	23° 33′	6° 45′		
23° 33½′	23° 33⅔′	6° 10′		
23° 34¼′	23° 33⅝′	5° 40′		
23° 34⅝′	23° 34¼′	5° 15′		
23° 35⅙′	23° 35½′	4° 50′		
23° 35⅝′		4° 30′		

2528

On 13 June, morning [DIE 13 JUNIJ, MANE.]

Declination of ⊙ [Declinatio ⊙]	Declination of ⊙ [Declinatio ⊙]	Altitude of ⊙ [Altit. ⊙]	Azimuth of ⊙ from the east to the south [Azim. ⊙ ab] [ortu ad Mer.]	Remark
23° 31½′	23° 32⅙′	9° 55¾′		
23° 31⅙′	23° 32′	10° 30⅝′	116° 35′	
23° 31⅙′	23° 31¾′	11° 31¼′	115° 0′	

2528 "Remark" is this edition's head; the other heads are the page's. *Declin.* ⊙ is printed once, centred over the first two columns, and is repeated over both here. The azimuth head prints *a Mer. a occ.*, "from the meridian, from the west"; the head of the 11 June afternoon table on p. 334 prints *a Mer. ad occ.*, "from the meridian toward the west"; *a Mer.* can also be read "from the south". *P. M. diem* in the heading is taken as *post meridiem*, "afternoon". *Q. Min.* / *Q. min.* is given as "the lesser quadrant", following the letters printed; *Min.* can also be expanded *Minimum*, "the least quadrant". The instrument labels stand after the altitude on their rows, in the place of the azimuth. *vtroq.* stands directly after the first declination of its row, in the place of the second; the last row has no second declination. Only the first two rows carry an azimuth. The *N. B.* sentence is printed as two lines of its own between the rows and is given as a row of its own where it stands; *liberior* may also be taken with *aër*, "the air was purer and freer from vapours than yesterday", with ⊙ then standing outside the comparison. The altitudes printed as a single figure with or without a fraction (*20¾*, *20 1/12*, *17*, *15⅙*, *11⅙*, *9¼*) are given as degrees, since the column's other altitudes run from 28° 1¾′ down to 4° 30′ through them; the other figures, printed without unit marks, are given as degrees and minutes.

Declination of ⊙ [Declinatio ⊙]	Declination of ⊙ [Declinatio ⊙]	Altitude of ⊙ [Altit. ⊙]	Azimuth of ⊙ from the east to the south [Azim. ⊙ ab] [ortu ad Mer.]	Remark
23° 31⅔′	with one pinnule [vno pin.]	11° 57½′	114° 20′	
				With the other [it] could not be taken. [altero non poterat accipi.]
23° 30′		12° 40½′	113° 25′	
23° 31⅓′	23° 32′	13° 47½′	112° 0′	
23° 31′	23° 30½′	14° 30½′	111° 0½′	
23° 31⅓′	23° 31¾′	15° 46′	108° 40½′	
23° 30′	23° 30¾′	16° 57′	107° 0′	
23° 29½′	23° 30′	19° 3¾′	103° 55′	
23° 29½′	23° 30′	21° 10′	100° 53′	
23° 29⅓′	23° 30′	22° 9′	99° 28′	

2529

On 14 June, evening [DIE 14 JUNIJ, VESPERI.]

Declination of ⊙ [Declinatio ⊙]	Declination of ⊙ [Declinatio ⊙]	Altitude of ⊙ [Altit. ⊙]	Remark
23° 28′	23° 27⅚′	17° 0′	by the lesser quadrant [per Q. min.]
23° 28′	23° 28⅔′	15° 30¾′	[It] was not very clear [Non erat] [bene] [ferenum]
23° 28′	23° 28½′	15° 0′	
23° 30′	23° 29¼′	10⅙°	

2530

2529 "Remark" is this edition's head; the other heads are the page's. *Declinatio* ⊙ is printed once, centred over the first two columns, and is repeated over both here. The azimuth head runs over two lines. The first two rows stand at the foot of the left column under the heads; the other rows stand at the head of the right column under no heading. The first row has no azimuth; the row after *altero non poterat accipi.* has no second declination. *vno pin.* stands directly after the first declination of its row, in the place of the second. The line *altero non poterat accipi.* is printed as a line of its own between the rows and is given as a row of its own where it stands. The figures, printed without unit marks, are given as degrees and minutes.

2530 "Remark" is this edition's head; the other heads are the page's. *Declinatio* ⊙ is printed once, centred over the first two columns, and is repeated over both here. The page prints no azimuth for these rows. *per Q. min.* follows the altitude on the first row; *Min.* can also be expanded *Minor*, "the lesser quadrant". *Non erat bene ſerenum* is printed over three lines beside the altitudes of the second, third and fourth rows, one word-group to a row, with no brace; it is given whole on the second row. The altitude *10⅙*, printed as a single figure with a fraction, is given as degrees, since the column's other altitudes run from 17° 0′ to 15° 0′; the other figures, printed without unit marks, are given as degrees and minutes.

On 16 June [DIE 16 JUNIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	57° 31½′	
	by the steel [quadrant] [per Chalyb.]	57° 31′ 25″	
	by the Tychonic [quadrant] [per Tychon.,]	57° 31′	with the old [vet.]
		57° 31⅓′	with the new pinnule [nouo pin.]
Declination of ⊙ [Declin. ⊙]	by the greater armillae [per] [Armill. maior.]	23° 25′ 15″	
		23° 25′ 30″	

2531

[It] was sufficiently clear. [Erat ſatis ſerenum.]

On 17 June [DIE 17 JUNIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	57° 29′	
	by the revolving [quadrant] [per Volub.]	57° 29½′	
	by the Tychonic [quadrant] [per Tychon.,]	57° 29′	with the old [vet.]
		57° 29½′	with the new [nouo]
Declination of ⊙ [Declin. ⊙]	by the greater subterranean armillae [per Armillas mai.] [ſubterraneas]	23° 23¾′	
		23° 23½′	

2532

[It] was sufficiently clear. [Erat ſatis ſerenum.]

2531 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Volub.* stands on one line; the label and the instrument are given in their own columns. *per Tychon.,* is printed with a point and a comma. *vet.* stands between the instrument and the figures; *nouo pin.* stands directly before its figures with no label at the left. *Declin. ⊙ per / Armill. maior.* runs over two lines, each line with its own figures; the instrument is given whole on the first row. The figures, printed without unit marks, are given as degrees and minutes, or degrees, minutes and seconds where three groups are printed.

2532 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Declin. ⊙ per Armillas mai.* each stand on one line; label and instrument are given in their own columns. *ſubterraneas* stands under *per Armillas mai.* on the line of the second value; the instrument is given whole on the first row. *per Tychon.,* is printed with a point and a comma. *vet.* stands between the instrument and the figures; *nouo* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

On 18 June [DIE 18 JUNIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	57° 26⅓′	
	by the Tychonic [quadrant] [per Tychon.]	57° 26¼′	with the old [vet.]
		57° 26¾′	with the new [nouo]
Declination of ⊙ [Declin. ⊙]	by the subterranean armillae [per Armillas] [ſubterraneas]	23° 21′	
		23° 20⅚′	with the other [alt.]

[2533]

[It] was very clear. [Erat bene ſerenum.]

On 20 June [DIE 20 JUNIJ.]

A little before the twelfth midday [hour] the declination of ⊙ was observed, 23° 15′, by the greater subterranean armillae; with the other, 23° 14¼′. ⊙ was afterwards covered by clouds; therefore the altitude could not be observed. [Paulo ante duodecimam meridia-] [nam obſeruabatur ⊙ declin. 23 15] [per Armill. mai. ſubterr. alt. 23 14¼] [⊙ poſtea tegebatur nubibus, idcirco] [altitudo non poterat obſeruari.][2534]

On 22 June [DIE 22 JUNIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	57° 12¼′	
	by the steel [quadrant] [per Chalyb.]	57° 12⅙′	
	by the Tychonic [quadrant] [per Tychon.]	57° 11¾′	with the new [nouo]
		57° 12′	with the old pinnule [vet. pin.]
Declination of ⊙ [Declin. ⊙]	by the greater armillae [per Arm. mai.]	23° 6¼′	

[2533] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid. per Chalyb.* and *Declin. ⊙ per Armillas* each stand on one line; label and instrument are given in their own columns. *ſubterraneas* stands under *per Armillas* on the line of the second value; the instrument is given whole on the first row. *per Tychon.* is printed with a point and no comma. *vet.* stands between the instrument and the figures; *nouo* and *alt.* stand directly before their figures. The figures, printed without unit marks, are given as degrees and minutes.

[2534] The figures *23 15* and *23 14¼*, printed without unit marks, are given as degrees and minutes. *alt.* is given as "with the other", as in the armillae readings above.

Reading	Instrument	Value	Remark
		23° 5½′	with the other [alt.]

2535

On 26 June [DIE 26 JUNIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	56° 50¾′	
	by the steel [quadrant] [per Chalyb.]	56° 50⅓′	
Declination of ⊙ [Declin. ⊙]	by the subterranean armillae [per Arm. ſubterr.]	22° 45½′	
		22° 46′	with the other pinnule [alt. pin.]

2536

On 3 July [DIE 3 JULIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]		56° 0′	with the new [nouo]
	by the Tychonic [quadrant] [per Tychon.,]	55° 59⅔′	with the old [vet.]
	by the revolving [quadrant] [per Volub.]	55° 59½′	
Declination of ⊙ [Declin. ⊙]	by the greater armillae [per Armill. mai.]	22° 5′	
		22° 6′	with the other pinnule [alt. pin.]

2537

2535 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *nouo* stands between the instrument and the figures; *vet. pin.* and *alt.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2536 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *alt. pin.* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2537 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands with no instrument on its line, *nouo* and the figures standing at the right of it; *per Tychon.,* (with a point and a comma) stands on the line below, with *vet.* and its figures. The page does not name an instrument for the first value. *alt. pin.* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

[It] was very clear. [Erat bene ſerenum.]

On 10 July [DIE 10 JULIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	54° 49′ 55″	
	by the Tychonic [quadrant] [per Tychon.,]	54° 49′ 50″	with the new [nouo]
		54° 50′ 10″	with the old [vet.]
Declination of ⊙ [Decl. ⊙]	by the subterranean armillae [per Armill.] [ſubterr.]	20° 45½′	
		20° 45′	with the other pinnule [alt. pin.]

2538

On 19 July [DIE 19 JULIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	52° 55′	
Declination of ⊙ [Declin. ⊙]	by the greater armillae [per Arm.] [maiores]	18° 50½′	
		18° 50′	with the other [altero]

2539

On 22 July [DIE 22 JULIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	52° 11½′	
	by the mural [quadrant] [per Muralem,]	51° 11⅓′	with the new [nouo]

2538 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *per Tychon.,* is printed with a point and a comma; *nouo* stands between the instrument and the figures, and *vet.* directly before its figures with no label at the left. *Decl.* ⊙ *per Armill.* / *ſubterr.* runs over two lines, *ſubterr.* standing at the left of the second value's line, with *alt. pin.* before its figures; the instrument is given whole on the first row. The altitudes, printed in three groups without unit marks, are given as degrees, minutes and seconds; the declinations as degrees and minutes.

2539 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Declin.* ⊙ *per Arm.* / *maiores* runs over two lines, *maiores* standing at the left of the second value's line, with *altero* before its figures; the instrument is given whole on the first row. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
		52° 11½′	with the old [vet.]
Declination of ⊙ [Declin. ⊙]	by the subterranean armillae [per Arm.] [ſubterr.]	18° 6⅓′	
		18° 5½′	

2540

[It] was moderately clear. [Erat mediocriter ſerenum.]

On 29 July [DIE 29 JULIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	50° 17¾′	
	by the Tychonic [quadrant] [per Tychon.,]	50° 18½′	with the new [nouo]
		50° 18⅔	with the old [vet.]
Declination of ⊙ [Declin. ⊙]	by the subterranean armillae [per Arm.] [ſubterr.]	16° 13⅓′	
		16° 12½′	with the other pinnule [alt. pin.]

2541

[It] was very clear. [Erat bene ſerenum.]

On 31 July [DIE 31 JULIJ.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	49° 43⅚′	
	by the Tychonic [quadrant] [per Tychon.]	49° 43¾′	

2540 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *per Muralem,* is printed with a comma; *nouo* stands between the instrument and the figures, and *vet.* directly before its figures with no label at the left. The value with the new is printed with 51 degrees, where the steel value above it and the value with the old below it are printed with 52 and the minutes of all three lie within ⅙′; the figure is given as printed. *Declin.* ⊙ *per Arm.* / *ſubterr.* runs over two lines, *ſubterr.* standing at the left of the second value's line with no word before its figures; the instrument is given whole on the first row. The figures, printed without unit marks, are given as degrees and minutes.

2541 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *per Tychon.,* is printed with a point and a comma; *nouo* stands between the instrument and the figures, and *vet.* directly before its figures with no label at the left. *Declin.* ⊙ *per Arm.* / *ſubterr.* runs over two lines, *ſubterr.* standing at the left of the second value's line, with *alt. pin.* before its figures; the instrument is given whole on the first row. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
		49° 44′	with the new [nouo]
Declination [Declin.]	by the greater armillae [per Armill. mai.]	15° 38½′	
		15° 38⅓′	

2542

On 2 August [DIE 2 AUGUSTI.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	49° 7½′	
	by the Tychonic [quadrant] [perTychon.,]	49° 8′	with only one [vno tantum]
Declination [Declin.]	by the subterranean armillae [per Arm. ſubterr.]	15° 3′	
		15° 2¼′	with the other pinnule [altero pin.]

2543

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

On 15 August [DIE 15 AUGUSTI.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	45° 15¼′	
	by the mural [quadrant] [per Mural.,]	45° 14⅚′	with the old [veteri]
		45° 15⅙′	with the new [nouo]

2542 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *Declin.* is printed here and in the entries below without ⊙. *per Tychon.* stands with its own figures and no word before them; *nouo* stands directly before its figures with no label at the left; the second declination has no word before it. The figures, printed without unit marks, are given as degrees and minutes.

2543 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *perTychon.,* is printed with little or no space after *per*, with a point and a comma; *vno tantum* stands between the instrument and the figures. *altero pin.* stands directly before its figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2544

On 16 August [DIE 16 AUGUSTI.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	44° 55′	
	by the Tychonic [quadrant] [per Tychon.]	44° 54⅙′	
		44° 54½′	with the new [nouo]
Declination [Declin.]	by the subterranean armillae [per Armill. ſubterr.]	10° 49½′	
		10° 49¾′	with the other [altero]

2545

[It] was not very clear. [Non erat bene ſerenum.]

On 23 August [DIE 23 AUGUSTI.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	42° 3⅓′	
		42° 3⅔′	with the other [altero]
	by the steel [quadrant] [per Chalyb.]	42° 3′	
Declination [Declin.]	by the greater armillae [per Armill. maior.]	7° 57¼′	
		7° 57⅔′	with the other pinnule [alt. pin.]

2546

2544 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *per Mural.,* is printed with a point and a comma; *veteri* stands between the instrument and the figures, and *nouo* directly before its figures with no label at the left. No declination is printed for this day. The figures, printed without unit marks, are given as degrees and minutes.

2545 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *per Tychon.* stands with its own figures and no word before them; *nouo* and *altero* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

2546 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *altero* and *alt. pin.* stand directly before their figures with no label at the left. The figures, printed without unit marks, are given as degrees and minutes.

On 2 September [DIE 2 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	38° 17½′	
Declination [Declin.]	by the subterranean armillae [per Armill. ſubterr.]	4° 12½′	

2547

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

On 4 September [DIE 4 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]			
	by the Tychonic [quadrant] [per Tych.,]	37° 30⅚′	with the old [vet.]
		37° 31⅙′	with the new [nouo]
	by the steel [quadrant] [per Chalyb.]	37° 31½′	
Declination [Declin.]	by the subterranean armillae [per Armill. ſubterr.]	3° 25½′	
		3° 25′	

2548

[It] was very clear. [Erat bene ſerenum.][2549]

On 5 September [DIE 5 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	37° 7⅚′	
		37° 8′	with the new [nouo]

[2547] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. The figures, printed without unit marks, are given as degrees and minutes.

[2548] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands alone on its line with no figures; the instruments and their values stand on the lines below it. *per Tych.,* is printed with a point and a comma; *vet.* stands between the instrument and the figures, and *nouo* directly before its figures with no label at the left; the second declination has no word before it. The figures, printed without unit marks, are given as degrees and minutes.

[2549] The page ends at *Erat bene ſerenum.* at the foot of both columns; the lower part of the page is blank.

Reading	Instrument	Value	Remark
	by the steel [quadrant] [per Chalyb.]	37° 8⅓′	
Declination [Declin.]	by the greater armillae [per Armill. maior.]	3° 2′	
		3° 2½′	with the other pinnule [alt. pin.]

2550

[It] was very clear. [Erat bene ſerenum.]

On 6 September [DIE 6 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	36° 45′	
	by the mural [quadrant] [per Mural.]	36° 44⅓′	
		36° 44⅚′	with the new [nouo]
Declination [Declin.]	by the subterranean armillae [per Armill. ſubterr.]	2° 40½′	
		2° 39′	

2551

[It] was sufficiently clear. [Erat ſatis ſerenum.]

On 8 September [DIE 8 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the mural [quadrant] [per Muralem]	35° 34½′	
		35° 35′	with the new [nouo]
	by the steel [quadrant] [per Chalyb.]	35° 35⅓′	
Declination [Declin.]	by the armillae [per Armill.]	1° 29½′	

2550 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *nouo* and *alt. pin.* stand directly before their figures with no label at the left. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

2551 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *per Mural.* stands with its own figures and no word before them; *nouo* stands directly before its figures with no label at the left; the second declination has no word before it. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
		1° 28⅓′	

2552

[It] was very clear. [Erat bene ſerenum.]

On 15 September [DIE 15 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	33° 13½′	
		33° 13¾′	with the new [nouo]
	by the steel [quadrant] [per Chalyb.]	33° 14′	
Declination [Declin.]	by the armillae [per Armillas]	0° 51½′	
		0° 52′	with the other pinnule [alt. pin.]

2553

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

On 27 September [DIE 27 SEPTEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]		28° 33⅙′	with the old [veteri]
	by the Tychonic [quadrant] [per Tychon.]	28° 33⅔′	with the new [nouo]
	by the steel [quadrant] [per Chalyb.]	28° 34⅚′	
Declination of ⊙ [Declin. ⊙]		5° 29¾′	
Repeated with the same pinnule (because the other was not in good order) [Eodem pinnacidio (quia alte-] [rum non bene ſe habe-] [bat) repetita]		5° 30¾′	

2552 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *per Muralem* is printed with no point or comma; *nouo* stands directly before its figures with no label at the left; the second declination has no word before it. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

2553 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *nouo* and *alt. pin.* stand directly before their figures with no label at the left. *Declin.* is printed without ⊙. The page prints the 0 of the degrees in both declinations. The figures, printed without unit marks, are given as degrees and minutes.

2554

[It] was moderately clear. [Erat mediocriter ſerenum.]

On 9 October [DIE 9 OCTOBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]		24° 3¼′	
	by the Tychonic [quadrant] [per Tychon.]	24° 3½′	
	by the steel [quadrant] [per Chalyb.]	24° 4⅝′	
Declination of ⊙ [Declin. ⊙]		10° 2′	
	by the subterranean armillae [per Armill. ſubterr.]	10° 2⅝′	

2555

[It] was moderately clear. [Erat mediocriter ſerenum.]

On 10 October [DIE 10 OCTOBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	23° 42½′	
		23° 43′	with the new [nouo]
	by the steel [quadrant] [per Chalyb.]	23° 43′	
Declination [Declin.]	by the greater armillae [per Armill. maior.]	10° 24′	
		10° 24½′	

2554 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands with no instrument on its line, *veteri* and the figures standing at the right of it; *per Tychon.* stands on the line below, with *nouo* and its figures. The page does not name an instrument for the first value; *veteri* and *nouo* may both belong with the Tychonic quadrant named on the second line. The declination line names no instrument. The remark *Eodem pinnacidio … repetita* runs over three lines, with the figures on the third line only; it is given whole on one row. *repetita* is feminine and may agree with the declination (the declination repeated) or stand alone (repeated). The figures, printed without unit marks, are given as degrees and minutes.

2555 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* and *Declin. ⊙* each stand with their first figures and no instrument on the line; the instruments stand on the lines below, each with its own figures. The page does not name an instrument for the first altitude or the first declination; the instrument on the line below the declination may cover both declination values. The figures, printed without unit marks, are given as degrees and minutes.

2556

[It] was moderately clear. [Erat mediocriter ſerenum.]

On 13 October [DIE 13 OCTOBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	22° 38′	
		22° 37½′	with the old [veteri]
	by the steel [quadrant] [per Chalyb.]	22° 39⅙′	
Declination [Declin.]	by the subterranean armillae [per Armill. ſubterr.]	11° 28′	
		11° 28⅔′	with the old [veteri]

2557

[It] was moderately clear. [Erat mediocriter ſerenum.]

On 23 October [DIE 23 OCTOBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	19° 16⅔′	
		19° 16⅚′	
	by the steel [quadrant] [per Chalyb.]	19° 17¾′	
Declination [Declin.]	by the armillae [per Armill.]	14° 48 1/12′	twice [bis]

2558

[It] was sufficiently clear. [Erat ſatis ſerenum.]

2556 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *nouo* stands directly before its figures with no label at the left; the second declination has no word before it. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

2557 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *veteri* stands directly before its figures with no label at the left, once under the altitude and once under the declination. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

2558 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. The second altitude has no word before it. *bis* stands between the instrument and the figures. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

On 28 October [DIE 28 OCTOBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	17° 46⅓′	
	by the mural [quadrant] [per Muralem,]	17° 44¾′	with the old [vet.]
		17° 45¼′	with the new [nouo]
Declination [Declin.]	by the subterranean armillae [per Armill. ſubterr.]	16° 20′	
		16° 20⅓′	with the new [nouo]

2559

[It] was sufficiently clear. [Erat ſatis ſerenum.]

On 6 November [DIE 6 NOUEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]		14° 48½′	with the new [nouo]
	by the Tychonic [quadrant] [per Tychon.]	14° 48′	
	by the steel [quadrant] [per Chalyb.]	14° 45½′	
Declination of ⊙ [Declin. ⊙]		19° 16¼′	
	by the subterranean armillae [per Armill. ſubterr.]	19° 17′	

2560

[It] was not sufficiently clear. [Non erat ſatis ſerenum.]

On 11 November [DIE 11 NOUEMBRIS.]

2559 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *per Muralem,* is printed with a comma; *vet.* stands between the instrument and the figures; *nouo* stands directly before its figures with no label at the left, once under the altitude and once under the declination. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

2560 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt.* ⊙ *Merid.* stands with no instrument on its line, *nouo* and the figures standing at the right of it; *per Tychon.* stands on the line below with its own figures. *Declin.* ⊙ stands with its first figures and no instrument; *per Armill. ſubterr.* stands on the line below with its own figures. The page does not name an instrument for the first altitude or the first declination; *nouo* may belong with the Tychonic quadrant named on the line below, and the instrument on the line below the declination may cover both declination values. The figures, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	14° 7½′	
		14° 7¾′	
	by the steel [quadrant] [per Chalyb.]	14° 8⅙′	
Declination [Declin.]		20° 2½′	uncertain [incerta]
	by the greatest armillae [per Armill. max.]	20° 2⅓′	

2561

[It] was moderately clear. [Erat mediocriter ſerenum.][2562]

On 14 November [DIE 14 NOUEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tych.]	13° 29⅔′
		13° 30′
	by the steel [quadrant] [per Chalyb.]	13° 31½′
Declination [Decl.]	by the greater armillae [per Armill. maiores]	20° 36⅙′
		20° 36′

2563

[It] was very clear. [Erat bene ſerenum.]

On 17 November [DIE 17 NOUEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	12° 56⅔′
	by the Tychonic [quadrant] [per Tych.]	12° 55′
		12° 55½′
Declination [Decl.]	by the subterranean armillae [per Armill. ſubterr.]	21° 10′
		21° 10¼′

[2561] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. The second altitude has no word before it. *Declin.* is printed without ⊙ and with no instrument on its line; *incerta* stands after its figures; *per Armill. max.* stands on the line below with its own figures. The page does not name an instrument for the first declination; the instrument on the line below may cover both declination values. *incerta* is feminine and agrees with the declination; it stands on the first declination's line only. The figures, printed without unit marks, are given as degrees and minutes.

[2562] The page ends at *Erat mediocriter ſerenum.* at the foot of both columns; the signature stands below them and the lower part of the page is blank.

[2563] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. The second altitude and the second declination have no word before them. *Decl.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

2564

[It] was moderately clear. [Erat mediocriter ſerenum.]

On 20 November [DIE 20 NOUEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]			
	by the Tychonic [quadrant] [per Tych.]	12° 24⅓′	with only the old [veteri tantum]
	by the steel [quadrant] [per Chalyb.]	12° 25′ 35″	
	by the revolving [quadrant], rectified again [per Volub. denuo] [rectificatum]	12° 25′ 25″	
Declination [Declin.]	by the armillae [per Armillas]	21° 41⅓′	
		21° 41′	

2565

[It] was moderately clear. [Erat mediocriter ſerenum.]

After the revolving Quadrant had been rectified again, covered with new brass, with the steel [quadrant] moreover corrected and also showing more exact observations than before. [Poſt denuo rectificatum Quadrantem] [Volubilem nouo Orichalco obductum,] [correcto inſuper Chalybeo & etiam ex-] [actiores obſeruationes quam antea ex-] [hibente.][2566]

On 21 November [DIE 21 NOUEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tych.]	12° 15′
	by the revolving [quadrant] [per Volub.]	12° 16′
	by the steel [quadrant] [per Chalyb.]	12° 15⅚′
Declination [Declin.]	by the armillae [per Armill.]	21° 50′
		21° 50⅓′

[2564] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. The third altitude and the second declination have no word before them. *Decl.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

[2565] "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands alone on its line with no figures; the instruments and their values stand on the lines below it. *veteri tantum* stands between the instrument and the figures. *per Volub. denuo / rectificatum* runs over two lines, the figures standing on the second; the instrument is given whole on one row. The second declination has no word before it. *Declin.* is printed without ⊙. The altitudes by the steel and the revolving quadrants, printed in three groups without unit marks, are given as degrees, minutes and seconds; the other figures as degrees and minutes.

[2566] The paragraph is printed with no main verb and is given so. *exhibente* agrees with *Chalybeo*, the steel quadrant.

2567

[It] was not sufficiently clear. [Non erat satis serenum.]

On 23 November [DIE 23 NOUEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	11° 58⅚′	
	by the revolving [quadrant] [per Volub.]	11° 58⅔′	
	by the mural [quadrant] [per Mural.]	11° 57′ 25″	
Declination [Declin.]	by the armillae [per Armill.]	22° 6⅔′	
		22° 7′	with the other pinnule [alt. pin.]

2568

[It] was very clear. [Erat bene serenum.]

On 24 November [DIE 24 NOUEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the Tychonic [quadrant] [per Tychon.]	11° 49⅓′
	by the revolving [quadrant] [per Volub.]	11° 50½′
	by the sextant [per Sextant.]	11° 50¾′
	by the steel [quadrant] [per Chalyb.]	11° 50⅔′
Declination [Declin.]	by the armillae [per Armillas]	23° 44⅓′
		23° 44½′

2569

[It] was sufficiently clear. [Erat satis serenum.]

2567 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. The second declination has no word before it. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

2568 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *alt. pin.* stands directly before its figures with no label at the left. *Declin.* is printed without ⊙. The altitude by the mural quadrant, printed in three groups without unit marks, is given as degrees, minutes and seconds; the other figures as degrees and minutes.

2569 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The entry runs across the column break: the first two altitudes stand at the foot of the left column, and the sextant and steel values, the declinations and the weather line at the head of the right column, with no heading. Each label and its instrument stand on one line and are given in their own columns. The second declination has no word before it. *Declin.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes. The declinations *23 44⅓* and *23 44½* stand about 1° 38′ above those of 23 November (*22 6⅔*, *22 7*) on the same page; they are given as printed.

On 29 November [DIE 29 NOUEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]			
	by the rectified revolving [quadrant] [per Volub. rectificat.]	11° 16′ 5″	
	by the steel quadrant [per Q. Chalyb.]	11° 16′ 15″	
	by the new sextant [per Sext. nouum]	11° 16′ 0″	
	by the Tychonic quadrant [per Q. Tych.]	11° 15′	nearly [fere]
Declination of ⊙ [Declin. ⊙]	by the subterranean armillae [per Armill.] [ſubterr.]	29° 48′ 50″	
		29° 49′ 15″	

2570

At noon [it] was very clear. [Erat in Meridie bene ſerenum.]

On 3 December [DIE 3 DECEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	10° 57⅙′
	by the revolving [quadrant] [per Volub.]	10° 57′ 25″
	by the sextant [per Sext.]	10° 57¼′
	by the mural [quadrant] [per Muralem]	10° 55⅚′
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armillas]	23° 9′
		23° 9⅙′

2571

[It] was sufficiently clear. [Erat ſatis ſerenum.]

On 4 December [DIE 4 DECEMBRIS.]

2570 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. *Alt. ⊙ Merid.* stands alone on its line with no figures; the instruments and their values stand on the lines below it. *fere* is set in smaller type after the minutes, in the place of the seconds. *Declin. ⊙ per Armill. / ſubterr.* runs over two lines, *ſubterr.* standing at the left of the second value's line with no other word before its figures; the instrument is given whole on the first row. The figures printed in three groups without unit marks are given as degrees, minutes and seconds; *11 15 fere* as degrees and minutes. The declinations *29 48 50* and *29 49 15* stand far above those printed on the days before and after (23 November *22 6⅔*; 3 December *23 9*) and above any declination of ⊙; they are given as printed.

2571 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. The second declination has no word before it. The altitude by the revolving quadrant, printed in three groups without unit marks, is given as degrees, minutes and seconds; the other figures as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the mural [quadrant] [per Mural.]	10° 52′
	by the steel [quadrant] [per Chalyb.]	10° 53⅔′
	by the revolving [quadrant] [per Volub.]	10° 54′
	by the sextant [per Sextant.]	10° 54′
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armill.]	23° 12⅔′
		23° 12½′

2572

[It] was moderately clear. [Erat mediocriter ſerenum.]

On 15 December [DIE 15 DECEMBRIS.]

Reading	Instrument	Value	Remark
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the revolving [quadrant] [per Volub.]	10° 44⅚′	
			good [bona]
	by the steel [quadrant] [per Chalyb.]	10° 44¾′	
Declination of ⊙ [Declin. ⊙]	by the armillae [per Armill.]	23° 22⅔′	
		23° 22½′	
Repeated declination [Repetita declin.]		23° 22½′	
		23° 22′	

2573

[It] was very clear. [Erat bene ſerenum.]

For finding the refraction [Pro inuenienda refractione]

Reading	Value
Place of ⊙ [Locus ⊙]	3° 46′ 12″ ♌
Declination, south [Declin. M.]	23° 28′ 16″
Observed altitude [Altit. obſeruata]	10° 44′ 50″

2572 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. The second declination has no word before it. The figures, printed without unit marks, are given as degrees and minutes.

2573 "Reading", "Instrument", "Value" and "Remark" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. *bona* stands alone on its own line, at the right below the first altitude and above the steel value; it is given on its own row, as printed, and the page does not tie it to either value. The second value under each declination label has no word before it. The figures, printed without unit marks, are given as degrees and minutes.

2574

2575

___2576

Reading	Value
Parallax [Parallaxis]	3′ 3″
	10° 47′ 53″
	34° 5′ 15″
Declination of ⊙ from the centre of the Earth [Decl. ⊙ e centro terræ]	23° 17′ 22″
True declination of ⊙ [Declin. vera ⊙]	23° 28′ 16″
Resulting refraction [Refractio proueniens]	10′ 54″

2577

On 16 December [DIE 16 DECEMBRIS.]

Reading	Instrument	Value
Meridian altitude of ⊙ [Alt. ⊙ Merid.]	by the steel [quadrant] [per Chalyb.]	10° 46′
	by the revolving [quadrant] [per Volub.]	10° 46⅙′
Declination [Decl.]	by the greatest armillae [per Armill. maxim.]	23° 20′
		23° 19⅚′

2578

[It] was moderately clear. [Erat mediocriter ſerenum.]

Observations of the Moon [OBSERUATIONES LUNÆ.]

On 7 September, p.m.[1] [DIE 7 SEPTEMBRIS P. M.[1]]

The assigned time is doubtful. [Tempus aßignatum dubium eſt.]

2574 "Reading" and "Value" are this edition's heads; the page prints none. The place of ⊙ is printed with degree, minute and second marks and the sign ♍; the declination and the altitude, printed in three groups without unit marks, are given as degrees, minutes and seconds.

2575 The page ends at *Altit. obſeruata 10 44 50* at the foot of the right column, the left column ending at the 24 November altitude by the revolving quadrant; the lower part of the page is blank.

2576 The first six lines of this page carry on the lines under "For finding the refraction" at the foot of p. 338, with no heading of their own.

2577 "Reading" and "Value" are this edition's heads; the page prints none. The parallax is printed with minute and second marks. The second and third figures have no word before them. The figures printed in three groups without unit marks are given as degrees, minutes and seconds; *10 54*, set in the minutes and seconds places, is given as minutes and seconds, which the page's own figures fix (23° 28′ 16″ less 23° 17′ 22″).

2578 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each label and its instrument stand on one line and are given in their own columns. The second declination has no word before it. *Decl.* is printed without ⊙. The figures, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
6^h 7^m [H. 6 7′]	Meridian altitude [Altit. meridiana]	
	of the upper horn of ☾ [ſuperioris cornu ☾]	14° 13⅚′
	of the lower horn [inferioris cornu]	13° 44½′
	Diameter	29⅓′

2579

However, [it] had passed the meridian a little, by about half a degree or two thirds, since because of clouds [it] could not be observed before. [Erat tamen paululum prætergreßa] [meridianum circiter dimidium gra-] [dum aut duas tertias, cum propter] [nubes ante obſeruari non potuit.]

Reading	Value
Southern declination [Declinatio auſtrina]	19° 52′
of the upper horn [ſuperioris cornu]	19° 55¼′
of the lower horn [inferioris cornu]	20° 23′
	20° 23⅔′
Diameter	0° 29¼′

2580

Declination of the centre of ☾ *20° 8′,* from the altitude 20° 6′. [*Declin. centri* ☾ *20° 8′,* ex altitudine] [20° 6′.]

But the sky was covered with rather dense clouds. [Sed erat cœlum denſiuſ-culis obtec-] [tum nubibus.]

N. B. ☾ was then near the Winter Tropic and in the first quadrature, and therefore its parallax of altitude will be able to be gathered from this and compared with the reckonings of Ptolemy and Copernicus. [N. B. Erat tunc ☾ prope Tropicum hy-] [bernum & in quadratura prima, ideo-] [que eius parallaxis altitudinis hinc col-] [ligi poterit & conferri cum rationibus] [Ptolemæi & Copernici.][2581]

Longitude from Magini's ephemerides 26° 48′ ♐, *latitude 4° 1′* north. [*Long. ex Eph. Magini* 26 *48* ♐, *Lat.*] [*4° 1′* S.][2582]

[2579] "Time", "Reading" and "Value" are this edition's heads; the page prints none. *Altit. meridiana* stands on the line of the time, with no figures; the horns and the diameter stand indented below it. The time is printed with *H.* and a minute mark. The diameter, a single figure with a fraction set in the minutes place, is given as minutes, which the page's own figures fix (14° 13⅚′ less 13° 44½′); the other figures, printed without unit marks, as degrees and minutes.

[2580] "Reading" and "Value" are this edition's heads; the page prints none. *19 52* stands on the line of *Declinatio auſtrina*; the horns and the diameter stand indented below, and the page names no horn for *19 52*. The second value under the lower horn has no word before it. The figures, printed without unit marks, are given as degrees and minutes.

[2581] *rationibus* is given as "reckonings"; "methods" or "theories" are other renderings.

[2582] The line is italic except *26* and *S.*, which are upright. *26 48*, printed without unit marks before the sign ♐, is given as degrees and minutes. *S.* after the latitude is given as "north" (*Septentrionalis*); the page prints only the letter.

On the same day, in the evening; the times here have been corrected. [Eodem die veſperi; tempora hic ſunt] [correcta.]

Time	Reading	Instrument	Value
7^h $51\frac{1}{6}^m$	Declination [Declin.]		
	of the upper horn of ☾ [ſuperioris cornu ☾]		20° 5½′
	of the lower horn [inferioris cornu]		20° 34½′
	Altitude of the upper horn of ☾ [Altit. ſuper. cornu ☾]		11° 24′
8^h 3^m 36^s [8 3′36″]	the western limb of ☾ was distant from the Vulture [diſtabat occid. limb. ☾] [a Vulture]	by the sextant [per Sext.]	37° 1′
	Altitude of the upper horn of ☾ [Alt. ſuper. cornu ☾]		11° 10′ 40″
8^h 8^m 50^s	Distance of the Vulture from the western limb [Vult. diſt. ab] [occ. limb.]		36° 59′
	Altitude of the upper horn of ☾ [Altit. ſuper. cornu ☾]		10° 15′
8^h 14^m 26^s	The Vulture, west [Vultur occid.]		5° 57½′
	Between the western limb and the Vulture [Inter occ. limb. & Vult.]		36° 57⅙′
	Altitude of the upper horn of ☾ [Alt. ſuper. cornu ☾]		9° 55′
8^h $20\frac{1}{3}^m$	The Vulture, west [Vultur occid.]		7° 26′
	The same distance of the Vulture [Eadem diſt. Vult.]		36° 55⅓′
	Altitude of the upper horn of ☾ [Alt. ſuper. cornu ☾]		9° 33⅚′

2583

For the parallax of ☾ [Pro Parallaxi ☾.]

Reading	Value	Remark
Altitude of the centre of ☾ [*Altit. centri* ☾]	*13° 59½′*	*at most* [*ad ſummum*]
Refraction subtracts [*Refractio ſubtrahit*]	*10′*	*at most* [*ad ſummum*]
True altitude [*Vera altitudo*]	*13° 50′*	
Altitude of the equator [*Altit. æquatoris*]	*34° 5′*	
True declination [*Vera declin.*]	*20° 15′*	

2583 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The entry runs across the column break: the rows to the distance *36 59* stand at the foot of the left column, and the rows from the altitude *10 15* at the head of the right column, with no heading. *Declin.* stands on the line of the time, with no figures; the horns stand indented below it. The label *diſtabat occid. limb. ☾ / a Vulture per Sext.* runs over two lines, the time on the first and the figures on the second, and is given whole on one row; so too *Vult. diſt. ab / occ. limb. Vult.* may stand for *Vultur* or *Vulturis*; "of the Vulture" is given, "the Vulture's distance" being the same sense. The second time is printed with minute and second marks and given as hours, minutes and seconds; the other times, printed as bare figures, as hours, minutes and seconds where three groups are printed and as hours and minutes where two are. *11 10 40*, printed in three groups without unit marks, is given as degrees, minutes and seconds; the other values as degrees and minutes. The altitudes of the upper horn stand, in page order, at 11° 24′, 11° 10′ 40″, 10° 15′, 9° 55′ and 9° 33⅚′; the step from 11° 10′ 40″ to 10° 15′ is more than twice either step after it. They are given as printed.

Reading	Value	Remark
Declination from the calculation [*Decl. ex calculo*]	*19° 28′*	
Parallax of ☾ [*Parallaxis* ☾]	*0° 47′*	

2584

And such a parallax of ☾ *can be, according to Copernicus, only at its greatest distance from the Earth; but the latitude of* ☾ *is not right, because the greatest [latitude] is assumed [as] only 5° 0′; then the true latitude of* ☾ *would come out [as] 4° 13′, and consequently its declination would be 19° 16′.* [*Atque talis Parallaxis* ☾ *poteſt apud*] [*Copernicum eßе ſaltem in maxima*] [*eius a terris remotione, verum lati–*] [*tudo* ☾ *non recte ſe habet, quia aßu–*] [*mitur maxima ſaltem 5 0, tunc vera*] [*latitudo* ☾ *euaderet p. 4 M. 13, & per*] [*conſequens declin. eius eßet p. 19*] [*M. 16.*][2585]

Therefore the examination will be of this kind. [*Ergo examinatio erit eiuscemodi.*]

Reading	Value
True declination observed [*Vera declin. obſeruata*]	*20° 15′*
Declination from the calculation [*Declin. ex calculo*]	*19° 16′*
Truer parallax [*Parallaxis verior*]	*0° 59′*

2586

Which agrees more correctly with Copernicus. [*Quod rectius cum Copernico con–*] [*ſentit.*]

On 8 September[1] [DIE 8 SEPTEMBRIS[1].]

Time	Reading	Instrument	Value
$7^h\ 3^m$ [H. 7 3′]	The western limb of ☾ passed through the meridian and had an altitude [Tranſiuit occid. limbus ☾ per] [Merid. habuitque alt.]	by the steel [quadrant] [per Chalyb.]	
	Upper horn [Super. cornu]		13° 50⅙′
	Lower horn [Infer. cornu]		13° 19⅚′

[2584] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The lines are italic; *ad ſummum* stands after the figures of the first two lines, in smaller type. The refraction, a single figure set in the minutes place, is given as minutes; the other figures, printed without unit marks, as degrees and minutes. The altitude of the centre less the refraction, 13° 59½′ less 10′, gives 13° 49½′; the true altitude is printed *13 50*. Given as printed.

[2585] *ſaltem* is given twice as "only"; "at least" is the other sense. *apud Copernicum* is given as "according to Copernicus"; "in Copernicus" is the other rendering. *5 0*, printed without unit marks, is given as degrees and minutes, as the same sentence prints *p. 4 M. 13* and *p. 19 M. 16* with *p.* and *M.* for degrees and minutes.

[2586] "Reading" and "Value" are this edition's heads; the page prints none. The lines are italic. The figures, printed without unit marks, are given as degrees and minutes.

2587

[1] From codex V. [E codice V.]
___[2588]

Time	Reading	Value
	Southern declination of the upper [horn] [Declin. auſtrina ſuperioris]	20° 17½′
		20° 16⅔′
	of the lower [horn] [inferioris]	20° 46′
		20° 45⅓′
7^h $34⅔^m$	The Vulture, east [Vultur orient.]	3° 16⅙′
7^h 38^m	The Vulture, east [Vultur orient.]	2° 24⅔′

2589

The assigned times have been corrected. [Tempora aßignata ſunt correcta.]

On 7 October [DIE 7 OCTOBRIS.]

Time	Reading	Value
6^h $38⅔^m$ [H. 6 38⅔′]	The western limb of ☾ passed through the meridian, having an altitude [Tranſiuit occ. limb. ☾] [per Merid. habens altit.]	
	of the upper horn [ſuperioris cornu]	15° 58¼′
	of the lower [inferioris]	15° 26½′
	Diameter	0° 31¾′

2590

And the left shoulder of ♒ was then 8° 57′ east from the meridian, from which the time can be derived. [Fuitque tunc ſiniſter humerus ♒ a] [Merid. orientalis 8 57, vnde poteſt] [tempus elici.][2591]

[2587] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The sentence *Tranſiuit occid. limbus ☾ per / Merid. habuitque alt. per Chalyb.* runs over two lines with no figures and is given whole on one row. The time is printed with *H.* and a minute mark. The figures, printed without unit marks, are given as degrees and minutes.

[2588] The first seven lines of this page carry on the entry of 8 September from the foot of p. 339, with no heading of their own.

[2589] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The second value under each horn has no word before it; *cornu* is not printed on these lines. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2590] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The sentence *Tranſiuit occ. limb. ☾ / per Merid. habens altit.* runs over two lines with no figures and is given whole on one row. The time is printed with *H.* and a minute mark. The values, printed without unit marks, are given as degrees and minutes.

[2591] *8 57*, printed without unit marks, is given as degrees and minutes.

Time	Reading	Value
7^h $5⅓^m$	Declination of the upper horn of ☾ [Declin. ſuper. cornu ☾]	18° 36½′
7^h $7⅔^m$	of the lower [inferioris]	18° 6¼′
	Diameter	0° 30¼′

2592

Observations of Saturn [OBSERUATIONES SATURNI.]

On 29 January, in the evening [DIE 29 JANUARIJ, VESPERI.]

After the clock had been rectified, at $6½^h$ ♄ was observed against the stars, having departed not far beyond the meridian, [and] being nearly in □ with ☉, in the manner that follows. [Poſt rectificatum horologium hora] [6½ ad ſtellas obſeruabatur ♄ non mul-] [tum extra Meridianum digreßus in □] [fere ☉is exiſtens in hunc qui ſequitur] [modum.][2593]

Time [Tem-pus]	Between ♄ and the bright [star] of ♈ [Inter ♄ &] [lucid. ♈]	Declination, with one [Declinatio] [vno]	Declination, with the other pinnule [Declinatio] [alt. pin.]
6^h 32^m		16° 50½′	16° 50⅔′
6^h 55^m	24° 37′	16° 50½′	16° 50¼′
6^h 58^m	24° 37′		
	Between ♄ and the eye of ♉ [Inter ♄ & ocul. ♉]		
7^h 0^m	11° 4′		
7^h $0⅚^m$	11° 3½′		

2594

On 30 January, in the evening [DIE 30 JANUARIJ, VESPERI.]

Time	Reading	Instrument	Value
6^h $0½^m$ [H. 6 0½]	♄ passed the meridian, having an altitude [Tranſiuit ♄ Merid. habens alti-] [tudinem]	by the steel [quadrant] [per Chalyb.]	50° 55½′
		by the sextant [per Sext.]	50° 55⅔′

[2592] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2593] □ is the sign of quadrature. *ad ſtellas* is given as "against the stars"; "by the stars" is the other rendering. *fere* is taken with *in* □.

[2594] The heads are the page's, printed in smaller type over two lines. *Declinatio* is printed once, centred over the third and fourth columns, and is repeated here over each; *vno* and *alt. pin.* stand below it. *Inter ♄ & ocul.* ♉ is printed in smaller type on a line of its own between the rows, over the second column, and heads the distances below it. The times, printed as bare figures, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	Reading	Instrument	Value
		by the revolving [quadrant] [per Volub.]	50° 55′
		by the mural [quadrant] [per Mural.]	50° 56′

2595

On 27 March, in the evening [DIE 27 MARTIJ, VESPERI.]

Time	Reading	Instrument	Value
8^h 18^m [8 18′]	Declination of ♄ [Declin. ♄]		18° 3½′
		with the other pinnule [alt. pin.]	18° 3⅓′
	Altitude of ♄ [Altit. ♄]	by the lesser quadrant [per Q. min.]	17° 45′
8^h $21⅓^m$	Between ♄ and the eye of ♉ [Inter ♄ &] [oculum ♉]		7° 17′
8^h 22^m			7° 17′
8^h 23^m			7° 17½′
	Altitude of ♄ [Altit. ♄]		17° 10′

2596

The assigned times have been corrected. [Tempora aßignata ſunt correcta.]

On 28 October, in the evening[1] [DIE 28 OCTOBRIS, VESPERI[1].]

Time	Reading	Value
9^h 10^m [9 10′]	The eye of ♉ was from the meridian toward the east [Erat oculus ♉] [a Meridie ad orient.]	56° 50′
	♄ was then distant from the eye of ♉ [Diſtabat tunc ♄ ab oc. ♉]	9° 33¼′
	The declination of ♄ was [Declin. ♄ erat]	7° 24′
		7° 24⅙′
9^h $21⅓^m$	The eye of ♉ from the meridian toward the east [Oculus ♉ a Mer. ad ort.]	53° 39′
	Distance of ♄ from Aldebaran then [Diſt. tunc ♄ ab Aldeb.]	9° 33⅓′

2595 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The sentence runs over two lines, the time on the first and *tudinem per Chalyb.* with the first figures on the second; it is given whole on the first row. The time is printed with *H.*, without unit marks, and is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2596 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first time is printed with a minute mark. The label *Inter ♄ & / oculum ♉* runs over two lines, each with its own time and figures, and is given whole on the first row; the third distance has a time and figures with no word. *Q. min.* may stand for *minimum* ("least") or *minorem* ("lesser"); "lesser" is given, following the letters printed. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

Time	Reading	Value
	Declination of the eye of ♉ [Declin. oculi ♉]	20° 50′
		20° 50⅔′
9^h $24⅔^m$	The eye of ♉ from the meridian toward the east [Oculus ♉] [a Merid. ad ort.]	52° 35′
	Distance of ♄ from the eye of ♉ then [Diſt. tunc ♄ ab oculo ♉]	9° 33⅙′
9^h $29½^m$	Between the eye of ♉ and the upper head of ♊ [Inter oculum ♉ &] [ſuperius caput ♊]	33° 39′
9^h $30⅔^m$		33° 39′

2597

On 14 November [DIE 14 NOUEMBRIS.]

Time	Reading	Value
11^h 12^m [11 12′]	Aldebaran was east [Erat Aldebora orient.]	27° 3′
	The declination of ♄ was then, north [Declin. ♄ tunc erat Bor.]	20° 28⅚′
	with the other [alt.]	20° 29′

2598

Time	Between ♄ and Aldebaran [Inter ♄ & Aldeb.]	Aldebaran was east [Aldeb. erat or.]
11^h $18⅔^m$	8° 23¼′	25° 32′
11^h $22⅓^m$	8° 23¼′	24° 32′
11^h $25⅙^m$	8° 22½′	23° 56½′
11^h $27½^m$	8° 23¼′	23° 25′
11^h 31^m	…[2]	22° 40½′
	Between the upper horn of ♉ and ♄ [Inter ſuper. cornu ♉ & ♄]	
11^h $34⅔^m$	8° 53¼′	21° 48½′
11^h $37⅚^m$	8° 52⅚′	21° 8′

[2597] "Time", "Reading" and "Value" are this edition's heads; the page prints none. *Erat oculus* ♉ / *a Meridie ad orient.* and *Oculus* ♉ / *a Merid. ad ort.* each run over two lines, the time on the first and the figures on the second, and are given whole on one row. The label *Inter oculum* ♉ *&* / *ſuperius caput* ♊ runs over two lines, each with its own time and the same figures *33 39*, and is given whole on the first row. *oc.* is given as "the eye", after *oculus* on the line above. The first time is printed with a minute mark. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. The declination of ♄ on this day, 7° 24′ and 7° 24⅙′, stands far below the declinations of ♄ printed on this page for 29 January (16° 50½′), 27 March (18° 3½′) and 14 November (20° 28⅚′). On the page's own figures the declinations of ♄ and of the eye of ♉ differ by 13° 26′, more than the printed distance between them (9° 33′), so the three cannot all stand; all are given as printed.

[2598] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed with a minute mark. *alt.* stands directly before its figures; it may stand for *altero* ("with the other") or *altitudo* ("altitude"); "with the other" is given, as for the second declinations of this page. The values, printed without unit marks, are given as degrees and minutes.

Time	Between ♄ and Aldebaran [Inter ♄ & Aldeb.]	Aldebaran was east [Aldeb. erat or.]
$11^h\ 43\frac{1}{3}^m$	$8°\ 52\frac{3}{4}'$	the bright shoulder of Orion, east [Luc. hum.] [Or. or.] $40°\ 4\frac{1}{2}'$

2599

[1] From here to the end of the year from codex V. [Hinc usque ad finem anni e codice V.]

[2] In the codex: "Between ♄ and the bright [star] of the foot of Erichthonius", but the distance is missing. [In codice: »Inter ♄ & luc. ped. Erichtonij«, ſed diſtantia deeſt.][2600]

On 20 November, in the evening [DIE 20 NOUEMBRIS, VESPERI.]

Time	Reading	Value
$10^h\ 16\frac{1}{2}^m$	Declination of ♄, north [Declin. ♄ B.]	$20°\ 25'$
		$20°\ 24\frac{1}{4}'$
	Repeated declination [Repetita declin.]	$20°\ 25\frac{1}{6}'$
		$20°\ 24\frac{1}{4}'$
	Then the eye of ♉ was east [Tunc erat oculus ♉ or.]	$19°\ 35'$
$10^h\ 27\frac{5}{6}^m$	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	$7°\ 55\frac{2}{3}'$
$10^h\ 29^m$	The eye of ♉ from the meridian [Oculus ♉ a meridie]	$16°\ 46'$
$10^h\ 31^m$	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	$7°\ 56'$
	The eye of ♉ from the meridian [Oculus ♉ a meridie]	$16°\ 0'$
$10^h\ 34\frac{1}{2}^m$	Between ♄ and the northern horn of ♉ [Inter ♄ & Bor. cornu ♉]	$9°\ 9'$
	The eye of ♉ east from the meridian [Ocul. ♉ a mer. or.]	$15°\ 21'$
$10^h\ 36\frac{1}{3}^m$	Between ♄ and the northern horn of ♉, better [Inter ♄ & bor. cornu ♉,] [mel.]	$9°\ 8\frac{1}{3}'$
	The eye of ♉, east [Oculus ♉ orient.]	$14°\ 55'$

2601

[2599] The heads of the second and third columns are the page's, printed in smaller type; "Time" is this edition's head, the page printing nothing over the first column. *Inter ſuper. cornu* ♉ *&* ♄ is printed in smaller type on a line of its own between the rows, over the second column, and heads the distances below it. At $11^h\ 31^m$ the second column prints three points and the cue of footnote 2 in place of figures. *Luc. hum.* stands after *8 52¾* on the line of $11^h\ 43\frac{1}{3}^m$, and *Or. or.* with *40 4½* on the next line, in the third column, with no time; the label is given whole on the first row. *Luc. hum.* may stand for *lucidus humerus* ("the bright shoulder") or *lucida humeri* ("the bright [star] of the shoulder"); *Or.* is given as Orion and *or.* as east, as *or.* in the head above. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2600] *luc. ped.* may stand for *lucidam pedis* ("the bright [star] of the foot") or *lucidum pedem* ("the bright foot"); the first is given.

[2601] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The second and fourth values have no word before them. *Inter* ♄ *& bor. cornu* ♉*,* stands on a line of its own with no figures, and *mel.* with the figures on the next line; the two are given on one row. *mel.* is given as *melius*, "better". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

On 23 November, in the evening [DIE 23 NOUEMBRIS, VESPERI.]
Observation of ♄ in ☍ [with] ☉. Transit of Aldebaran through the meridian at $11^h\ 35^m$. [♄ obſeruatio in ☍ ☉. Tranſitus Ald.] [per Merid. H. 11 M. 35.]

Time	Reading	Value
	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	7° 42½′
	The eye of ♉ east from the meridian [Oculus ♉ a Merid. or.]	8° 55′
$11^h\ 0¾^m$ [H. 11 0¾′]	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	7° 42⅓′
	The eye of ♉ east from the meridian [Ocul. ♉ a Merid. or.]	8° 34′
	Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	7° 42¼′
	The eye of ♉ east from the meridian [Ocul. ♉ a Merid. or.]	8° 5′
	Between ♄ and the northern horn of ♉ [Inter ♄ & bor. cornu ♉]	9° 20′
	The eye of ♉ east from the meridian [Oculus ♉ a Mer or.]	7° 12′
$11^h\ 7⅔^m$	Between ♄ and the bright [star] of the foot of Erichthonius [Inter ♄ &] [luc. ped. Ericht.]	9° 18½′
	The eye of ♉ east from the meridian [Oculus ♉ a Merid. or.]	6° 48′
	Between ♄ and the bright [star] of the foot of Erichthonius [Inter ♄&luc.ped.Ericht.]	9° 19⅓′
	The eye of ♉ from the meridian [Oculus ♉ a Merid.]	6° 13′
	Between ♄ and the northern horn of ♉ [Inter ♄ & bor. cornu ♉]	9° 19′
	The eye of ♉ from the meridian [Oculus ♉ a Merid.]	5° 57′
	Declination of ♄ [Declin. ♄]	20° 23′
	with the other [alt.]	20° 22½′
	The eye of ♉ east from the meridian [Oculus ♉ a Mer. or.]	5° 0′
	Declination of ♄ [Declin. ♄]	20° 23¼′
	The eye of ♉ east from the meridian [Oculus ♉ a Mer. or.]	4° 4⅔′

2602

On 29 November, in the evening [DIE 29 NOUEMBRIS, VESPERI.]

Reading	Value
Between ♄ and Aldebaran [Inter ♄ & Aldeb.]	7° 19¾′
Declination of ♄ [Declin. ♄]	20° 19⅚′, with the other [alt.] 20° 20′
The eye of ♉, east [Oculus ♉ orient.]	68° 53½′
Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	7° 19⅚′

2602 "Time", "Reading" and "Value" are this edition's heads; the page prints none. *Ald.* is given as Aldebaran, the form *Aldeb.* that the page prints elsewhere. The time at $11^h\ 0¾^m$ is printed with *H.* and a minute mark; the time at $11^h\ 7⅔^m$ as bare figures, given as hours and minutes. The label *Inter ♄ & / luc. ped. Ericht.* runs over two lines, the time on the first and the value on the second; it is given whole on one row. *luc. ped.* may stand for *lucidam pedis* ("the bright [star] of the foot") or *lucidum pedem* ("the bright foot"); the first is given. *alt.* stands before its figures; it may stand for *altero* ("with the other") or *altitudo* ("altitude"); "with the other" is given. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
The eye of ♉ from the meridian [Oculus ♉ a Merid.]	68° 10′
Between ♄ and the bright [star] of the foot of Erichthonius [Inter ♄ & luc. ped. Ericht.]	9° 37¼′
The eye of ♉ east from the meridian [Oculus ♉ a Merid. or.]	67° 47½′
Between ♄ and the bright [star] of the foot of Erichthonius [Inter ♄ & luc. ped. Ericht.]	9° 37¼′
The eye of ♉, east [Oculus ♉ orient.]	67° 25′
Between ♄ and the bright [star] of the foot of Erichthonius [Inter ♄ & luc. ped. Ericht.]	9° 37⅙′
The eye of ♉, east [Oculus ♉ orient.]	66° 41′
The altitude of ♄ was then nearly 27°. [Erat tunc altit. ♄ 27° fere.]	
Between ♄ and Aldebaran [Inter ♄ & Aldeb.]	7° 19½′
The eye of ♉, east [Oculus ♉ orient.]	28° 56½′
Between ♄ and Aldebaran [Inter ♄ & Aldeb.]	7° 19¾′
The eye of ♉ east from the meridian [Oculus ♉ a Merid. or.]	28° 30′
Declination of ♄ [Declinatio ♄]	20° 20⅙′
Between ♄ and the northern horn of ♉ [Inter ♄ & boreale cornu ♉]	9° 36½′
The eye of ♉, east [Oculus ♉ orient.]	27° 56¼′
Declination of ♄ [Declinatio ♄]	20° 20¼′
Between ♄ and the northern horn of ♉ [Inter ♄ & boreale cornu ♉]	9° 37′
The eye of ♉, east [Oculus ♉ orient.]	27° 3′

2603

On 3 December, in the evening [DIE 3 DECEMBRIS, VESPERI.]

Reading	Value
Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	7° 3¾′
Altitude of ♄ [Altit. ♄]	23° 0′
The eye of ♉ east from the meridian [Oculus ♉ a Mer. or.]	72° 30′
Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	7° 3½′
The eye of ♉ east from the meridian [Oculus ♉ a Mer. or.]	71° 33′
Between ♄ and the eye of ♉ [Inter ♄ & oculum ♉]	7° 3½′
The eye of ♉ east from the meridian [Oculus ♉ a Mer. or.]	70° 50½′
Declination of ♄ [Declin. ♄]	20° 19′, with the other [alt.] 20° 18½′
The eye of ♉ east from the meridian [Oculus ♉ a Mer. or.]	69° 21′

2603 "Reading" and "Value" are this edition's heads; the page prints none, and no times are printed in this entry. The entry runs from the foot of the left column (rows 1–9) into the head of the right column (rows 10–22), where it stands under no heading; it is given as one table. On row 2 the two declinations stand on one line, the first followed by a comma; *alt.* is given as "with the other", as above. Row 12 is a sentence on a line of its own, with *27°* printed with a degree mark. The eye of ♉ is given as 66° 41′ on row 11 and as 28° 56½′ on row 14, a step of 37° 44½′ between consecutive readings, where the other steps in this entry run from 22½′ to 53¼′; given as printed. The other values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Between ♄ and the foot of Erichthonius, or the upper horn of ♉ [Inter ♄ & pedem Erichtonij] [ſiue ſuperius cornu ♉]	9° 50′
The eye of ♉ east from the meridian [Oculus ♉ a Mer. or.]	68° 48⅓′
Between ♄ and the bright foot of Erichthonius [Inter ♄ & ped. Ericht. luc.]	9° 49½′
The eye of ♉ east from the meridian [Oculus ♉ a Merid. or.]	68° 17⅔′
Between ♄ and the bright foot of Erichthonius [Inter ♄ & ped. Ericht. luc.]	9° 50⅙′
The eye of ♉ east from the meridian [Oculus ♉ a Mer. or.]	67° 20½′

2604

On 20 November [DIE 20 NOUEMBRIS.]

Time	Reading	Value
$10^h\ 38^m$ [H. 10 M. 38]	Distance of ♄ from Aldebaran [Diſt. ♄ ab Aldeb.]	7° 56′
	Declination of ♄ [Declinatio ♄]	20° 24½′
	Right ascension of Aldebaran [Aſcenſ. R. Aldeb.]	63° 7′
	Therefore the right ascension of ♄ [Ergo Aſcenſ. R. ♄]	69° 46′
$10^h\ 46^m$ [H. 10 M. 46]	Distance of ♄ from the bright [star] of the foot of Erichthonius [Diſt. ♄] [a luc. ped. Ericht.]	9° 9′
	Right ascension of the foot of Erichthonius [Aſcenſ. R. ped. Ericht.]	75° 6′ 15″
	Therefore the right ascension of ♄ [Ergo Aſcenſ. R. ♄]	69° 48$\frac{1}{12}$′
$10^h\ 40^m$ [H. 10 M. 40:]	Right ascension of ♄, limited [Aſc. R. ♄ limitata]	69° 47′
	Declination [Declin.]	20° 24′ 30″
	Corresponding longitude [Reſp. Longitudo]	11° 5′ 30″ ♊
	Latitude [Latitudo]	1° 47′ 0″ south [M.]

2605

2604 "Reading" and "Value" are this edition's heads; the page prints none, and no times are printed in this entry. On row 8 the two declinations stand on one line, the first followed by a comma; *alt.* is given as "with the other", as above. The label *Inter ♄ & pedem Erichtonij / ſiue ſuperius cornu ♉* runs over two lines, the value on the second; it is given whole on one row. In *ped. Ericht. luc.* the abbreviation *luc.* follows the name; it may stand for *lucidum* ("the bright foot") or for *lucidam* ("the bright [star] of the foot"); the first is given. The values, printed without unit marks, are given as degrees and minutes.

2605 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The label *Diſt. ♄ / a luc. ped. Ericht.* runs over two lines, the time on the first and the value on the second; it is given whole on one row. *Aſc. R. ♄ limitata* stands on a line of its own with no figures, above the line carrying the time *H. 10 M. 40:* (with a colon) and *69 47,* (with a comma); the label is given on the row of the time and value. *48$\frac{1}{12}$* is a two-tier fraction, 1 over 12. *M.* after the latitude, in small capitals, is "south". The values, printed without unit marks, are given as degrees and minutes, and, where a third group is printed, seconds. The distances 7° 56′ and 9° 9′ set here against $10^h\ 38^m$ and $10^h\ 46^m$ stand in the evening entry of 20 November above against $10^h\ 31^m$ and $10^h\ 34½^m$; both times are given as printed.

On 23 November [DIE 23 NOUEMBRIS.]

Time	Reading	Value
11^h $0¾^m$ [H. 11 0¾]	Distance of ♄ from Aldebaran [Diſt. ♄ ab Aldeb.]	7° 42½′
	Declination of ♄ [Declinatio ♄]	20° 23′

2606

___2607

Time	Reading	Value
	Angle of the difference of ascension [Angulus differ. Aſcenſion.]	6° 22′ 30″
	Therefore from this the right ascension of ♄ [Ergo hinc Aſcenſ. R. ♄]	69° 29′ 30″
11^h 8^m [H. 11 8]	Distance of ♄ from the foot of Erichthonius [Diſt. ♄ a pede Ericht.]	9° 18½′
	Declination of ♄ [Declinatio ♄]	20° 23′
	From this the angle of the difference of ascension [Hinc angulus differ. Aſcenſ.]	5° 36′ 0″
11^h 0^m [H. 11 0′]	Right ascension of ♄, limited [Aſcenſ. R. ♄ limitata]	69° 29′ 50″
	Corresponding longitude [Reſp. Longitudo]	10° 49½′ ♊
	Latitude [Latitudo]	1° 47¼′ south [M.]

2608

From these, however (chiefly from the observation of 20 November), it is gathered that the opposition of ♄ with the simple ☉ fell on 21 November at 19^h 45^m P. M., in nearly 10° 59′ 0″ ♊, with a latitude of 1° 47′ 0″ south. [Colligitur autem ex his (præcipue ex) [obſeruatione 20 diej Nouemb.) oppo-] [ſitionem ♄ cum ſimplici ☉ incidiße in] [diem 21 Nouemb. H. 19 M. 45 P. M., in] [10° 59′ 0″ fere ♊, cum Latitud. 1 47 0 M.]

But *considering everything more precisely: from the observation of 20 November, in 11° 5½′ ♊, there are 1^d 9^h to the time of ☌, in which ♄ regresses 7′ against the order of the signs; if these are taken away from the longitude already mentioned, its place at*

2606 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time is printed with *H.* and a two-tier fraction, no minute mark, and is given as hours and minutes. The values, printed without unit marks, are given as degrees and minutes. At 11^h $0¾^m$ the distance of ♄ from Aldebaran is printed 7 42½ here, while the evening entry of 23 November above prints 7 42⅓ between ♄ and the eye of ♉ against the same time (with 7 42½ on the line before it, which carries no time); both figures are confirmed on a native-resolution crop and given as printed, and no correction is made.

2607 The first eight lines of this page carry on the second entry of 23 November from the foot of p. 341, with no heading of their own.

2608 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The time *H. 11 8* is printed with *H.* and bare minutes, the time *H. 11 0′* with a minute mark; both are given as hours and minutes. *M.* after the latitude, in small capitals, is "south". The values, printed without unit marks, are given as degrees and minutes, and, where a third group is printed, seconds.

the time of ☌ will be 10° 58½′. And when comparison *is made with the 23rd day, 8⅙′ are to be added for the intermediate time, so that from this the place in ☌ will be 10° 57′ 40″; the difference from the former is 50″, half of which, added, gives the true place of the ☌ of* ♄ with ☉ *in 10° 58′ 5″. From this let 2′ 5″ be taken away for its equal motion in its course, and the true place of the ☌ of* ♄ with *the simple* ☉ *will remain, 10° 56′ 0″* ♊. [Sed *limitatius omnia conſiderando,*] [*ex obſeruatione diej 20 Nouemb. in*] [*11 5½* ♊ *ad tempus ☌ ſunt dies 1 H. 9,*] [*quibus in antecedentia regreditur* ♄] [*Min. 7, quæ ſi auferantur a Long.*] [*prædicta fuerit locus eius tempore*] [*☌ 10 58½, &* collatione *facta cum die*] [*23 pro tempore intermedio addenda*] [*Minuta 8⅙, vt fuerit hinc locus in*] [*☌ 10 57 40, differ. a priore eſt 50″,*] [*cuius medium additum dat verum lo-*] [cum ☌ ♄ cum ☉ *in 10 58 5. Hinc au-*] [*ferantur pro motu eius æquali in ſuo*] [*ductu 2′ 5″ & remanebit verus locus*] [☌ ♄ cum *ſimplici* ☉ *10 56 0* ♊.][2609]

Observations of Jupiter [OBSERUATIONES IOUIS.]

On 30 January[1] [DIE 30 JANUARIJ[1].]

Morning, P. M. N. Time corrected. [Mane, P. M. N. Tempus correctum.]

Time	Reading	Instrument	Value
1^h $13½^m$ [H. 1 13½]	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]	by the sextant [per Sext.]	21° 36⅔′
1^h 17^m	The same distance [Diſtantia eadem]		21° 37′
1^h 19^m	The same distance [Diſt. eadem]		21° 37′
	Declination of ♃ [Declin. ♃]	with one [vno]	7° 0′
		with the other [alt.]	7° 0½′, altitude [Alt.] 41° 0′
1^h 21^m	Between ♃ and Spica ♍ [Inter ♃ & Spicam ♍]	by the sextant [per Sext.]	32° 33⅙′
1^h $21¼^m$	The same between ♃ and Spica [Eadem inter ♃ &] [Spicam]		32° 32⅚′
1^h 23^m	The same distance [Eadem diſtantia]		32° 33′
	Declination of ♃ [Declin. ♃]	with both [vtroque]	7° 0′
	Altitude of ♃ [Altitudo ♃]		41° 3′

[2609] The sentence begins at the foot of the left column (*Sed limitatius omnia conſiderando,*) and runs on at the head of the right column. *Sed*, *collatione*, the second syllable of *locum* (*cum*, at the head of its line), the word *cum* after ♄ on the same line and *cum* before *ſimplici* are set upright; the rest of the passage is italic. *limitatius* is given as "more precisely"; it is the comparative of the word given as "limited" in *limitata* above. *dies 1 H. 9* is given as 1^d 9^h; *Min.* and *Minuta* as minutes of arc. *fuerit* is given as "will be" (it may also be taken as "would be"). *medium* is given as "half"; the page prints *medium*, "the middle". *in antecedentia* is "against the order of the signs". The figures *10 58½*, *10 57 40*, *10 58 5*, printed without unit marks, are given as degrees, minutes and seconds, as the longitude *11 5½* ♊ fixes them. The word *locum* is divided across two lines (*verum lo- / cum*).

2610

At the following noon the clock was going faster by 42½^{m}; this error is to be imputed to it from 6½^{h} P. M. of the preceding day, for it had not been corrected for many days before. [*Horologium in Meridie ſequente*] [*celerius ibat M. 42½, qui error illi ab*] [*Hora 6½ P. M. antecedentis diej im-*] [*putandus venit, nam non erat multis*] [*diebus antea correctum.*]

On 15 February, in the evening [DIE 15 FEBRUARIJ, VESPERI.]

N. B. Observations of ☽, while it was tending toward ☍ [with] ☉. [*N. B. Obſeruationes ☽, ipſo ten-*] [*dente ad ☍ ☉.*]

The clock [was] rectified today to the meridian altitude of the Sun. [Horologium hodie ad Solis meridi-] [anam altitudinem rectificatum.]

Time	Reading	Value
8^{h} 39^{m} [H. 8 39]	Declination by the armillae [Declin. per Armillas]	7° 50′ north [B.]
	with the other [alt.]	7° 49½′
	Its altitude was then [Tunc fuit Alt. eius]	22° 52′

2611

2612

Time	Distance by the sextant between ☽ and the heart of ☋ [Diſt. per Sext. inter ☽ & Cor ☋]	Altitude of ☽ [Alt. ☽]
8^{h} 47⅙^{m}	19° 34′	24° 5′
8^{h} 50^{m}	19° 34½′	24° 17′
8^{h} 51½^{m}	19° 34½′	24° 27′
	Between ☽ and the tail of ☋ [Inter ☽ & caudam ☋]	
8^{h} 57^{m}	11° 2′	25° 9′

2610 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The labels *Inter ☽ & cor ☋* and *Inter ☽ & Spicam ♍* stand on the line of their time with no figures, and *per Sext.* with the figures on the next line; each pair is given on one row. *Eadem inter ☽ & / Spicam* runs over two lines, the value on the second; it is given whole on one row. *vno* is set to the right before *7 0*. The line *alt. 7 0½, Alt. 41 0* carries two values after *alt.*, the first followed by a comma, then *Alt.* and its value; they are given in one cell. *alt.* (lower case, before a declination) is given as *altero*, "with the other"; *Alt.* (capital) as *Altitudo*, "altitude". On the eighth row *vtroque* is printed after the figures. The first time is printed with *H.*; the others as bare figures, given as hours and minutes. The values, printed without unit marks, are given as degrees and minutes.

2611 "Time", "Reading" and "Value" are this edition's heads; the page prints none. *ipſo tendente* is given as "while it was tending"; *ipſo* refers to ☽ before it. The preposition before ☉ is not printed and is bracketed. *ad Solis meridianam altitudinem* is given as "to the meridian altitude of the Sun"; it may also be read "by". *alt.* is given as "with the other", as above. *B.* is "north". The time is printed with *H.*; the values, printed without unit marks, are given as degrees and minutes.

2612 The 15 February entry runs from the foot of the left column into the head of the right column, where the table below stands under no heading.

Time	Distance by the sextant between ♃ and the heart of ♌ [Dist. per Sext. inter ♃ & Cor ♌]	Altitude of ♃ [Alt. ♃]
8^h $58\frac{1}{6}^m$	11° 1⅚′	
8^h $59\frac{1}{2}^m$	11° 2′	25° 29′
9^h $1\frac{1}{2}^m$	Declination of ♃ repeated [Declin. ♃ repetita] 7° 49½′ with the other pinnule [altero pinnac.] 7° 49⅚′	

2613

Let the observation of ♃ *be repeated when it is near the meridian.* [*Repetatur obſeruatio* ♃ *quando eſt*] [*iuxta meridianum.*]

On 21 February [DIE 21 FEBRUARIJ.]

Before noon. [Ante Meridiem.]

Time	Reading	Instrument	Value
0^h 8^m [H. 0 8]	♃ [passed] through the meridian, in altitude [♃ per Merid. in Alt.]	by the steel [quadrant] [per Chalyb.]	42° 10′
		by the revolving [quadrant] [per Volub.]	42° 10′
0^h $19\frac{3}{4}^m$	Declination of ♃ by the armillae [Declin. ♃ per Armill.]	with both [vtroque]	8° 3½′
0^h $29\frac{1}{2}^m$	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]		18° 56½′
0^h $30\frac{1}{2}^m$			18° 56′
0^h $32\frac{1}{2}^m$			18° 56¾′
0^h 34^m			18° 56¾′
0^h $37\frac{1}{3}^m$	Between ♃ and Spica ♍ [Inter ♃ & Spicam ♍]		35° 14¼′
0^h 39^m			35° 14¼′
0^h 40^m			35° 14′
0^h 41^m	Declination of ♃ repeated [Decl. ♃ repetita,]	with one [vno]	8° 3½′
		with the other [alt.]	8° 3¾′

2614

2613 The heads of the second and third columns are the page's, printed in smaller type; "Time" is this edition's head, the page printing nothing over the first column. *Inter* ♃ *& caudam* ♌ is printed in smaller type on a line of its own between the rows, over the second column, and heads the distances below it. At 8^h $58\frac{1}{6}^m$ the third column is empty on the page. *Declin.* ♃ *repetita* stands on the line of 9^h $1\frac{1}{2}^m$ with its figures, and *altero pinnac.* with its figures on the next line; label and figures are given together in the second column. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

2614 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. ♃ *per Merid. in Alt.* stands on the line of its time with no figures; the verb is not printed and is bracketed. *Declin.* ♃ *per Armill.* stands on the line of its time with no figures, and *vtroque* with the figures on the next line; they are given on one row. The rows at 0^h $30\frac{1}{2}^m$ to 0^h 34^m and at 0^h 39^m and 0^h 40^m carry no label. *alt.* is given as "with the other", as above. The first time is printed with *H.*; the others as bare figures, given as hours and minutes. The values, printed without unit marks, are given as degrees and minutes.

N. B. The assigned times have been corrected by Spica ♍. [N. B. Tempora aßignata ſunt cor-] [recta per Spicam ♍.]

[1] Compare below, among the observations "For investigating the refractions of the fixed stars", where observations of the declination of Jupiter are found. [Cf. infra inter obſervationes »Pro refractionibus ſtellarum fixarum indagandis«, vbi obſervationes declina-] [tionis Iovis reperiuntur.]

For the place of ♃ [PRO LOCO ♃.]

On 30 January [DIE 30 JANUARIJ.]

Time	Reading	Value
1^h 17^m [H. 1 M. 17]	♃ was distant from the heart of ♌ [Diſtabat ♃] [a corde ♌]	21° 37′
	Declination of ♃ [Decl. ♃]	7° 0¼′ north [B.]
	Declination of the heart of ♌ [Decl. Cordis ♌]	13° 57′ 5″
	Difference of right ascension [Differentia Aſc. R.]	20° 50′ 6″
	Right ascension of the heart of ♌ [Aſc. R. Cordis ♌]	146° 35′ 25″
	Right ascension of ♃ [Aſc. R. ♃]	167° 25′ 31″
1^h 23^m [H. 1 23]	♃ was distant from Spica ♍ [Diſtabat ♃] [a Spica ♍]	32° 33′
	Declination of ♃ [Declin. ♃]	7° 0′ north [B.]
	Declination of Spica, south [Declin. Spicæ Auſt.]	8° 57′ 20″
	Difference of right ascension of ♃ and Spica [Differ. Aſc. R. ♃ &] [Spicæ]	28° 28′ 6″
	Right ascension of Spica [Aſc. R. Spicæ]	195° 54′ 30″
	Right ascension of ♃ [Aſc. R. ♃]	167° 26′ 24″
	Corrected right ascension of ♃ [Emendata Aſc. R. ♃]	167° 25′ 58″
	North declination [Declin. Borea]	7° 0′ 0″
	Corresponding longitude [Reſpondet Long.]	15° 43′ 7″ ♍
	Latitude [Latitudo]	1° 28′ 10″ north [B.]

2615

[2615] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The labels *Diſtabat ♃ / a corde ♌* and *Diſtabat ♃ / a Spica ♍* each stand on the line of their time with no figures, the figures following on the next line; each is given whole on one row. *Differ. Aſc. R. ♃ & / Spicæ* runs over two lines, the figures on the second; it is given whole on one row. *Reſpondet* is a verb, literally "[there] corresponds"; it is given as "Corresponding". *Emendata* is given as "Corrected". *B.* and *Borea* are "north", *Auſt.* "south". The times, *H. 1 M. 17* and *H. 1 23*, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes, and, where a third group is printed, seconds. 146° 35′ 25″ and 20° 50′ 6″ make the printed 167° 25′ 31″; 195° 54′ 30″ less 28° 28′ 6″ is the printed 167° 26′ 24″. On p. 342 the same day gives the distance from the heart of ♌ at 1^h 17^m as 21° 37′, the distance from Spica at 1^h 23^m as 32° 33′, and the declination of ♃ as 7° 0′ and 7° 0½′ (with one and with the other) and 7° 0′ (with both).

Calculation	Reading	Value
Prutenic calculation [Calculus Prut.]	*Longitude [Long.]*	*15° 47′*
	Latitude [Latit.]	*1° 24′ north [B.]*
Alphonsine [Alph.]	*Longitude [Long.]*	*14° 14′* ♍
	Latitude [Latit.]	*1° 40′ north [B.]*

2616

On 21 February [DIE 21 FEBRUARIJ.]

Before noon, *or after the preceding midnight.* [Ante Meridiem *vel poſt mediam noc-*] [*tem antecedentem.*]

Time	Reading	Value
0^h $30½^m$ [H. 0 M. 30½]	Distance of ☋ from the heart of ☌ [Diſt. ☋] [a corde ☌]	18° 56½′
	Declination of ☋, north [Declin. ☋ Bor.]	8° 4½′
	Declination of the heart of ☌, north [Declin. cordis ☌ Bor.]	13° 57⅙′
	Difference of ascension [Diff. aſcenſion.]	18° 21′ 23″
	Right ascension of ☋ from the heart of ☌ [Aſc. R. ☋ ex corde ☌]	164° 56′ 48″
	The other way round, on the same day before noon. [Viceverſa eodem die ante meridiem.]	
0^h 39^m [H. 0 M. 39]	☋ was distant from Spica [Diſtabat ☋] [a Spica]	35° 14¼′
	Declination of ☋, north [Declin. ☋ Borea]	8° 4½′
	Declination of Spica, south [Declin. Spicæ Merid.]	8° 57⅓′
	Difference of ascension [Diff. aſcenſion.]	30° 57′ 23″
	Right ascension of ☋ from Spica [Aſc. R. ☋ ex Spica]	164° 57′ 7″
	Therefore the corrected right ascension of ☋ comes out [Ergo venit emendata] [Aſcenſio ☋ Recta]	164° 57′ 0″
	North declination [Declinatio Bor.]	8° 4′ 30″
	Corresponding longitude at 0^h 36^m [Reſp. Long. ad H.0.36]	13° 1′ 58″ ♍
	Latitude [Latitudo]	1° 30′ 11″ north [B.]

[2616] These lines are set in italic. ”Calculation”, ”Reading” and ”Value” are this edition's heads; the page prints none. *Calculus* is printed once, before *Prut.*; *Alph.* stands at the start of the third line, before *Long.*, and is given as ”Alphonsine”. No sign is printed after *15 47*, and none is supplied. *B.* is ”north”. The values, printed without unit marks, are given as degrees and minutes.

2617

Reading	Observation [Obſeruatio]	Prutenic calculation [Calc. Prut.]	Alphonsine calculation [Calc. Alph.]
Longitude [Long.]	*13° 2′* ♍	*13° 13′* ♍	*11° 35′* ♍
Latitude [Lat.]	*1° 30′ north [B.]*	*1° 30′ north [B.]*	*1° 43′ north [B.]*

2618

The Prutenic calculation therefore agrees ſufficiently, with only 12′ lacking. [*Conuenit itaque ſatis Prutenicus*] [*calculus, deſideratis ſaltem 12 ſcru-*] [*pulis.*][2619]

On 27 February [DIE 27 FEBRUARIJ.]

At 8½^{h} the clock was being verified. [Hora 8½ Horologium verificabatur.]

Time [Tempus]	Distance between ☽ and the heart of ♏ [Diſt. inter] [☽ & cor ♏]	Altitude of ☽ [Alt. ☽]	Declination of ☽, north [Declin. ☽ Bor.], with one pinnule [vno pin.]	Declination of ☽, north [Declin. ☽ Bor.], with the other [alt.]
9^{h} 12⅙^{m}	18° 1½′			
9^{h} 14⅚^{m}	18° 2⅓′		8° 24′	8° 25′

2617 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The labels *Diſt.* ☽ / *a corde* ♏ and *Diſtabat* ☽ / *a Spica* each stand on the line of their time with no figures, the figures following on the next line; *Ergo venit emendata* / *Aſcenſio* ☽ *Recta* runs over two lines, the figures on the second; each is given whole on one row. The line *Viceverſa eodem die ante meridiem.* stands from the column's left edge between the two groups and is kept as a row in its place. *Bor.* and *Borea* are "north", *Merid.* after a declination "south". *Diff. aſcenſion.* is given as "Difference of ascension". *Reſp.* is given as "Corresponding", as *Reſpondet* above. The times, printed with *H.* (and *M.*), are given as hours and minutes; *H.0.36* likewise. The values, printed without unit marks, are given as degrees and minutes, and, where a third group is printed, seconds. 146° 35′ 25″ (the right ascension of the heart of ♏ given above for 30 January) and 18° 21′ 23″ make the printed 164° 56′ 48″; 195° 54′ 30″ (that of Spica, above) less 30° 57′ 23″ is the printed 164° 57′ 7″. On p. 342 the same day gives the distance of ☽ from the heart of ♏ as 18° 56½′ at 0^{h} 29½^{m} and 18° 56′ at 0^{h} 30½^{m}, where this page gives 18° 56½′ at 0^{h} 30½^{m}; the distance from Spica at 0^{h} 39^{m} as 35° 14¼′, as here; and the declination of ☽ as 8° 3½′ (with both, and repeated with one) and 8° 3¾′ (with the other), where this page gives 8° 4½′ (twice) and 8° 4′ 30″. All figures are given as printed.

2618 These lines are set in italic; the three heads are the page's, in smaller italic. "Reading" is this edition's head; the page prints nothing over the first column. *B.* is "north". The values, printed without unit marks, are given as degrees and minutes.

2619 This sentence stands at the head of the right column. *ſaltem* is given as "only"; it can also be read "at least". *ſcrupulis* is given as minutes (′); the word is divided across two lines (*ſcru-* / *pulis*). The page does not say which figures the 12′ compares. In the table above, the observed longitude 13° 2′ ♍ and the Prutenic 13° 13′ ♍ differ by 11′; the corresponding longitude 13° 1′ 58″ ♍ and 13° 13′ differ by 11′ 2″; on 30 January the corresponding longitude 15° 43′ 7″ and the Prutenic 15° 47′ differ by 3′ 53″. All figures are given as printed.

Time [Tem-pus]	Distance between ☽ and the heart of ♌ [Diſt. inter] [☽ & cor ♌]	Altitude of ☽ [Alt. ☽]	Declination of ☽, north [Declin. ☽ Bor.], with one pinnule [vno pin.]	Declination of ☽, north [Declin. ☽ Bor.], with the other [alt.]
9^h $17\frac{2}{3}^m$	[It] was not clear. [non erat ſerenum.]			
9^h $18\frac{1}{2}^m$	18° 2¾′, better [mel.]	35° 10′		
9^h 20^m	18° 2⅚′		8° 24½′	8° 25½′

2620

N. B. These observations were made among clouds that kept recurring. [N. B. Inter nubes ſubinde recurren-] [tes factæ ſunt hæ obſeruationes.]

On 7 March, in the evening [DIE 7 MARTIJ, VESPERI.]

The clock was being corrected at noon. [Horologium in Meridie corrigebatur.]

Time	Reading	Instrument	Value
7^h $16\frac{5}{6}^m$	☽ was distant from the heart of ♌ [Diſtabat ☽ a corde ♌]		17° 2½′
7^h $18\frac{1}{6}^m$	The same distance [Eadem diſt.]		17° 2′
7^h $19\frac{2}{3}^m$	The same [Eadem]		17° 2′
7^h 23^m	The altitude of ☽ was [Fuit Alt. ☽]	by the revolving [quadrant] [per Volub.]	27° 13½′
	Declination of ☽ [Declin. ☽]	with one [vno]	8° 48½′
		with the other [alt.]	8° 48′
	Declination of ☽ repeated [Declin. ☽ repetita]		8° 48½′
		with the other [alt.]	8° 49′

2621

On 10 March, in the evening [DIE 10 MARTIJ, VESPERI.]

Today, in the afternoon, the clock was being verified by ☉ from the equator. [Horologium verificabatur hodie poſt] [Meridiem ad ☉ ex Æquatore.][2622]

[2620] All the heads are the page's, in smaller type. *Diſt. inter / ☽ & cor ♌* runs over two lines. *Declin. ☽ Bor.* is printed once, on the first head line, over the fourth and fifth columns together, with *vno pin.* under it over the fourth and *alt.* over the fifth; it is repeated here over each column it spans. *non erat ſerenum.* begins in the second column and runs across the row. *mel.* is given as *melius*, "better", and is printed in smaller type after *18 2¾*, in the second column; *35 10* stands in the third column, under *Alt. ☽*. *alt.* is given as "with the other". *Bor.* is "north". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2621] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *vno* and *alt.* are set to the right, directly before their figures. *Declin. ☽ repetita* stands from the column's left edge. *alt.* is given as "with the other". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2622] *ad ☉* is given as "by ☉"; literally "to ☉". *ex Æquatore* is given as "from the equator"; the page does not say whether the equator of the sky or an instrument of that name is meant.

Time	Reading	Instrument	Value
8^h 50½^m	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]		16° 42′
8^h 52⅙^m	The same distance [Eadem diſt.]		16° 42′
8^h 54⅙^m	repeated [repet.]		16° 41¾′
	Altitude of ♃ at the last time [Alt. ♃ ad vlt. temp.]	by the revolving [quadrant] [per Volub.]	38½°
	Declination of ♃, north [Declin. ♃ B.]	with one pinnule [vno pin.]	8° 56¼′
		with the other [alt.]	8° 56½′
8^h 58⅙^m	Between ♃ and the tail of ♌ [Inter ♃ & caud. ♌]		11° 55⅚′
9^h 1⅔^m			11° 56′
9^h 2½^m			11° 56¼′
	Altitude of ♃ at the last time [Alt. ♃ ad vlt. tempus]		39° 15′
	Declination of ♃ [Declin. ♃]		8° 56½′
		with the other [alt.]	8° 56′
9^h 37^m	the heart of ♌ passed through the meridian, for verifying the clock. [Tranſiuit cor ♌ per Merid. pro] [verificando horologio.]		

2623

On 12 March, in the morning [DIE 12 MARTIJ, MANE.]

Time	Reading	Instrument	Value
2^h 20^m	Declination of ♃, north [Declin. ♃ B.]	with one [vno]	8° 59½′
		with the other [alt.]	8° 59⅚′
2^h 26^m	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]		16° 31′
2^h 28^m	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]		16° 31′
	Altitude of ♃ [Altit. ♃]		26¼°

2624

2623 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *repet.* follows the time on its line and is given as "repeated". *ad vlt. temp.* / *ad vlt. tempus* is given as "at the last time". *Alt.* ♃ *ad vlt. temp. per Volub.* is one line, the instrument given in the third column. *38½*, a single figure with a fraction, stands where the minutes figures of the rows above stand; it is given as degrees, as the altitude 39° 15′ at the later time fixes it. *caud.* ♌ is given as "the tail of ♌". *B.* is "north"; *alt.* "with the other". The rows at 9^h 1⅔^m and 9^h 2½^m carry no label. The sentence *Tranſiuit cor* ♌ *per Merid. pro* / *verificando horologio.* runs over two lines. The times, printed as bare figures, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2624 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *B.* is "north"; *alt.* "with the other". *26¼*, a single figure with a fraction, stands where the degrees figures of the rows above stand and is given as degrees. The times, printed as bare figures, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

___[2625]

Time	Reading	Instrument	Value
2^h 31½^m	Between ♃ and Spica ♍ [Inter ♃ & Spicam ♍]		37° 36½′
2^h 32⅚^m			37° 36′
	Altitude of ♃ [Alt. ♃]	by the lesser quadrant [per Q. min.]	25° 30′

[2626]

On 13 March, in the evening [DIE 13 MARTIJ, VESPERI.]

Time	Reading	Instrument	Value
8^h 22^m	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]		[It] is not valid. [non valet]
8^h 24⅙^m	The same distance repeated [Eadem dist. repet.]		16° 19½′
8^h 26⅚^m	The same distance repeated [Eadem dist. repet.]		16° 19⅓′
8^h 30⅙^m			16° 20′
	Declination of ♃, north [Declin. ♃ Bor.]		9° 4′
			9° 4½′
	The altitude of ♃ was then [Tunc fuit Alt. ♃]		37° 30′
8^h 34^m 45^s	Between ♃ and the tail of ♌ [Inter ♃ &] [caudam ♌]		12° 4′
8^h 36^m 40^s			12° 3½′
8^h 38^m 10^s	The same distance [Eadem dist.]		12° 4′
8^h 40⅚^m	Declination [Declin.]		9° 3¾′
		with the other [alt.]	9° 4′
	The altitude of ♃ was then [Alt. ♃ tunc erat]	by the lesser quadrant [per Q. min.]	38° 0′
9^h 27^m	the heart of ♌ passed through the meridian; from this the clock can be verified. [Transiuit cor ♌ per Merid., hinc] [potest horologium verificari.]		

[2625] The first three lines of this page carry on the entry of 12 March, in the morning, from the foot of p. 343, with no heading of their own; the column heads of the table there are repeated here and are this edition's.

[2626] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Q. min.* is given as "the lesser quadrant"; *min.* can also be expanded *minimum*, "the least quadrant". The row at 2^h 32⅚^m carries no label. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page. On p. 343 the altitude of ♃ on this morning, after 2^h 28^m, is given as 26¼°; no time is printed with either altitude.

2627

On 15 March, in the evening [DIE 15 MARTIJ, VESPERI.]

Time	Reading	Instrument	Value
11^h 17⅙^m	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]		16° 6¼′
11^h 19^m			16° 6¾′
11^h 22^m			16° 6′
11^h 27⅓^m	Between Spica and ♃ [Inter Spicam & ♃]		38° 2′
11^h 29^m			38° 2⅙′
11^h 30½^m			38° 2½′
11^h 38^m 25^s	Declination of ♃ by the armillae [Decl. ♃ per] [Armill.]		9° 8½′
		with the other [alt.]	9° 9′

2628

On 31 March, in the evening [DIE 31 MARTIJ, VESPERI.]

Time	Reading	Instrument	Value
8^h 27⅓^m	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]		14° 41′
	Altitude of ♃ [Altitudo ♃]		42° 45′
8^h 29^m	Between ♃ and the heart of ♌ [Inter ♃ & cor ♌]		14° 41⅔′
8^h 37^m			14° 41⅚′
8^h 44^m 10^d	Declination of ♃, north [Declin. ♃ Bor.]		9° 41½′
8^h 49⅔^m	Between ♃ and Spica ♍ [Inter ♃ &] [Spicam ♍]		39° 28½′
8^h 51⅔^m			39° 28½′
8^h 54^m			39° 29′
9^h 2^m	Declination of ♃ [Declin. ♃]		9° 41½′
		with the other [alt.]	9° 40½′

2627 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *non valet* stands in the column of figures on the line of 8^h 22^m, where a value would stand, and no figure is printed there. *repet.* is given as "repeated". *Inter* ♃ *&* / *caudam* ♌ runs over two lines, each with its own figures; the label is given whole on the first row, and *caudam* ♌ stands on the line of 8^h 36^m 40^s. *Declin.* on the line of 8^h 40⅚^m names no planet. *alt.* is given as "with the other". *Q. min.* is given as "the lesser quadrant", as above ("the least quadrant" is the other expansion). *Bor.* is "north". The times printed in three figure groups are given as hours, minutes and seconds; the others, printed as bare figures, as hours and minutes. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2628 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label *Decl.* ♃ *per* / *Armill.* runs over two lines, each with its own figures, the second line also carrying *alt.* before its figures; the label is given whole on the first row. *alt.* is given as "with the other". The rows at 11^h 19^m, 11^h 22^m, 11^h 29^m and 11^h 30½^m carry no label. The time printed in three figure groups is given as hours, minutes and seconds; the others, printed as bare figures, as hours and minutes. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Time	Reading	Instrument	Value
9^h $6\frac{2}{3}^m$	Spica from the meridian toward the east, for verifying the clock [Spica a Meridie] [ad ortum] [pro horologio verificando.]		37° 2′
9^h 8^m			36° 45′

2629

The assigned times have been corrected. [Tempora aßignata ſunt correcta.]

On 27 May [DIE 27 MAIJ.]

In the evening the clock was being corrected. [Veſperi Horologium corrigebatur.]

Time	Between ☿ and Spica [Inter ☿ & Spicam]	Declination of ☿ [Declin. ☿]	Declination of ☿ [Declin. ☿]	Altitude of ☿ [Alt. ☿]
11^h $41\frac{1}{2}^m$		10° 44½′	10° 45′	7° 0′
11^h $47\frac{1}{2}^m$	38° 43′			
11^h $49\frac{1}{3}^m$	38° 43¾′			
11^h 51^m	38° 44′			
11^h $54\frac{1}{2}^m$		10° 42⅚′	10° 42⅓′	5° 0′

2630

On 21 November, in the morning[1] [DIE 21 NOUEMBRIS, MANE[1].]

Reading	Value
Between ☿ and the heart of ♌ [Inter ☿ & cor ♌]	48° 12½′
☿ was then east from the meridian [☿ tunc erat orient. a Merid.]	12° 44′
The declination of ☿ was then [Erat declin. ☿ tunc]	3° 42½′ south [M.]

2629 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Inter* ☿ *&* / *Spicam* ♍ runs over two lines, each with its own figures; *Spica a Meridie* / *ad ortum* / *pro horologio verificando.* runs over three lines, figures on the first two only. Each label is given whole on its first row. *a Meridie ad ortum* is given as "from the meridian toward the east"; it can also be read "from the south toward the east". *alt.* is given as "with the other"; *Bor.* is "north". The time printed in three figure groups is given as hours, minutes and seconds; the others, printed as bare figures, as hours and minutes. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2630 The heads of the second to fifth columns are the page's, in smaller type; "Time" is this edition's head, the page printing nothing over the first column. *Declin.* ☿ is printed once, centred over the third and fourth columns together; it is repeated here over each column it spans. The page names no instrument or pinnule for either declination column. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2631

[It] was not possible to observe more at this time because of clouds. [Plura hoc tempore obſeruare non] [licuit propter nubes.]

Observations of Mars [OBSERUATIONES MARTIS.]

On 12 February, in the morning [DIE 12 FEBRUARIJ, MANE.]

Time	Reading	Instrument	Value
	Meridian altitude of ♂ [Altitudo Meridiana ♂]	by the revolving [quadrant] [per Volub.]	21° 37⅓′, doubtful [dub.]
		by the steel [quadrant] [per Chalyb.]	21° 38′ 55″
5h 8m [5 8′]	Between ♂ and Spica ♍ [Inter ♂ & Spicam ♍]		21° 7½′
			21° 7⅔′
5h 11½m	Between ♂ and the preceding left knee of Ophiuchus [Inter ♂ & præcedens] [ſiniſt. genu Ophiuchi]		26° 11′
			26° 10¼′
5h 13m	The altitude of ♂ was, by the quadrant [Fuit Alt. ♂ per Q.]		19° 36′
5h 14½m	Repeated distance between ♂ and the left knee of Ophiuchus [Repet. diſt. inter ♂ &] [ſiniſt. genu Ophiuchi]		26° 10½′
5h 19m	Declination of ♂ [Declin. ♂]		13° 33⅙′
			13° 32½′

2632

The meridian altitude gives a declination of 12° 27′.[1] [*Altitudo merid. dat declin. 12 27*[1]][2633]

2631 "Reading" and "Value" are this edition's heads; the page prints none. *orient.* is given as "east". *M.* after the declination is "south". The values, printed without unit marks, are given as degrees and minutes.

2632 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Altitudo Meridiana* ♂ stands on a line of its own with no figures, and *per Volub.* and *per Chalyb.* on the two lines below it, each with its figures; they are given on two rows. *dub.* is given as *dubia*, "doubtful". The time *5 8′* is printed with a minute mark after *8*. *Inter* ♂ *& præcedens / ſiniſt. genu Ophiuchi* runs over two lines, each with its own figures; *præcedens* is taken with *genu*, "the preceding left knee"; it can also be read "the preceding [star of the] left knee". *Repet. diſt. inter* ♂ *& / ſiniſt. genu Ophiuchi* runs over two lines, the figures on the second. Each of these labels is given whole on its first row. *Q.* is given as "quadrant". *21 38 55*, three figure groups, is given as degrees, minutes and seconds; the other values, printed without unit marks, as degrees and minutes. The times, printed as bare figures, are given as hours and minutes. Empty cells are empty on the page.

2633 The declinations of ♂ printed above, at 5h 19m, are 13° 33⅙′ and 13° 32½′; the declination the page gives from the meridian altitude is 12° 27′. All figures are given as printed. The figures *12 27*, printed without unit marks, are given as degrees and minutes.

On 9 March, in the morning [DIE 9 MARTIJ, MANE.]

Time	Reading	Instrument	Value
$4^h\ 25^m$	♂ was distant from Spica ♍ [Diſtabat ♂ a] [Spica ♍]		24° 29′
$4^h\ 27\frac{1}{6}^m$	The same distance [Eadem diſt.]		24° 29′
$4^h\ 33^m$	The same distance repeated [Eadem diſt. repet.]		24° 28½′
	The altitude of ♂ was then [Fuit tunc Alt. ♂]		15° 0′
	Declination of ♂ [Decl. ♂]		13° 36′ south [M.]
			13° 36½′
$4^h\ 34^m$	Between ♂ and the knee of Ophiuchus [Inter ♂ & genu Oph.]		23° 4′
$4^h\ 34\frac{2}{3}^m$	The same distance repeated [Eadem diſt. repet.]		23° 4½′
$4^h\ 38\frac{1}{6}^m$			23° 4⅔′
	Altitude of ♂ then [Tunc Alt. ♂]		14° 0′
$4^h\ 41\frac{1}{3}^m$	Declination of ♂ [Declin. ♂]		13° 36½′
		with the other [alt.]	13° 36¼′

2634

1 From codex V. [E codice V.][2635]

___[2636]

Time	Reading	Instrument	Value
$4^h\ 43^m\ 55^s$	The bright [star] of the Vulture, east [Lucid. Vult. or.]		33° 56′
$4^h\ 45^m\ 42^s$			33° 27′
$4^h\ 47^m\ 5^s$			33° 5¾′

2637

From this the clock can be verified. [Hinc poteſt horologium verificari.]

[2634] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Diſtabat ♂ a / Spica ♍* runs over two lines, the figures on the second; it is given whole on one row. *genu Oph.* is expanded after the full form printed above, *genu Ophiuchi*; "left" is not printed in this line and is not supplied. *M.* after the declination is "south". *alt.* is given as "with the other". No times are printed with the two altitudes. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2635] The page prints two cues numbered 1, after *MANE* in the heading of 21 November and after *27* in the line on the meridian altitude of ♂, and one footnote, given above.

[2636] The first four lines of this page stand under no heading; they follow the entry of 9 March, in the morning, at the foot of p. 344. The column heads of the table there are repeated here and are this edition's.

[2637] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Lucid. Vult.* is expanded "the bright [star] of the Vulture"; *or.* is given as "east" (*orientalis*); it can also be expanded *oriens*, "rising". The page names no quantity for these three figures. The rows at $4^h\ 45^m\ 42^s$ and $4^h\ 47^m\ 5^s$ carry no label. The times, printed in three figure groups without unit marks, are given as hours, minutes and seconds; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

On 10 March [DIE 10 MARTIJ.]

Time	Reading	Instrument	Value
$9^h\ 37^m$	the heart of ♌ passed through the meridian, for verifying the clock. [Tranſiuit cor ♌ per Merid. pro] [verificando horologio.]		

2638

After midnight, on the 11th, in the morning. [Poſt mediam noctem, Die 11 mane.]

Time	Reading	Instrument	Value
$2^h\ 30^m\ 15^s$ [2 30′ 15″]	♂ was passing the meridian, having an altitude [Tranſibat ♂ Meridianum] [habens Alt.]	by the steel [quadrant] [per Chalyb.]	20° 28⅓′
		by the sextant [per Sext.]	20° 28′
$2^h\ 50⅓^m$	Declination of ♂ [Declin. ♂]		13° 37′
		with the other pinnule [alt. pin.]	13° 37⅓′
$2^h\ 54⅙^m$	♂ was distant from Spica [Diſtabat ♂ a Spica]		24° 26½′
$2^h\ 55½^m$	The same distance repeated [Eadem diſt. repet.]		24° 26½′
$2^h\ 57^m$			24° 26⅙′
$3^h\ 0½^m$	Between ♂ and the preceding knee of Ophiuchus [Inter ♂ & præced.] [genu Ophiuchi]		23° 3′
$3^h\ 1⅚^m$			23° 3½′

2639

Reading	Instrument	Value
Note. To find the place of the knee of Ophiuchus, its distance from Spica ♍ was being observed by the sextant [Nota. Pro inueniendo loco genu Ophi-] [uchi obſeruabatur eius diſtantia] [a Spica ♍ per Sext.]		47° 3½′

2638 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The sentence runs over two lines with no figures; the time, printed as bare figures, is given as hours and minutes.

2639 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The line *Tranſibat ♂ Meridianum*, with its time, carries no figures; *habens Alt. per Chalyb.* and *per Sext.* stand on the two lines below it, each with its figures; they are given on two rows, the sentence whole on the first. The time *2 30′ 15″* is printed with a minute mark and a second mark. *repet.* is given as "repeated". *Inter ♂ & præced. / genu Ophiuchi* runs over two lines, each with its own time and figures; the label is given whole on the first row. *præced.* is taken with *genu*, "the preceding knee"; it can also be read "the preceding [star of the] knee". The row at $2^h\ 57^m$ carries no label. The other times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Reading	Instrument	Value
		47° 4′
And the other way round, the distance between the same [star] of Ophiuchus and the bright [star] of the Vulture was being taken [Et viceuerſa inter eandem Ophiuchi] [& Lucid. Vult. capie-] [batur diſtantia]		51° 51′
		51° 51⅔′
Declination of the preceding knee of Ophiuchus [Declin. genu præc. Oph.,]	with both [vtroq.]	9° 37′

2640

At the next following noon the clock was moving 10^{m} slower than it should from the noon almost immediately preceding. [Horologium in meridie proxime ſe-] [quenti 10′ iuſto tardius mouebatur a] [meridie fere proxime antecedenti.][2641]

On 12 March, in the morning [DIE 12 MARTIJ, MANE.]

Time	Reading	Instrument	Value
2^{h} 35^{m}	♂ passed through the meridian, having an altitude [Tranſiuit ♂ per Merid. habens] [Altit.]	by the steel [quadrant] [per Chalyb.]	20° 28½′
		by the sextant [per Sext.]	20° 28¼′
		by the revolving [quadrant] [per Volub.]	20° 28½′
	Declination of ♂ [Declinatio ♂]		13° 36½′
		with the other [alt.]	13° 37′
2^{h} 44⅙^{m}	Distance between ♂ and Spica ♍ [Diſt. inter ♂ & Spic. ♍]		24° 24′
2^{h} 45⅔^{m}	The same distance repeated [Eadem diſt. repet.]		24° 23⅔′
2^{h} 48^{m}	Between ♂ and the preceding knee of Ophiuchus [Inter ♂ & præced.] [genu Ophiuchi]		23° 9′
2^{h} 49⅔^{m}			23° 9⅓′
2^{h} 53⅙^{m}	The same distance repeated [Eadem diſt. repet.]		23° 8⅚′
2^{h} 56⅚^{m}	Spica from the meridian toward the west [Spica a Merid.] [ad occaſum]		29° 41′
2^{h} 58⅙^{m}			30° 1′

2640 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The note runs over three lines, its figures on the third line and on a fourth line of figures only; the sentence *Et viceuerſa …* runs over three lines, its figures on the second and third. Each is given whole on its first row. *eandem* is feminine and is taken with an understood "star"; *Oph.* is expanded after the full form printed above, *Ophiuchi*; *præc.* is taken with *genu*, "the preceding knee" ("the preceding [star of the] knee" is the other reading). *Declin. genu præc. Oph.,* stands on a line of its own with no figures; *vtroq.* and the figures stand on the line below; they are given on one row. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2641 *10′* is printed with a minute mark; as the slowness of a clock it is given as minutes of time.

2642

From this the clock can be verified. [Hinc poteſt horologium verificari.]

On 14 March, in the morning [DIE 14 MARTIJ, MANE.]

Time	Reading	Instrument	Value
2^h 23⅙^m	Meridian altitude of ♂ [Alt. ♂ Mer.]	by the steel [quadrant] [per Chalyb.]	20° 28⅚′
		by the revolving [quadrant] [per Volub.]	20° 28¾′
2^h 30⅚^m	Between Spica and ♂ [Inter Spicam & ♂]		24° 19′
2^h 32^m	The same distance [Eadem diſt.]		24° 19′ twice [bis]
2^h 33½^m	Between ♂ and the preceding knee of Ophiuchus [Inter ♂ & præced.] [genu Ophiuchi]		23° 11′
2^h 35^m	The same distance repeated [Eadem diſt. repetita]		23° 10¾′
	Declination of ♂, south [Decl. ♂ Auſt.]	by the armillae [per Arm.]	13° 37′
			13° 36½′
2^h 38^m 25^s [2 38 25″]	Spica was then from the meridian toward the west, for the clock. [Tunc fuit Spica a Merid.] [ad occaſum pro horologio.]		28° 40′ [28 40]

2642 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The line *Tranſiuit ♂ per Merid. habens*, with its time, carries no figures; *Altit. per Chalyb.* stands on the line below with its figures, and *per Sext.*, *per Volub.*, *Declinatio ♂* and *alt.* on the lines after it; the sentence is given whole on the first row. *Spic.* is expanded "Spica", the full form the page prints. *alt.* is given as "with the other". *Inter ♂ & præced. / genu Ophiuchi* and *Spica a Merid. / ad occaſum* each run over two lines, each line with its own time and figures; each label is given whole on its first row. *præced.* is taken with *genu*, as above. *a Merid. ad occaſum* is given as "from the meridian toward the west"; it can also be read "from the south toward the west". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2643

On 16 March, in the morning [DIE 16 MARTIJ, MANE.]

Time	Reading	Instrument	Value
$2^h\ 28^m$	Meridian altitude of ♂ [Alt. ♂ Merid.]	by the steel [quadrant] [per Chal.]	20° 29⅚′
		by the revolving [quadrant] [per Volub.]	20° 29′
		by the lesser azimuthal quadrant [per Q. min. Azim.]	20° 29′
$2^h\ 40^m$	Declination of ♂, south [Decl. ♂ Mer.]	by the armillae [per Arm.]	13° 36′
		with the other [alt.]	13° 35⅚′
$2^h\ 44½^m$	Between Spica and ♂ [Inter Spicam & ♂]		24° 9½′
$2^h\ 45^m\ 45^s$	The same distance repeated [Ead. dist. repet.]		24° 9½′
$2^h\ 47^m\ 45^s$	Between ♂ and the preceding knee of Ophiuchus [Inter ♂ & præced.] [genu Ophiuchi]		23° 23′
$2^h\ 49⅓^m$			23° 23⅙′
$2^h\ 52⅙^m$	Spica, west [Spica occid.]		29° 55′
$2^h\ 53^m\ 5^s$	Spica, west, for verifying the clock. [Spica occid.] [pro horologio verificando.]		30° 9′

2644

2643 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Alt. ♂ Mer.*, with its time, stands on a line of its own with no figures; *per Chalyb.* and *per Volub.* stand on the two lines below it, each with its figures; they are given on two rows. *Mer.* after the altitude is given as "meridian". *bis*, in smaller type after the figures, is "twice". *Inter ♂ & præced. / genu Ophiuchi* runs over two lines, the time on the first and the figures on the second; it is given on one row. *Auſt.* is "south". The time *2 38 25″* is printed with a second mark after *25*. The figures *28 40* are printed at the start of the line *ad occaſum pro horologio.*, under the minutes and seconds of that time, and no figures stand at the right of either line; they are given here as the value of the line, in degrees and minutes. *a Merid. ad occaſum* is given as above ("from the south toward the west" is the other reading). The other times, printed as bare figures, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2644 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Merid.* after the altitude is given as "meridian". *Chal.* is expanded as *Chalyb.* elsewhere on this page. *Q. min. Azim.* is given as "the lesser azimuthal quadrant"; *min.* can also be expanded *minimum*, "the least azimuthal quadrant". *Mer.* after *Decl. ♂* is given as "south", as *Auſt.* stands in the same place on 14 March; it can also be read "meridian declination". *alt.* is given as "with the other". *Ead.* is expanded after *Eadem*; *repet.* is given as "repeated". *Inter ♂ & præced. / genu Ophiuchi* runs over two lines, each with its own time and figures; it is given whole on the first row. *occid.* is given as "west". *pro horologio verificando.* stands on a line of its own, with no figures, under the second *Spica occid.*; it is given with that row. The times printed in three figure groups are given as hours, minutes and seconds; the others, printed as bare figures, as hours and minutes. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

On 23 March, in the morning [DIE 23 MARTIJ, MANE.]

Time	Reading	Instrument	Value
2^h $49\frac{2}{3}^m$	The declination of ♂ was [Erat ♂ Declin.]		13° 26′
		by the armillae [per Armill.]	south [Auſt.]
			13° 26¼′
3^h $8\frac{1}{2}^m$	Between ♂ and Spica ♍ [Inter ♂ & Spicam ♍]		23° 11′
3^h $9\frac{2}{3}^m$	The same distance [Eadem diſt.]		23° 11⅙′
3^h 11^m 15^s			23° 10⅚′
3^h $13\frac{1}{3}^m$			23° 11′
	The altitude of ♂ was then [Tunc fuit Alt. ♂]		19° 30′
3^h 17^m 5^s	Between ♂ and the preceding knee of Ophiuchus [Inter ♂ & præced.] [genu Ophiuchi]		24° 16′
3^h 18^m 30^s			24° 15½′
3^h 25^m	The same distance [Eadem diſt.]		24° 15⅓′
3^h 27^m 25^s	Declination of ♂ [Declin. ♂,]	with both [vtroque]	13° 26¼′ south [M.]
	The altitude of ♂ was then [Fuit tunc Alt. ♂]		18° 50′
3^h 30^m 5^s	Spica ♍, west [Spica ♍ occid.]		42° 55′
3^h 30^m 52^s			43° 5′
3^h 31^m 15^s			43° 13½′

2645

From this the error of the clock, if there was any, can be corrected. [Hinc error horologij, ſi quis fuerit,] [corrigi poteſt.]

On 4 April, in the evening [DIE 4 APRILIS, VESPERI.]

Time	Reading	Instrument	Value
10^h $8\frac{5}{6}^m$ [H. 10 8⅚]	Declination of ♂ [Declin. ♂]		12° 41⅔′ south [M.]
	Altitude of ♂ [Altit. ♂]	by the revolving [quadrant] [per Volub.]	16° 30′
			among clouds [Inter nubes]

2645 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *per Armill.* stands on the second line, under *Erat ♂ Declin.*, and *Auſt.* ("south") is set before the figures of that second line only; each is kept on the row it is printed on. *Inter ♂ & præced. / genu Ophiuchi* runs over two lines, each with its own time and figures; it is given whole on the first row. *M.* after the declination is "south". *occid.* is given as "west". No times are printed with the two altitudes. The times printed in three figure groups are given as hours, minutes and seconds; the others, printed as bare figures, as hours and minutes. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2646

On 5 April, in the evening [DIE 5 APRILIS, VESPERI.]

Corrected time [Tempus] [correctum]	Between ♂ and Spica [Inter ♂] [& Spicam]	Altitude of ♂ by the revolving [quadrant] [Alt. ♂] [per Vol.]	Declination of ♂, south [Decl.] [♂ M.]
$11^h\ 14¼^m$		18° 48′	12° 40⅓′ with the other [alt.] 12° 40½′
$11^h\ 22⅙^m$	19° 43′		
$11^h\ 32^m$	19° 43¼′		
$11^h\ 34^m$	19° 42⅝′		
	Between ♂ and the northern scale-pan of ♎ [Inter ♂ & Bor. lanc. ♎]		
$11^h\ 41^m$	9° 21⅝′		
$11^h\ 44^m$	9° 21¾′		
$11^h\ 46^m$	9° 21⅓′		
$11^h\ 49⅔^m$		20° 23½′	12° 40⅔′
$11^h\ 52^m$	Spica, west [Spica occ.]	6° 4½′	for the clock [pro horo-] [logio]
$11^h\ 53^m$	Spica, west [Spica occ.]	6° 20′	

2647

On 8 April [DIE 8 APRILIS.]

After midnight. [Poſt mediam noctem.]

The clock was moving 7½ faster. [Horologium velocius mouebatur 7½.][2648]

[2646] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *H. 10* is the hour, given with the minutes *8⅝* as hours and minutes. *M.* after the declination is "south". *Inter nubes*, in smaller type, stands at the right under the figures of the altitude, on a line of its own with no figures; the page does not tie it to either line above. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2647] The four heads are the page's, in smaller type, each printed over two lines. *Vol.* is expanded as the revolving [quadrant]; *M.* in the fourth head is "south". *alt.* is given as "with the other"; it stands with its figures under the fourth head on a line of its own. The line *Inter ♂ & Bor. lanc. ♎* is set across the columns with no figures; the figures of the three rows below it stand under the second head. On the lines of $11^h\ 52^m$ and $11^h\ 53^m$, *Spica occ.* stands in the place of the second column, the figures *6 4½* and *6 20* under the third head, and *pro horo- / logio*, divided over the two lines, under the fourth head; the page names no quantity for these two figures, which are given as degrees and minutes, and the remark is given whole on the first row. *occ.* is given as "west". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2648] *7½* is printed without a unit.

Time	Reading	Instrument	Value
Time, corr. [Temp.] [corr.] $12^h\ 32½^m$ (for all three lines)	Meridian altitude of ♂ [Altitudo ♂ Meridiana]		
		by the steel [quadrant] [per Chalyb.]	21° 38′
		by the revolving [quadrant] [per Volub.]	21° 38¼′
$12^h\ 45½^m$	Declination of ♂, south [Declin. ♂ M.,]	with both [vtroq.]	12° 27′
$12^h\ 50^m$	Between ♂ and Spica ♍ [Inter ♂ & Spicam ♍]		18° 42′
$12^h\ 51⅔^m$	The same distance repeated [Eadem dist.] [repetita]		18° 42′
$12^h\ 53^m$			18° 41′
$12^h\ 59½^m$	Between ♂ and the northern scale-pan of ♎ [Inter ♂ & bor.] [lancem ♎]		10° 8′
$1^h\ 1⅙^m$			10° 8⅙′
$1^h\ 3½^m$	The same distance [Eadem dist.]		10° 8⅙′
$1^h\ 7^m$	Spica ♍, west, for the clock [Spica ♍ occid.] [pro horologio]		27° 35′
$1^h\ 8½^m$			28° 0′

2649

On 13 April, in the evening [DIE 13 APRILIS, VESPERI.]

Time	Reading	Instru-ment	Value
$11^h\ 12^m$, corr. [H. 11 12] [corr.] (for both lines)	Spica, east [Spica orientalis]		3° 31′
	Altitude of ♂ [Altitudo ♂]		20° 12⅓′
	Declination of ♂, south [Declin. ♂ M.]		12° 2½′
			12° 2¾′
$11^h\ 15⅔^m$	Between ♂ and Spica [Inter ♂ & Spicam]		16° 56¼′
	Altitude of ♂ [Altitudo ♂]		20° 19½′
$11^h\ 16½^m$	The same distance [Eadem dist.]		16° 56⅙′

2649 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Temp.* / *corr.* / *12 32½* stand on three lines at the left, joined by a brace to the three lines *Altitudo* ♂ *Meridiana*, *per Chalyb.* and *per Volub.*; the time is given once, on the first row, for all three. *corr.* is left abbreviated. *Altitudo* ♂ *Meridiana* carries no figures. *M.* after the declination is "south"; a comma follows it on the page. *Eadem dist.* / *repetita*, *Inter* ♂ *& bor.* / *lancem* ♎ and *Spica* ♍ *occid.* / *pro horologio* each run over two lines, each line with its own time and figures; each is given whole on its first row. *bor.* is given as "northern" and *occid.* as "west". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	Reading	Instrument	Value
	Altitude of ♂ [Altitudo ♂]		20° 19′
11h 18⅔m	Between ♂ and the northern scale-pan of ♎ [Inter ♂ & bor.] [lancem ♎]		11° 33¾′
11h 19½m			11° 34′

2650

On 15 April [DIE 15 APRILIS.]

The clock was moving 5m 30s faster. [Mouebatur Horol. velocius 5′ 30″.][2651]
N.B. ♂ *near* ☍ ☉. [*N.B.* ♂ *iuxta* ☍ ☉.][2652]

Time	Reading	Instrument	Value
11h 50m	Meridian altitude of ♂ [Alt. ♂ Merid.]	by the revolving [quadrant] [per Vol.]	22° 12½′
		by the steel [quadrant] [per Chalyb.]	22° 13′
11h 56⅓m	Between Spica and ♂ [Inter Spicam & ♂]		16° 11′
11h 58⅙m	The same distance repeated [Eadem dist.] [repet.]		16° 11¼′
12h 2½m			16° 11′
12h 10⅔m	Between ♂ and the southern scale-pan of ♎ [Inter ♂ & aust.] [lanc. ♎]		5° 23½′
12h 14m			5° 24′
12h 15⅓m	The same distance [Eadem dist.]		5° 24′
12h 18⅚m	The northern scale-pan of ♎, east [Borealis] [lanx ♎ or.] — for the clock (for both lines) [pro ho-] [rologio]		5° 36′
12h 23⅓m			4° 45′
	Declination of ♂ [Declinatio ♂]		11° 53′
			11° 53¼′

[2650] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *H. 11 12 / corr.* stand on two lines at the left, joined by a brace to *Spica orientalis* and *Altitudo* ♂; the time is given once, on the first row, for both. *corr.* is left abbreviated. *orientalis* is given as "east"; the page names no quantity for its figures. *M.* after the declination is "south". The altitudes of ♂ after 11h 15⅔m and 11h 16½m carry no time of their own. *Inter* ♂ *& bor. / lancem* ♎ runs over two lines, each with its own time and figures; it is given whole on the first row. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2651] *5′ 30″* is printed with a minute mark and a second mark; as the gain of a clock it is given as minutes and seconds of time.

[2652] ☍ is the sign of opposition. *iuxta* with ☍ is given as "near"; it can also be read in time, "at about [the] ☍".

2653

On 20 April, in the evening [DIE 20 APRILIS, VESPERI.]
The clock has been corrected. [Horologium correctum eſt.]

Time	Reading	Instrument	Value
10^h 49⅓^m	Altitude of ♂ [Altitudo ♂]		22° 3½′
	Declination of ♂ [Declinatio ♂]		11° 27′ south [M.]
		with the other [alt.]	11° 27¼′
10^h 54⅓^m	Distance between ♂ and Spica [Diſt. inter ♂ & Spicam]		14° 21½′
10^h 56½^m	The same distance repeated [Eadem diſtantia] [repetita]		14° 21⅙′
10^h 59½^m			14° 21⅙′
11^h 1^m 30^s [11 1 30″]	The same distance [Eadem diſt.]		14° 21¼′
11^h 4⅓^m	Declination of ♂ [Declin. ♂]		11° 27¾′
			11° 27⅚′
	Altitude of ♂ [Alt. ♂]		22° 24′

2654

Reduction of the preceding observations of ♂ to calculation, for investigating its place in ☉ ☍. [Præcedentium obſeruationum] [♂ in Calculum reductio,] [pro eius loco in ☉ ☍] [inquirendo.][2655]

On 5 April [DIE 5 APRILIS.]

[2653] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The entry runs from the foot of the left column to the head of the right column, which opens with *Eadem diſt.* at 11^h 58⅙^m under no heading. *Merid.* after the altitude is given as "meridian". *Eadem diſt. / repet.*, *Inter* ♂ *& auſt. / lanc.* ♎ and *Borealis / lanx* ♎ *or.* each run over two lines, each line with its own time and figures; each is given whole on its first row. *repet.* is given as "repeated"; *auſt.* as "southern"; *or.* as "east". A brace joins *Borealis* and *lanx* ♎ *or.* to *pro ho- / rologio*, which applies to both rows. *Declinatio* ♂ carries no time; the figures below it carry no label. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2654] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *M.* after the declination is "south". *alt.* is given as "with the other". *Eadem diſtantia / repetita* runs over two lines, each with its own time and figures; it is given whole on the first row. The time *11 1 30″* is printed with a second mark after *30*. The last altitude carries no time. The other times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2655] ☍ is the sign of opposition; *in* ☉ ☍ is given in the order printed.

Time	Reading	Instrument	Value
	When ♂ was being observed, [it] was at an altitude [Cum obſeruaretur ♂ fuit in Alt.]	by the revolving [quadrant] [per Volub.]	18° 48′
11h 22⅙m [H. 11 22⅙]	Between ♂ and Spica ♍ [Inter ♂ & Spicam ♍]		19° 43′
	Declination of ♂, south [Declin. ♂ Merid.]		12° 40½′
	Declination of Spica ♍, south [Declin. Spicæ ♍ M.]		8° 57⅓′
	Side BA [Latus BA]		81° 2⅔′
	[Side] CA		77° 19½′
	[Side] BC		19° 43′
	Angle BAC [Ang. BAC]		19° 43′ 13″
	Right ascension of Spica [Aſc. R. Spicæ]		195° 55′ 0″
	Right ascension of ♂ [Aſc. R. ♂]		215° 38′ 13″

The other way round, from the northern scale-pan of ♎. [Vice verſa ex bor. lance ♎]

Time	Reading	Instru-ment	Value
11h 44m [H. 11 44]	Between ♂ and the northern scale-pan of ♎ [Inter ♂ & bor. lanc. ♎]		9° 21⅔′
	Declination of ♂, south [Declin. ♂ M.]		12° 40⅔′
	Declination of the northern scale-pan, south [Decl. bor. lancis M.]		7° 46½′
	Side BA [Latus BA]		77° 19⅓′
	[Side] CA		82° 13½′
	[Side] BC		9° 21⅔′
	Angle BAC [Ang. BAC]		8° 6′ 22″
	Right ascension of the northern scale-pan [Aſc. R.] [bor. lanc.]		223° 45′ 30″
	Right ascension of ♂ [Aſc. R. ♂]		215° 39′ 8″

2656

2657

[2656] "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. In the first table, *Cum obſeruaretur ♂ fuit in Alt.* stands on a line of its own, and *per Volub.* with the figures on the line below; they are given on one row. *Merid.* and *M.* after a declination are "south". *Latus BA*, *CA*, *BC* and *Ang. BAC* are set with their figures directly after the label; *CA* and *BC* are printed under *BA* without *Latus*. *Aſc. R. / bor. lanc.* runs over two lines, the figures on the second; it is given whole on one row. The values printed in three figure groups are given as degrees, minutes and seconds; the others, printed without unit marks, as degrees and minutes. The times after *H.* are given as hours and minutes. Empty cells are empty on the page.

[2657] The distance between ♂ and the northern scale-pan of ♎ at 11h 44m is 9° 21⅔′ here and 9° 21¾′ in the table of 5 April at the head of this page (with 9° 21⅝′ at 11h 41m and 9° 21⅓′ at 11h 46m). Given as printed. The page's own figures close: 195° 55′ 0″ and 19° 43′ 13″ make 215° 38′ 13″; 223° 45′ 30″ less 8° 6′ 22″ is 215° 39′ 8″. The right ascension of Spica used here, 195° 55′ 0″, is 195° 54′ 30″ in the reductions of p. 343; both are given as printed.

Reading	Value
Therefore let 11^h 33^m be set [Ponatur ergo H. 11 33]	
Right ascension of ♂ [Afc. R. ♂]	215° 38′ 30″
Declination, south [Declin. M.]	12° 40′ 25″
Corresponding [to] 11^h 33^m: longitude [Reſp. H. 11 33 Longitudo]	7° 31′ 10″ ♏
Latitude [Latitudo]	1° 28′ 13″ north [B.]

2658

On 8 April, P. M. N. [DIE 8 APRILIS, P. M. N.]

Time	Reading	Value	Value
12^h 50^m [H. 12 50]	Between ♂ and Spica [Inter ♂ & Spicam]		18° 42′
	Declination, south, of ♂ [Declin. M. ♂]		12° 27′
12^h $59½^m$	The other way round, from the northern scale-pan [Viceverſa a bor. lance]		10° 8′
	[Side] BA	81° 2′ 40″	82° 13½′
	[Side] CA	77° 33′ 0″	77° 33′
	[Side] BC	18° 42′	10° 8′
	[Angle] BAC	18° 42′ 7″	9° 8′ 8″
	Right ascension of ♂ [Afc. R. ♂]	214° 37′ 7″	214° 37′ 22″
	Therefore let 12^h 54^m be set [Ergo ponatur H. 12 54]		
	Right ascension [Afc. R.]		214° 37′ 10″
	Corresponding [to] 12^h 54^m: longitude [Reſp. H. 12 54 Longitudo]		6° 29′ 57″ ♏
	Latitude [Latitudo]		1° 20′ 50″ north [B.]

[2658] The page opens under no heading and carries on the reduction of 5 April from p. 346. "Reading" and "Value" are this edition's heads; the page prints none. *Ponatur ergo H. 11 33* stands on a line of its own with no figures. *Reſp.* is given as "corresponding"; it can also be taken with *Longitudo*, "corresponding longitude at 11^h 33^m". *M.* after the declination is "south"; *B.* after the latitude is "north". The values, printed in three figure groups without unit marks, are given as degrees, minutes and seconds; the time after *H.* as hours and minutes.

2659

N. B. ♂ was in the meridian when [it] was being observed. [N. B. Fuit ♂ in Meridiano cum ob-] [ſeruaretur.]

On 13 April, at night [DIE 13 APRILIS, NOCTU.]

[It] was at an altitude of 20° when [it] was being observed. [Fuit in altitudine 20 grad. cum ob-] [ſeruaretur.]

Time	Reading	Value	Value
11^h $16½^m$ [H.11 16½]	Between ♂ and Spica [Inter ♂ & Spicam]		16° 56¼′
	Declination of ♂, south [Declin. ♂ Merid.]		12° 2′ 40″
11^h $18⅔^m$	The other way round, between ♂ and the northern scale-pan [Viceverſa inter ♂] [& bor. lancem]		11° 33′ 50″
	[Side] BA	81° 2⅔′	82° 13′ 30″
	[Side] CA	77° 57′ 20″	77° 57′ 20″
	[Side] BC	16° 56′ 15″	11° 33′ 50″
	[Angle] BAC	16° 56′ 29″ add.	10° 54′ 45″ sub. [ſub.]
	Right ascension of ♂ [Aſc. R. ♂]	212° 51′ 29″	212° 50′ 45″
	Therefore, [at] 11^h 17^m, right ascension of ♂ [Ergo H. 11 17 Aſc. R. ♂]		212° 51′ 0″
	Corresponding longitude [Reſp. Longitudo]		4° 43′ 19″ ♏
	Latitude [Latitudo]		1° 9′ 35″ north [B.]

2659 "Time", "Reading" and the two "Value" heads are this edition's; the page prints none. *P. M. N.* is left abbreviated. The page sets the figures of *BA*, *CA*, *BC*, *BAC* and *Aſc. R.* ♂ in two columns, a middle one and a right one; the right one stands under the observed values, and both are kept where they are printed. *BA*, *CA*, *BC* and *BAC* are printed without *Latus* or *Angulus*. *M.* after the declination is "south"; *bor.* is "northern"; *B.* after the latitude is "north". *Ergo ponatur H. 12 54* stands on a line of its own with no figures. *Reſp.* is given as "corresponding"; it can also be taken with *Longitudo*. Values printed in three figure groups are given as degrees, minutes and seconds, the others, printed without unit marks, as degrees and minutes; the times, printed as bare figures or after *H.*, as hours and minutes. With the right ascensions printed on p. 346 — Spica 195° 55′ 0″, the northern scale-pan of ♎ 223° 45′ 30″ — the page's figures close: 195° 55′ 0″ and 18° 42′ 7″ make 214° 37′ 7″; 223° 45′ 30″ less 9° 8′ 8″ is 214° 37′ 22″. Empty cells are empty on the page.

2660

2661

On 15 April [DIE 15 APRILIS.]

Observation of ♂ around the meridian. [Obſeruatio ♂ circa Meridianum.]

Time	Reading	Value	Value
$11^h\ 56^m$ [H. 11 56]	♂ from Spica [♂ a Spica]		16° 11′
	Declination of ♂, south [Declin. ♂ M.]		11° 52½′
$12^h\ 14^m$	The other way round, from the southern scale-pan of ♎ [Viceverſa ab auſtrali] [lance ♎]		5° 24′
	[Side] BA	81° 2′ 40″	75° 46′ 20″
	[Side] CA	78° 7′ 30″	78° 7′ 30″
	[Side] BC	16° 11′ 0″	5° 24′ 0″
	[Angle] BAC	16° 11′ 17″	4° 59′ 23″
	Right ascension of ♂ [A ſc. R. ♂]	212° 6′ 17″	212° 4′ 37″
$12^h\ 5^m$ [H. 12 5]	Right ascension of ♂ [Aſc. R. ♂]		212° 5′ 30″
	Corresponding longitude [Reſp. Longitudo]		3° 58′ 21″ ♏
	Latitude [Latitudo]		1° 4′ 5″ north [B.]

2660 "Time", "Reading" and the two "Value" heads are this edition's; the page prints none. The sentence above the table names no subject. *20 grad.* is given as 20°. The figures of *BA*, *CA*, *BC*, *BAC* and *Aſc. R.* ♂ stand in a middle and a right column, kept as printed; *BA*, *CA*, *BC* and *BAC* are printed without *Latus* or *Angulus*. *Merid.* after the declination is "south"; *bor.* is "northern"; *B.* after the latitude is "north". *Viceverſa inter* ♂ / *& bor. lancem* runs over two lines, the time on the first and the figures on the second; it is given whole on one row. *add.* stands after the middle figures of *BAC*; *ſub.* stands on a line of its own at the right of the column, between the right figures of *BAC* and those of *Aſc. R.* ♂, and is given on its own row; both are left abbreviated. Values printed in three figure groups are given as degrees, minutes and seconds, the others, printed without unit marks, as degrees and minutes; the times as hours and minutes. With the right ascensions printed on p. 346 the page's figures close: 195° 55′ 0″ and 16° 56′ 29″ make 212° 51′ 29″; 223° 45′ 30″ less 10° 54′ 45″ is 212° 50′ 45″. Empty cells are empty on the page.

2661 Values that disagree with p. 346. The distance between ♂ and Spica stands here at $11^h\ 16½^m$ as 16° 56¼′; on p. 346 the distance at $11^h\ 16½^m$ is 16° 56⅙′, and 16° 56¼′ stands at $11^h\ 15⅔^m$. The distance between ♂ and the northern scale-pan at $11^h\ 18⅔^m$ is 11° 33′ 50″ here and 11° 33¾′ on p. 346. The declination of ♂ is 12° 2′ 40″ here; p. 346 gives 12° 2½′ and 12° 2¾′. Given as printed.

2662

2663

On 20 April [DIE 20 APRILIS.]

N. B. ♂ was at an altitude, by the revolving [quadrant], of 22° 24′ when [it] was being observed. [N. B. Fuit ♂ in Alt. per Volub. 22 24] [cum obſeruaretur.]

Time	Reading	Value
11^{h} $1½^{m}$ [H. 11 1½]	Between ♂ and Spica [Inter ♂ & Spicam]	14° 21¼′
	Declination of ♂, south [Declin. ♂ auſt.]	11° 27½′
	Side BA [Latus BA]	81° 2′ 40″
	[Side] CA	78° 32′ 30″
	[Side] BC	14° 21′ 15″
	Angle BAC [Angulus BAC]	14° 21′ 51″ add.
	Right ascension of ♂ [Aſc. R. ♂]	210° 16′ 51″
	Corresponding longitude [Reſp. Longitudo]	2° 10′ 5″ ♏
	Latitude [Latitudo]	0° 51′ 31″ north [B.]

2664

On 22 April [DIE 22 APRILIS.]

The clock was being verified. [Horologium verificabatur.]

2662 "Time", "Reading" and the two "Value" heads are this edition's; the page prints none. The entry runs from the foot of the left column to the head of the right column, which opens with *H. 12 5 Aſc. R.* ♂ under no heading; given as one table, the left part first. The figures of *BA*, *CA*, *BC*, *BAC* and *Aſc. R.* ♂ stand in a middle and a right column, kept as printed; *BA*, *CA*, *BC* and *BAC* are printed without *Latus* or *Angulus*; *Aſc.* is printed with a space inside it, *A ſc.* The three rows from the right column have their figures at the right of that column and are given in the last column. *M.* after the declination is "south"; *auſtrali* is "southern"; *B.* after the latitude is "north". *Viceverſa ab auſtrali / lance* ♎ runs over two lines, the time on the first and the figures on the second; it is given whole on one row. Values printed in three figure groups are given as degrees, minutes and seconds, the others, printed without unit marks, as degrees and minutes; the times as hours and minutes. With the right ascension of Spica printed on p. 346, 195° 55′ 0″ and 16° 11′ 17″ make 212° 6′ 17″. Empty cells are empty on the page.

2663 Values that disagree with p. 346. The distance 16° 11′ between ♂ and Spica stands at 11^{h} 56^{m} here and at 11^{h} $56⅓^{m}$ on p. 346. The declination of ♂ is 11° 52½′ here; p. 346 gives 11° 53′ and 11° 53¼′. Given as printed.

2664 "Time", "Reading" and "Value" are this edition's heads; the page prints none. *22 24* in the sentence above the table is printed without units and given as degrees and minutes. *auſt.* after the declination is "south"; *B.* after the latitude is "north". From *Latus BA* to *Latitudo* each label is set with its figures directly after it, not at the right of the column; *CA* and *BC* are printed under *BA* without *Latus*. *add.* is left abbreviated. Values printed in three figure groups are given as degrees, minutes and seconds, the others, printed without unit marks, as degrees and minutes; the time after *H.* as hours and minutes. With the right ascension of Spica printed on p. 346, 195° 55′ 0″ and 14° 21′ 51″ make 210° 16′ 51″. The declination of ♂ is 11° 27½′ here; p. 346 gives 11° 27′, 11° 27¼′, 11° 27¾′ and 11° 27⅚′ for this day. Given as printed.

Time	Reading	Instrument	Value
11^{h} $11\frac{1}{6}^{m}$	Between ♂ and Spica ♍ [Inter ♂ & Spicam ♍]		13° 36¼′
11^{h} 18^{m}	Meridian altitude of ♂ [Alt. Merid. ♂]	by the steel [quadrant] [per Chal.]	22° 47½′
	Declination of ♂ [Declin. ♂]		11° 18′
		with the other [alt.]	11° 18¼′
11^{h} $28\frac{5}{6}^{m}$	Between ♂ and Spica ♍ [Inter ♂ & Spicam ♍]		13° 36¼′
11^{h} $31\frac{1}{6}^{m}$	Repeated [Repet.]		13° 36¾′

2665

On 23 April [DIE 23 APRILIS.]

Clock, corr. [Horologium corr.]

Time	Reading	Instrument	Value
10^{h} $36\frac{2}{3}^{m}$	Declination of ♂ [Declin. ♂]		11° 13′
		with the other [alt.]	11° 12⅝′
10^{h} 42^{m}	Between ♂ and Spica [Inter ♂ & Spicam]		13° 15⅝′
10^{h} 46^{m}	Repeated [Repet.]		13° 16⅛′
	Altitude of ♂ [Alt. ♂]	by the revolving [quadrant] [per Volub.]	22° 35′
10^{h} $49\frac{1}{2}^{m}$	Between ♂ and the southern scale-pan of ♎ [Inter ♂ & auſt.] [lancem ♎]		8° 18′
10^{h} 52^{m}			8° 18¼′

2666

On 24 April [DIE 24 APRILIS.]

Clock, correct. [Horolog. correct.]

Time	Reading	Instrument	Value
10^{h} $27\frac{1}{3}^{m}$	Between ♂ and Spica [Inter ♂ & Spicam]		12° 54½′
10^{h} $28\frac{5}{6}^{m}$			12° 54′
10^{h} 31^{m}			12° 54¾′

2665 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Merid.* after the altitude is "meridian". *per Chal.* is given as "by the steel [quadrant]". *alt.* is given as "with the other"; it stands with its figures on a line of its own. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2666 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *corr.* is left abbreviated. *alt.* is given as "with the other". The altitude of ♂ carries no time. *Inter ♂ & auſt. / lancem ♎* runs over two lines, each with its own time and figures; it is given whole on the first row. *auſt.* is given as "southern". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Time	Reading	Instrument	Value
10^h $45\frac{1}{6}^m$	Between ♂ and the more southern scale-pan of ♎ [Inter ♂ & auſtra-] [liorem lancem ♎]		8° 37¾′
10^h $47\frac{1}{2}^m$			8° 38′
10^h $49\frac{2}{3}^m$			8° 37′
10^h $53\frac{5}{6}^m$	Declination of ♂ [Decl. ♂]	by the armillae [per Armill.]	11° 9′
			11° 9⅔′
	Altitude of ♂ [Alt. ♂]	by the revolving [quadrant] [per Volub.]	22° 51′

2667

On 26 April [DIE 26 APRILIS.]

The clock was being corrected. [Horologium corrigebatur.]

Time	Reading	Instrument	Value
10^h $45\frac{2}{3}^m$	Altitude of ♂ [Alt. ♂]	by the steel [quadrant] [per Chal.]	23° 7⅓′
		by the revolving [quadrant] [per Volub.]	23° 6½′
11^h $8\frac{1}{2}^m$	Declination of ♂ [Decl. ♂]	by the armillae [per Arm.]	11° 0½′
		with the other [alt.]	11° 0⅙′
11^h 14^m	Between ♂ and Spica [Inter ♂ & Spicam]		12° 13′
11^h $15\frac{1}{4}^m$			12° 13⅓′
11^h 30^m	Between ♂ and the northern scale-pan of ♎ [Inter ♂ & Bor.] [lancem ♎]		9° 18⅚′
11^h $31\frac{1}{2}^m$			9° 19⅙′
11^h $33\frac{1}{2}^m$			9° 18¼′

2668

2667 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *correct.* is left abbreviated. *Inter ♂ & auſtra- / liorem lancem ♎* runs over two lines, divided in the word, each line with its own time and figures; it is given whole on the first row. *auſtraliorem* is a comparative, given as "more southern". The second declination and the altitude carry no time. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2668 "Time", "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The entry stands in two columns at the head of the page: the left column, under the date, ends with *alt.*, and the right column, under no heading, opens with *Inter ♂ & Spicam* at 11^h 14^m; given as one table, the left part first. *per Volub.* stands under *per Chal.* with no time. *alt.* is given as "with the other". *Inter ♂ & Bor. / lancem ♎* runs over two lines, each with its own time and figures; it is given whole on the first row; *Bor.* is "northern". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Examination of the observations of ♂ near ☍ ☉. Table of the preceding observations, with the Alphonsine and Copernican calculation compared. [EXAMINATIO OBSERUATIONUM ♂ IUXTA ☍ ☉.] [TABULA PRÆCEDENTIUM OBSERUATIONUM COLLATO] [ALPHONSINO & COPERNIANO CALCULO.][2669]

Day [Die]	Time of the clock [Tempus] [Horologij]	Tychonic calculation: longitude [Calculus Tychonicus] [Long.]	Tychonic calculation: latitude [Calculus Tychonicus] [Latit.]	Alphonsine calculation: longitude [Calcul. Alphonſinus] [Long.]	Alphonsine calculation: latitude [Calcul. Alphonſinus] [Latit.]	Copernican calculation: longitude [Calcul. Copernianus] [Long.]	Copernican calculation: latitude [Calcul. Copernianus] [Latit.]	Altitude of ♂ when [it] was being observed [Alt. ♂ cum] [obſeruaretur]
5	$11^h\ 33^m$	7° 31⅙′ ♏	1° 28¼′ north [B.]	6° 27′ ♏	1° 16′ north [B.]	9° 19′ ♏	2° 4′ north [S.]	19° [19 G.]
8	$12^h\ 54^m$	6° 30′	1° 20⅚′	5° 27′	1° 10′	8° 14′	2° 1′	in the meridian [in Merid.]
13	$11^h\ 17^m$	4° 43⅓′	1° 9⅔′	3° 43′	1° 0′	6° 27′	1° 51′	20° [20 G.]
15	$12^h\ 5^m$	3° 58⅓′	1° 4 1/12′	3° 1′	0° 54′	5° 42′	1° 47′	in the meridian [in merid.]
20	$11^h\ 1^m$	2° 10 1/12′	0° 51½′	1° 14′	0° 39′	3° 46′	1° 38′	22° [22 G.]
22	$11^h\ 29^m$	1° 39⅙′	0° 50⅓′	0° 34′	0° 35′	3° 1′	1° 35′	in the meridian [in Merid.]
23	$10^h\ 42^m$	1° 4⅝′	0° 43′	0° 16′	0° 33′	2° 39′	1° 32′	22⅔° [22⅔ G.]
24	$10^h\ 36^m$	0° 43½′	0° 38⅝′	29° 58′ ♎	0° 31′	2° 17′	1° 30′	23° [23 G.]
26	$11^h\ 14^m$	0° 2½′	0° 33⅓′	29° 19′	0° 26′	1° 33′	1° 26′	in the meridian [in merid.]

2670

[2669] ☍ is the sign of opposition. *IUXTA* with ☍ is given as "near"; it can also be read in time, "at about [the] ☍". *COLLATO … CALCULO* is an ablative absolute, given as "with … compared"; the page does not say what the calculation is compared with.

[2670] The heads are the page's. *Calculus Tychonicus*, *Calcul. Alphonſinus* and *Calcul. Copernianus* are each printed once, spanning the two columns *Long.* and *Latit.* below them; each is repeated here over both columns it spans. *Tempus / Horologij* and *Alt. ♂ cum / obſeruaretur* are each printed over two lines. The days are those of April. *B.* is "north", and *S.* after the Copernican latitude is "north" as well; the signs and *B/S.* are printed in the first row only (and ♎ in the Alphonsine longitude of 24 April). *G.* after the altitudes is given as °. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *1 4 1/12* and *2 10 1/12* carry a fraction with the denominator 12. The Tychonic values agree, to the fraction given, with the longitudes and latitudes found on p. 347 for 5, 8, 13, 15 and 20 April.

2671

On 14 April, at 6^h $22\frac{5}{6}^m$: place of ♂ 4° 24½′ ♏; simple place of ☉ 4° 24½′ ♉. [Die 14 Aprilis, H. 6 22⅚ Locus ♂ 4 24½ ♏] [Simpl. locus ☉ 4 24½ ♉] Therefore there had then been ☍ of the true place of ♂ and of the simple [place] of ☉. [Ergo tum fuerat ☍] [veri loci ♂ & ſimplicis ☉.][2672]

The operation repeated for ☍ ☉ and ♂ [Repetita operatio pro ☍ ☉ & ♂]

Reading	Value	Remark
Between the 13th and 15th day of April the diurnal motion of ♂ is [Inter 13 & 15 diem Aprilis eſt motus diurnus ♂]	23′ 45″	
its hourly motion [motus horarius eius]	59″	
its motion in minutes is [motus eius in minutis eſt]	59‴	
On 14 April at noon, the place of ♂ [Die 14 Aprilis in meridie Locus ♂]	4° 30′ 49″ ♏	
Simple place of ☉ [Locus ☉ ſimplex]	4° 9′ 6″ ♉	
Diurnal motion of ☉ [Motus diurnus ☉]	58′ 8″	
hourly [horarius]	2′ 25⅓″	
in minutes [in minutis]	2″ 25‴	
At 6^h 22^m 50^s [H. 6 22′ 50″], simple place of ☉ [Locus ſimplex ☉]	4° 24′ 33″ ♉	☍ of ☉ and of ♂ [☍ ☉ⁱˢ] [& ♂ᵗⁱˢ]
Place of ♂ [Locus ♂ᵗⁱˢ]	4° 24′ 33″ ♏	
The latitude of ♂ was then [Fuit tunc latitudo ♂]	1° 7′ 26″ north [B.]	

2673

2674

[2671] In the Tychonic columns the row of 22 April stands apart from its neighbours. Longitude: 2° 10 1/12′ (20 April), 1° 39⅙′ (22 April), 1° 4⅚′ (23 April) — 30 11/12′ in the two days to 22 April, then 34⅓′ in the one day to 23 April. Latitude: 0° 51½′, 0° 50⅓′, 0° 43′ — 1⅙′ in the two days to 22 April, then 7⅓′ in the one day to 23 April. Given as printed.

[2672] The remark *Ergo tum fuerat ☍ / veri loci ♂ & ſimplicis ☉.* is set at the right of the two lines before it. *Simpl.* is given as "simple". The time after *H.* is given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2673] "Reading", "Value" and "Remark" are this edition's heads; the page prints none. The figures stand in a column at the right of the page; the remark ☍ ☉ⁱˢ / & ♂ᵗⁱˢ, set at the right of the two lines of the simple place of ☉ and the place of ♂ after the signs of Taurus and Scorpio, is given whole on the first of them. ☉ⁱˢ and ♂ᵗⁱˢ are printed with the Latin genitive endings raised. Units printed on the page are kept: 23′ 45″, 59″, 59‴, 4° 30′ 49″, 2″ 25‴, and the time *6 22′ 50″*, given as hours, minutes and seconds. Units not printed are supplied from the page's own figures and disclosed: in *4° 9′ 6* the *6*, printed without a mark, is given as seconds; *58 8* (the diurnal motion of ☉) is given as minutes and seconds, and *2 25⅓* (hourly) as minutes and seconds, as the next line's *2″ 25‴* fixes; *4 24 33* and *1 7 26*, in three figure groups without marks, as degrees, minutes and seconds.

[2674] The longitudes of ♂ found on p. 347 are 4° 43′ 19″ ♏ for 13 April at 11^h 17^m and 3° 58′ 21″ ♏ for 15 April at 12^h 5^m, which are 44′ 58″ apart; the diurnal motion of ♂ between 13 and 15 April is given here as 23′ 45″. Given as printed.

On 6 May [DIE 6 MAIJ.]

The clock was being corrected against Spica. [Horologium ad Spicam corrigebatur.]

Time	Reading	Value
$11^h\ 11^m$	♂ from Spica ♍ [♂ a Spica ♍]	9° 16′
	Altitude of ♂ [Altitudo ♂]	22° 25¼′
$11^h\ 14^m$	The same distance [Eadem diſt.]	9° 17′
$11^h\ 16^m$		9° 16′
$11^h\ 19½^m$		9° 16½′
$11^h\ 22^m$	Between ♂ and the southern scale-pan of ♎ [Inter ♂ & auſtral.] [lancem ♎]	12° 13⅓′
$11^h\ 24⅓^m$		12° 15′
$11^h\ 26⅙^m$		12° 13¾′

2675

On 10 May [DIE 10 MAIJ.]

The clock was verified against ☉ at 5^h after noon. [Horologium hora 5 pomerid. ad ☉] [eſt verificatum.]

Time	Reading	Value	Value
$10^h\ 43^m\ 3^s$ [10 43′ 3″]	Between ♂ and Spica [Inter ♂ & Spicam]		8° 21′
	Altitude of ♂ [Altit. ♂]	22° 46′	
$10^h\ 45^m$	The same distance [Eadem diſt.]		8° 21′
	Altitude of ♂ [Altit. ♂]	22° 31¾′	
$10^h\ 53^m\ 45^s$	The same distance [Eadem diſt.]		8° 21½′
$10^h\ 58^m$	Between ♂ and the southern scale-pan of ♎ [Inter ♂ & auſtral.] [lancem ♎]		13° 4⅔′
$11^h\ 0^m$			13° 4¾′

2676

2675 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The altitude of ♂ carries no time. *Inter ♂ & auſtral. / lancem ♎* runs over two lines, each with its own time and figures; it is given whole on the first row; *auſtral.* is "southern". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2676 "Time", "Reading" and the two "Value" heads are this edition's; the page prints none. *pomerid.* is given as "after noon". The altitudes of ♂ carry no time, and their figures stand in a middle position, to the left of the column of distances; they are kept in a column of their own. The time *10 43′ 3″* is printed with a minute mark and a second mark and is given as hours, minutes and seconds; *10 53 45*, in three figure groups, likewise. *Inter ♂ & auſtral. / lancem ♎* runs over two lines, each with its own time and figures; it is given whole on the first row; *auſtral.* is "southern". The other times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

On 27 May [DIE 27 MAIJ.]

Time	Reading	Value	Altitude of ♂ [Alt. ♂]
$12^h\ 0^m$	Declination of ♂ [Decl. ♂]	10° 20¾′	
		10° 20½′	9° 0′
$12^h\ 6¼^m$	♂ from Spica [♂ a Spica]	7° 2′	8° 40′
$12^h\ 8^m$		7° 2⅔′	
$12^h\ 9^m$		7° 2¼′	
$12^h\ 15⅔^m$	Between ♂ and the heart of ♏ [Inter ♂] [& cor ♏]	39° 7¼′	7° 0′
$12^h\ 17^m$		39° 7½′	
$12^h\ 18¾^m$		39° 7⅔′	6° 50′

2677

On 15 September[1] [DIE 15 SEPTEMBRIS[1].]

Time	Reading	Value
$8^h\ 4½^m$	Declination of ♂, south [Declin. ♂ M.]	24° 33′
	The altitude of ♂ was then about [Fuit tunc. Alt. ♂ circiter]	4½°
$8^h\ 9^m$	Distance between ♂ and the bright shoulder of ♐ [Dist. inter ♂ &] [luc. hum. ♐]	19° 59′
	Altitude of ♂ [Altitudo ♂]	3° 20′
	The Vulture was then west [Erat tunc Vultur occid.]	1° 40′
$8^h\ 13^m$	Distance between ♂ and the bright shoulder of ♐ [Dist. inter ♂ &] [luc. hum. ♐]	19° 59⅙′
	Altitude of ♂ [Altitudo ♂]	2° 50′
	The Vulture was then west [Erat tunc Vultur occ.]	0° 30′
$8^h\ 16⅔^m$	The Vulture was then west [Erat tunc Vultur occ.]	0° 57½′
	Altitude of ♂ [Altitudo ♂]	2° 35′
	Distance between ♂ and the bright shoulder of ♐ [Dist. inter ♂ &] [luc. hum. ♐]	20° 0¾′

2678

2679

2677 "Time", "Reading" and "Value" are this edition's heads; the page prints none over those columns. *Alt.* ♂ is printed at the right of the first line, level with *Decl.* ♂, over the column of altitudes; it is given as that column's head, and its first figure stands on the second line. *Inter* ♂ / *&* *cor* ♏ runs over two lines, each with its own time and figures; it is given whole on the first row. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2678 "Time", "Reading" and "Value" are this edition's heads; the page prints none. *M.* stands after the sign, before the figures, and is given as "south". *Fuit tunc.* is printed with a point after *tunc*; *4½*, a single figure with a fraction set directly after *circiter*, is given as degrees. *Dist. inter* ♂ *&* / *luc. hum.* ♐ runs over two lines, the figures on the second line only; it is given whole on one row. The last distance carries no time of its own. The times, printed as bare figures, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2679 The three values for the Vulture, west, are 1° 40′ at $8^h\ 9^m$, 0° 30′ at $8^h\ 13^m$ and 0° 57½′ at $8^h\ 16⅔^m$. Given as printed.

On 1 November, in the evening [DIE 1 NOUEMBRIS, VESPERI.]

Time	Reading	Value
$5^h\ 2^m\ 30^s$ [5 2′ 30″]	Between ♂ and the last of the three [stars] in the head of ♐ [Inter ♂ & vltimam trium in] [capite ♐]	10° 49½′
	Altitude of ♂ [Alt. ♂]	7° 40′
	The mouth of Pegasus was then east [Tunc erat os Pegaſi or.]	3° 2⅓′
$5^h\ 4^m\ 30^s$	The same distance [Eadem diſt.]	10° 49¾′
$5^h\ 8½^m$	Between ♂ and the brighter [star] of ♍^{2} [Inter ♂ & lucidiorem ♍^{2}]	26° 51′
	The mouth of Pegasus was then east [Erat tunc os Pegaſi or.]	1° 39′
$5^h\ 10⅔^m$	Between ♂ and the brighter [star] of ♍ [Inter ♂ & lucidior. ♍]	26° 51¾′
	The mouth of Pegasus was east [Erat os Pegaſi orient.]	0° 47′
$5^h\ 13⅓^m$	Declination of ♂ [♂ Declinatio]	23° 21′ south [M.]
		23° 21½′
	The mouth of Pegasus was then east of the meridian [Erat tunc os Pegaſi a Mer. or.]	0° 4½′

2680

On 3 December, in the evening [DIE 3 DECEMBRIS, VESPERI.]

Distance of ♂ from the uppermost [star] in the horn of ♍ [Diſt. ♂] [a ſuprema in] [cornu ♍]	Alti-tude of ♂ [Alt. ♂]	Declina-tion of ♂ [Decl. ♂]	The first [star of the] wing of Pegasus was distant from the meridian toward the west [Diſtabat prima] [ala Peg. a] [Merid. ad occ.]
19° 6′	12⅓°		2° 16′
19° 6¼′	12⅓°	17° 23¾′ [173° 16½′ $23^8/_4$]	
19° 6¼′	12⅓°		4° 24′
Distance of ♂ from the brighter [star] in the foot of ♒ [Diſt. ♂ a lucidi-] [ore in pede ♒]			
19° 0¼′	11° 50′		5° 26⅓′
19° 0′	11⅓°		6° 45′
19° 0′	11⅙°	17° 25′	7° 17½′

2680 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The first time is printed with a minute mark and a second mark and is given as hours, minutes and seconds; *5 4 30*, in three figure groups, likewise. *Inter ♂ & vltimam trium in / capite ♐* runs over two lines, the figures on the second line only; it is given whole on one row. *lucidior.* is the abbreviated form of *lucidiorem* printed two lines above. *M.* is given as "south". The last line is set from the left edge of the column, with no time; *a Mer. or.* is given as "east of the meridian", and can also be read "from the meridian, east". The other times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2681

Places of Mars[3] [LOCA MARTIS[3].]
Calculation of ♂, on 12 February [Calculus ♂ DIE 12 FEBRUARIJ.]

Reading	Value
Right ascension of Spica ♍ [Aſcenſio R. Spicæ ♍]	195° 54′ 28″
Declination, south [Declinatio] [auſt.]	8° 57′ 6″
Right ascension of the knee of Ophiuchus [Aſcenſio R. gen. Oph.]	243° 39′ 0″
Declination, south [Declinatio] [auſt.]	9° 37′ 12″
Difference of ascension from Spica [Diff. aſcenſ. ex Spica]	21° 12′ 40″
Right ascension of ♂ [Aſcenſ. R. ♂]	217° 7′ 8″
Difference of ascension from the knee of Ophiuchus [Diff. aſcenſ. ex gen. Oph.]	26° 31′ 0″
Right ascension of ♂ [Aſcenſ. R. ♂]	217° 8′ 0″
Difference of the right ascensions [Diff. Aſcenſ. rectarum]	52″
Right ascension of ♂, limited [Aſcenſ. R. ♂ limitata]	217° 7′ 34″
Longitude of ♂ [Longitudo ♂]	8° 49′ 18″ ♏
Latitude of ♂ [Latitudo ♂]	2° 9′ 13″ north [S.]

2682

For the place of ♂ on 6 May, from the observations entered in the record. [Pro loco ♂ ad diem 6. MAIJ ex ob-] [ſeruationibus protocollo inſcriptis.]

Time	Reading	Value
11⅓[h] [H. 11⅓]	Distance of ♂ from Spica ♍ [Diſtantia ♂ a Spica ♍]	9° 16½′
	Declination of ♂ [Declinatio ♂]	10° 22½′ south [M.]
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	9° 18′ 5″
	Right ascension of Spica [Aſcenſ. R. Spicæ]	195° 54′ 40″
	Therefore the right ascension of ♂ [Ergo Aſcenſ. R. ♂]	205° 12′ 45″

[2681] The heads are the page's, set in smaller type; no times are printed. The first and fourth heads are each printed over three lines. *Diſt. ♂ a lucidi- / ore in pede ♒* is a second head over the first column, set between the rows; it is given as a row of its own. *prima ala Peg.* is given as "the first [star of the] wing of Pegasus"; read word for word it says "the first wing of Pegasus". In the declination column, in the second row of the table, the fraction after 23 has the denominator 4, and the numerator is printed as an 8 (8/4): on a native-resolution crop it is closed on the left in both bowls, where the 3s of the ¾ above in this column are open. 8/4 is not a meaningful fraction here, and it is given as ¾, the printed form kept in the bracket. The altitudes set as a single figure with a fraction (12⅓, 11⅓, 11⅙) are given as degrees; the other values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2682] "Reading" and "Value" are this edition's heads; the page prints none. *auſt.* is set apart from *Declinatio*, just before the figures, and is given as "south". *gen. Oph.* is given as "the knee of Ophiuchus". *S.* after the latitude is given as "north". The values, in three figure groups without unit marks, are given as degrees, minutes and seconds; *52*, printed alone in the column of seconds, as seconds.

Time	Reading	Value
	At the same time, the distance of ♂ from the southern scale-pan [Eodem tempore diſt. ♂] [ab auſt. lance]	12° 14′
	Declination of the southern scale-pan [Declin. auſt. lanc.]	14° 14½′ south [M.]
	Angle of the difference of ascension [Ang. diff. aſcenſ.]	11° 54′ 3″
	Right ascension of the southern scale-pan [Aſc. R. auſt. lanc.]	217° 5′ 0″
	Therefore the right ascension of ♂ [Ergo Aſc. R. ♂]	205° 11′ 0″
11⅓ʰ [H. 11⅓]	Set the right ascension [pone Aſc. rectam]	205° 12′
	the declination [declinationem]	10° 22½′
	Corresponding longitude [Reſp. Longitudo]	27° 7⅓′ ♎
	Latitude [Latitudo]	0° 6′ 40″ north [B.]

2683

2684

2685

For the place of ♂ on 15 September. [Pro loco ♂ ad diem 15 SEPTEMBRIS.]

Time	Reading	Value
7¼ʰ [H. 7¼]	Distance of ♂ from the bright shoulder of ♐ [Diſtantia ♂ a luc.] [hum. ♐]	19° 59′
	Altitude of ♂ [Greek: ἐν πλάτει (en platei, "in breadth")] [Altitudo ♂ ἐν πλάτει]	4°

2686

1 From here to the end of the year, from codex V. [Hinc uſque ad finem anni e codice V.]

2683 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The first two rows stand at the foot of the left column; the computation runs on at the head of the right column, under no heading, and is given here as one table. A rule is printed under the right ascension of Spica and under the right ascension of the southern scale-pan, before each *Ergo* line. *Eodem tempore diſt. ♂ / ab auſt. lance* runs over two lines, the figures on the second line only; it is given whole on one row. *H.* is given as hours. *M.* after the declinations is given as "south", *B.* after the latitude as "north". Values printed in three figure groups without unit marks are given as degrees, minutes and seconds; values printed in two, as degrees and minutes. Empty cells are empty on the page.

2684 The right ascension of Spica is 195° 54′ 28″ in the calculation of 12 February above and 195° 54′ 40″ here. Given as printed.

2685 The right ascension of the southern scale-pan, 217° 5′ 0″, less the angle 11° 54′ 3″ printed above it, is 205° 10′ 57″; the page gives 205° 11′ 0″. Given as printed.

2686 "Time", "Reading" and "Value" are this edition's heads; the page prints none. *Diſtantia ♂ a luc. / hum. ♐* runs over two lines, the figures on the second line only; it is given whole on one row. *H.* is given as hours; *19 59*, without unit marks, as degrees and minutes; *4°* is printed with its degree mark. In the 15 September entry above, the distance 19° 59′ is printed at $8^h\ 9^m$, and the altitude of ♂ as about 4½° on the untimed line after the declination of $8^h\ 4½^m$ (*Fuit tunc*).

[2] Added later: “the following [star] in the tail”. [Adſcriptum eſt poſtea »ſequentem in cauda«.]

[3] From codex V. [E codice V.]

Reading	Value
Apparent declination: ♂ [Declin. viſa] [♂]	24° 33′
the shoulder of ♐ [hum. ♐]	26° 36′
Right ascension of the shoulder of ♐ [Aſcenſ. R. hum. ♐]	277° 31½′
Therefore the right ascension of ♂ from these [Ergo Aſcenſ. R. ♂] [ex hiſce]	225° 27½′
Corresponding apparent longitude [Reſp. viſa Longitudo]	16° 47⅔′ ♐
Latitude [Latitudo]	1° 41⅔′ south [M.]
True longitude [vera Longitudo]	16° 45⅔′ ♐
Latitude [Latitudo]	1° 52⅓′ south [M.]

2687

2688

Simple motion of ♂, corr. [Simplex motus ♂ corr.]

Reading	Value
Simple longitude from ♈ [Simplex longit. a ♈]	9 sex. 6° 55½′ [9ſex. 6 55½′]
Apogee [Apogæum]	3 25° 30′ 10″
Eccentric anomaly [Anomalia Eccent.]	5 11° 25′ 20″

Anomaly of the orb about 64° from the perigee. [Anomalia orbis quaſi 64° a Perig.][2689]

[2687] ”Reading” and ”Value” are this edition's heads; the page prints none. These lines carry on, under no heading, the computation for the place of ♂ on 15 September begun at the foot of p. 349. A brace after *Declin. viſa* joins the two lines ♂ and *hum.* ♐, each with its own figures; *Declin. viſa* is given on the first of them. *Ergo Aſcenſ. R.* ♂ / *ex hiſce* runs over two lines, the figures on the second; it is given whole on one row. *M.* is given as ”south”. The fractions after 47 and 41 are printed with a denominator of a flat-headed form; they are read as ⅔. The values, printed without unit marks, are given as degrees and minutes.

[2688] The right ascension of the shoulder of ♐, 277° 31½′, and the right ascension of ♂ found from it, 225° 27½′, are 52° 4′ apart, while the distance between ♂ and the bright shoulder of ♐ is printed on p. 349 as 19° 59′, with declinations here of 24° 33′ and 26° 36′. Given as printed.

[2689] ”Reading” and ”Value” are this edition's heads; the page prints none. A rule is printed under the apogee, before the eccentric anomaly. *ſex.* is printed raised after the 9 and is kept abbreviated; it can be read as *sexagenæ*, units of 60°, or the first figures can be read as signs of 30°. The subtraction the rule marks closes when the first figures count units of 30°: 9 · 6° 55′ 30″ less 3 · 25° 30′ 10″ leaves 5 · 11° 25′ 20″; taken as units of 60° it does not. The first figure of the apogee and of the anomaly carries no mark. *55½* is printed with a minute mark and *10* with a second mark; the other figures of those lines are given as degrees, minutes and seconds accordingly. *Perig.* is given as ”the perigee”.

For finding and examining the latitude of ♂ in ⚹ ☉ in the perigee of its eccentric, on 1 November in the evening, at 6^h 10^m. [Pro cognoſcenda et examinanda] [latitudine ♂ in ⚹ ☉ in Perigæo Eccen-] [tri illius DIE 1 NOUEMBRIS veſperi] [H.6 M.10.][2690]

Reading	Value
Distance of ♂ from the bright tail of ♈ [Diſtant. ♂ a] [lucida cauda ♈]	26° 51½′
from the eastern [star] of the head of ♐ [orient. capit. ♐]	10° 49⅔′

Declination of ♂ 23° 22′ south. Altitude 7°. [Declinatio ♂ 23° 22′ M. Altitudo 7°.][2691]

Reading	Right ascension [Aſc. R.]	Declination [Declin.]
Of the tail of ♈ [Caudæ ♈]	321° 8½′	17° 53′ south [M.]
Of the head of ♐ [Capitis ♐]	281° 24′	21° 36′ south [M.]

2692

Reading	Value
Angle of the difference of ascension from the eastern [star] of the head of ♐ [Angulus diff. aſcenſ.] [ex or. cap. ♐]	11° 33′ 52″
Angle of the difference of ascension from the bright [star] of the tail of ♈ [Angulus diff. aſcenſ.] [ex luc. caud. ♈]	28° 8′ 23″
Hence the right ascension of ♂, limited, is gathered [Hinc colligitur Aſc. R. ♂] [limitata]	292° 59′ 0″
Longitude [Longitudo]	21° 0′ 43″ ♈
Latitude [Latitudo]	1° 30′ 30″ south [M.]

[2690] ⚹ is the sign of the sextile aspect. *illius* is given as "its", referring to ♂; it can also be read "of that [eccentric]". The computation for 1 November follows at the head of the right column.

[2691] "Reading" and "Value" are this edition's heads; the page prints none. A brace after *Diſtant. ♂ a* joins *lucida cauda* ♈ and *orient. capit.* ♐, each with its own figures; *Diſtant. ♂ a* is given on the first of them. *lucida* agrees with *cauda*, "the bright tail"; the bright [star] of the tail is meant. *orient. capit.* is given as "the eastern [star] of the head". The distances, printed without unit marks, are given as degrees and minutes; the declination and altitude carry their marks. For 1 November p. 349 prints the distances of ♂ from the last of the three [stars] in the head of ♐ as 10° 49½′ and 10° 49¾′, from the brighter [star] of ♈ as 26° 51′ and 26° 51¾′, the declination of ♂ as 23° 21′ and 23° 21½′ south, and the altitude of ♂ as 7° 40′. Here the declination is 23° 22′ and the altitude 7°. Given as printed.

[2692] "Reading" is this edition's head; the page prints none over the first column. *Aſc. R.* and *Declin.* are the page's heads, in smaller type. *M.* is given as "south". The values, printed without unit marks, are given as degrees and minutes.

2693

Reading	Value	Reading	Value
Parallax [Parall.]	2′ 30″	Corresponding longitude [Reſp. long.]	1′ 30″ subt.
Refract.	8′ 15″	[corresponding] latitude [lat.]	5′ 30″ add.
	5′ 45″		

Reading	Value
Therefore the true longitude [Ergo vera Longitudo]	20° 59¼′ ♌
Latitude [Latitudo]	1° 36′ south [M.]

2694

Observations of Venus [OBSERUATIONES VENERIS.]

On 3 January, in the morning [DIE 3 JANUARIJ, MANE.]

Note. On this day [it] was exceptionally clear, so good observations were made. [*Nota. Hoc die erat apprime ſerenum,*] [*vnde bonæ ſunt factæ obſeruationes.*]

At $7\frac{1}{4}^{h}$ the clock was corrected. [H. 7¼ horologium eſt correctum.]

Time	Between ♀ and Spica [Inter ♀ &] [Spicam]	Declination of ♀, south [Decl. ♀] [Auſt.]	Altitude of ♀ [Altit.] [♀]	Azimuth of ♀, east [Azim. ♀] [orient.]
$7^{h}\ 26^{m}$	50° 26′	19° 1′	13° 5′	
$7^{h}\ 29^{m}$	50° 26′	19° 0½′	13° 21′	19° 0′
$7^{h}\ 31\frac{1}{6}^{m}$	50° 26½′	19° 1¼′	13° 26′	
$7^{h}\ 35\frac{1}{2}^{m}$	50° 26⅚′	19° 1¼′	13° 31′	17° 28′
$7^{h}\ 38\frac{1}{2}^{m}$	50° 27′		13° 40′	16° 35′
$7^{h}\ 41\frac{1}{2}^{m}$	50° 26⅚′		13° 45′	16° 0′
$7^{h}\ 44^{m}$	50° 27′	19° 1⅓′	13° 51′	15° 20′

2693 "Reading" and "Value" are this edition's heads; the page prints none. Each *Angulus diff. aſcenſ.* runs over two lines, and so does *Hinc colligitur Aſc. R.* ♂ / *limitata*, the figures on the second line only; each is given whole on one row. *ex luc. caud.* ♌ can be expanded *ex lucida caudæ* "from the bright [star] of the tail", as given, or *ex lucida cauda* "from the bright tail". The values, in three figure groups without unit marks, are given as degrees, minutes and seconds.

2694 "Reading" and "Value" are this edition's heads; the page prints none. The two lines *Parall. 2′ 30″ Reſp. long. 1′ 30″ ſubt.* and *Refract. 8 15 lat. 5′ 30″ add.* are each given as one row of two pairs; *lat.* stands under *long.* of the line above, and "corresponding" is carried to it in square brackets. A rule is printed under *8 15*, and *5 45* stands below it. *8 15* and *5 45*, printed without unit marks, are given as minutes and seconds, like the parallax marked *2′ 30″* beside them. *20 59¼* and *1 36* are given as degrees and minutes. *M.* is given as "south".

2695

Afterwards ☉ and ♀ were observed in this way. [*Poſtea obſeruabatur ☉ & ♀ in hunc*] [*modum.*]

Hours, minutes [H. M.]	*Between ♀ and ☉ [♀ & ☉]*	*Altitude of ☉ [Alt. ☉]*	*Azimuth of ☉ [Azim. ☉]*
$8^h\ 47^m$	*44° 49¾′*	*2° 36′*	*44° 20′*
$8^h\ 49^m$	*44° 50′*	*2° 44′*	*43° 50′*

2696

At this time in the morning [it] was very clear. [Erat hoc tempore matut. bene ſeren.]

At $8^h\ 51^m$ ♀ crossed the meridian and had altitude by the steel [quadrant] 15° 5′, by the revolving [quadrant] 15° 4½′. [*8 51 Tranſiuit ♀ Merid. habuitque*] [*Alt. per Chalyb. 15 5*] [*per Volub. 15 4½*][2697]

Time	*Between ♀ and ☉ [♀ & ☉]*	*Altitude of ☉ [Alt. ☉]*	*Azimuth of ☉ [Azim. ☉]*	*Declination of ☉, south [Decl. ☉] [auſt.]*
$8^h\ 55^m$	*44° 51½′*	*3° 19′*	*42° 38′*	*21° 17′*
$8^h\ 59^m$	*44° 51½′*	*3° 38′*	*41° 54′*	*21° 17½′*
$9^h\ 1^m$	*44° 52′*	*3° 51′*	*41° 25′*	*21° 17⅚′*
$9^h\ 4^m$	44° 52′	4° 3′	40° 50′	21° 18¼′
$9^h\ 8^m$	44° 52¼′	4° 25′	40° 0′	21° 18½′
$9^h\ 14^m$	44° 53′	4° 50′	38° 39′	21° 19¼′
$9^h\ 20^m$	44° 52¾′	5° 23′	37° 26′	21° 20′
$9^h\ 23^m$	44° 53¼′	5° 37′	36° 56′	21° 20⅚′
$9^h\ 26¾^m$	44° 53¾′	5° 53′	36° 10′	21° 21′
$9^h\ 30^m$	44° 54′	6° 9′	35° 30′	21° 21⅙′
$9^h\ 37^m$	44° 54′	6° 40′	34° 5′	21° 22′
$9^h\ 46^m$	44° 54¼′	7° 19′	32° 12′	
$9^h\ 49^m$	Declination of ♀ 19° 2¼′ south [Declin. ♀ 19 2¼ Mer.]			
$9^h\ 56^m$	44° 54½′	8° 1½′	30° 0′	21° 22⅔′
$9^h\ 59⅓^m$	44° 54½′	8° 9½′	29° 14′	
$10^h\ 1^m$	44° 54½′	8° 16′	28° 52′	21° 22¾′
$10^h\ 22^m$	Declination of ♀ 19° 3′ [Declin. ♀ 19 3]			

2695 "Time" is this edition's head; the page prints none over the times. The other four heads are the page's, set in smaller type, each over two lines. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. *H.* is given as hours. Empty cells are empty on the page.

2696 The heads are the page's, in smaller italic. The values, printed without unit marks, are given as degrees and minutes.

2697 *matut.* is given as "in the morning" and *bene ſeren.* as "very clear"; *bene* can also be read "well". *per Volub.* stands under *Alt. per Chalyb.*, with no time of its own. The time, printed as bare figures, is given as hours and minutes; the altitudes, printed without unit marks, as degrees and minutes.

Time *Between ♀ and ⊙ [♀ & ⊙]*	*Altitude of ⊙ [Alt. ⊙]*	*Azimuth of ⊙ [Azim. ⊙]*	*Declination of ⊙, south [Decl. ⊙] [auſt.]*
10h 26m 44° 55¾′	9° 47′	23° 40′	21° 23′
10h 27½m 44° 56⅙′	9° 54′	23° 10′	21° 23¾′
10h 29m 44° 55¾′	10° 0′	22° 45′	21° 24′

2698

Around these last observations ♀ must have been at almost the same altitude as the Sun, and therefore [must] have shown the refraction and parallax at a very nearly equal rate; this is to be weighed and considered carefully. [*Oportet ♀ circa has vltimas obſer-*] [*uationes fuiſſe in conſimili fere cum*] [*Sole altitudine, ideo refractionem &*] [*parallaxin æquali proxime tenore*] [*exhibuiſſe, quod expendendum con-*] [*ſiderandumque diligenter venit.*]

At the following noon the clock [was] 9½m faster than it should; this error is to be charged to it from 7⅓h in the morning. [*Horologium in Meridie ſequente*] [*iuſto celerius M. 9½, qui error illi ab*] [*Hora 7⅓ matutina imputandus venit.*][2699]

On 6 January, in the morning [DIE 6 JANUARIJ, MANE.]

At 6½h the clock was being verified. [Hora 6½ horologium verificabatur.]

Hours, minutes [H. M.]	Between ♀ and the southern scale-pan of ♎ [Inter ♀ &] [auſt. lanc. ♎]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]	Declination of ♀ [Decl. ♀]
6h 31m		9°		19° 36′ south [A.]
6h 36½m	32° 25¾′	9° 34′	31° 5′	
	Between ♀ and Spica [Inter ♀ & Spicam]			
6h 42m	53° 48½′	9° 59′	29° 50′	19° 35½′
	Between ♀ and the southern scale-pan [Inter ♀ & auſt. lancem]			
6h 45m	32° 27½′	10° 8½′	29° 7′	
6h 47⅓m	32° 26¾′	10° 19′	28° 35′	19° 36′
6h 50½m	32° 27½′	10° 30′	27° 50′	19° 36′
	Between ♀ and Spica [Inter ♀ & Spicam]			
6h 53⅔m	53° 48½′	10° 43′	27° 5′	
6h 56½m	53° 49½′	10° 54′	26° 30′	19° 36¼′

2698 "Time" is this edition's head; the page prints none over the times. The other four heads are the page's, in smaller italic, *Decl. ⊙ / auſt.* over two lines. The first three rows stand at the foot of the left column, in italic; the rows from 9h 4m stand at the head of the right column, in roman, under no heads of their own, and are given here in the same table. At 9h 49m and 10h 22m the words *Declin. ♀* and their figures stand across the second and third columns; they are given whole in the second column. *Mer.* is given as "south". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2699 The clock is said above to have been corrected at 7¼h (*H. 7¼ horologium eſt correctum*); here the error is charged from 7⅓h in the morning. Given as printed.

Hours, minutes [H. M.]	Between ♀ and the southern scale-pan of ♎ [Inter ♀ &] [auſt. lanc. ♎]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]	Declination of ♀ [Decl. ♀]
$7^h\ 1^m$	53° 50′	11° 8′	25° 35′	
$7^h\ 5⅚^m$	53° 50¾′	11° 19′	24° 52′	19° 36⅓′
				19° 36⅔′
$7^h\ 9⅓^m$	53° 50¾′	11° 32′	24° 0′	19° 36¾′
				19° 36⅔′
$7^h\ 13^m$	53° 51′	11° 45′	23° 5′	19° 37½′
$7^h\ 20^m$	53° 51½′	12° 7′	21° 24′	
$7^h\ 24½^m$	53° 52′	12° 21′	20° 20′	19° 37′
$7^h\ 29^m$	53° 51½′	12° 34′	19° 14′	19° 37⅔′

2700

Time	Between ⊙ and ♀ [Inter ⊙ & ♀]	Altitude of ⊙ [Alt. ⊙]	Azimuth of ⊙ [Azim. ⊙]	Declination of ⊙ [Decl. ⊙]
$8^h\ 28⅓^m$	44° 25¼′	1° 40′	47° 35′	
$8^h\ 31⅙^m$	44° 26′	1° 58′	46° 58′	
$8^h\ 35^m$	44° 26⅔′	2° 19′	46° 12′	
$8^h\ 40⅚^m$	44° 28¼′	2° 43½′	44° 55′	20° 44½′
$8^h\ 44^m$	44° 29⅙′	3° 13½′	44° 10′	20° 44¾′
$8^h\ 47⅓^m$	♀ was passing through the meridian, having altitude by the steel [quadrant] 14° 27⅚′ [Tranſibat ♀ per Merid. habens] [Altit. per Chalyb. 14 27⅚]			
$8^h\ 53⅔^m$	44° 30′	4° 7′	42° 10′	20° 46½′
$9^h\ 0½^m$	44° 31′	4° 44′	40° 40′	20° 47⅔′
$9^h\ 3⅔^m$	44° 31⅓′	5° 2′	39° 55′	20° 48′
$9^h\ 8½^m$	44° 31⅔′	5° 28′	38° 50′	20° 48½′
$9^h\ 12⅚^m$	44° 32¼′	5° 49½′	37° 52′	20° 48½′
				20° 49′
$9^h\ 19½^m$	44° 32½′	6° 24′	36° 20′	20° 49½′
				20° 49′
$9^h\ 25⅔^m$	44° 32½′	6° 55′	34° 55′	20° 50′
				20° 49¼′
$9^h\ 29½^m$	44° 32¼′	7° 12½′	34° 0′	
$9^h\ 37⅓^m$	44° 32½′	7° 51′	32° 12′	20° 50⅔′

2700 All five heads are the page's, in smaller type; the second runs over two lines. The three labels *Inter ♀ & Spicam*, *Inter ♀ & auſt. lancem* and *Inter ♀ & Spicam* stand on lines of their own, with no time, over the second column; they are given as rows where they stand. Two declination figures, 19° 36⅔′ each, stand on lines of their own below the rows at $7^h\ 5⅚^m$ and $7^h\ 9⅓^m$, with no time; they are given as rows where they stand. At $6^h\ 31^m$ the altitude is printed as a lone *9*, under the degree figure of the line below, and is given as 9°. *A.* is given as "south". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

2701

At the following noon the clock was moving 8½^{m} slower than it should from 6½^{h} in the morning. [In Meridie ſequenti horologium 8½] [Min. iuſto tardius mouebatur ab Hora] [6½ matutina.]

On 7 January, in the morning [DIE 7 JANUARIJ, MANE.]

At 5^{h} the clock was verified against Spica ♍ and the heart of ♌, and some weight was put on it. [H.5 Horologium verificatum eſt ad] [Spicam ♍ & cor ♌, & aliquid ponderis] [ei iniectum eſt.]

Hours, minutes [H. M.]	Between ♀ and Spica [Inter ♀ &] [Spicam]	Altitude of ♀ [Alt. ♀]	Azimuth of ♀ [Azim. ♀]	Declination of ♀ [Decl. ♀]
7^{h} 7^{m}	54° 57′	11° 14′		
7^{h} 13⅚^{m}	54° 58¼′	11° 38′	22° 50′	19° 46⅔′
7^{h} 16⅙^{m}	54° 58¾′	11° 45′	22° 15′	
7^{h} 19⅔^{m}	54° 59′	11° 56′	21° 24′	19° 47½′
				19° 47′
7^{h} 24⅓^{m}	54° 59¼′	12° 9′	20° 20′	
7^{h} 28⅓^{m}	54° 59¼′	12° 23′	19° 14′	
7^{h} 30⅓^{m}	54° 59½′	12° 34′	18° 52′	19° 47⅔′
				19° 48′

2702

Time	Reading	Value
7^{h} 30^{m} 10^{s} [7 30 10″]	Spica, west [Spica occ.]	36° 2′
7^{h} 34^{m} 55^{s} [7 34 55]	Spica, west [Spica occ.]	37° 15′

From these it was gathered that the error of the clock was imperceptible. [Ex his] [colligebatur] [errorem horologij inſenſibilem eße.][2703]

[2701] "Time" is this edition's head; the page prints none over the times. The other four heads are the page's, in smaller type. At 8^{h} 47⅓^{m} a sentence in full-size type runs from the time across the columns over two lines; it is given whole in the second column. Three declination figures stand on lines of their own, with no time, below the rows at 9^{h} 12⅚^{m}, 9^{h} 19½^{m} and 9^{h} 25⅔^{m}; they are given as rows where they stand. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2702] All five heads are the page's, in smaller type; the second runs over two lines. Two declination figures stand on lines of their own, with no time, below the rows at 7^{h} 19⅔^{m} and 7^{h} 30⅓^{m}; they are given as rows where they stand. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2703] "Time", "Reading" and "Value" are this edition's heads; the page prints none. *Ex his* and *colligebatur* stand at the right ends of the two lines, and the sentence ends on a full line below them. The first time carries a double mark after *10* and is given as hours, minutes and seconds; the second, printed with three figures and no marks, is given the same way. The values, printed without unit marks, are given as degrees and minutes.

Afterwards ♀ was observed from ☉. [Poſtea obſeruabatur ♀ a ☉.]

Time [Temp.]Between ☉ and ♀ [Inter ☉ & ♀]	Altitude of ☉ [Alt. ☉]	Azimuth of ☉ [Azim. ☉]	Declination of ☉ [Decl. ☉]
8^h $35\frac{1}{3}^m$ 44° 21⅙′	2° 18′	46° 19′	20° 30′
8^h $41\frac{1}{3}^m$ 44° 21⅔′	3° 3′	45° 0′	20° 32′
8^h $44\frac{1}{2}^m$ 44° 21⅔′	3° 21′	44° 20′	
♀ crossed the meridian around these times, having altitude by the steel [quadrant] 14° 18′ [♀ circa hæc tempora tranſiuit Merid.] [habens Alt. per Chalyb. 14 18]			
8^h $55\frac{5}{6}^m$ 44° 21¾′	4° 21′	42° 0′	20° 35′
8^h $58\frac{1}{2}^m$ 44° 22′	4° 39′	41° 20′	20° 35⅙′
			20° 35½′
9^h $2\frac{2}{3}^m$ 44° 22¼′	5° 1′	40° 24′	20° 36′
			20° 35⅓′
9^h $7\frac{2}{3}^m$ 44° 22¾′	5° 29′	39° 16′	20° 36¼′
			20° 36½′
9^h $11\frac{5}{6}^m$ 44° 22¾′	5° 51′	38° 24′	20° 37½′ with both [vtroque.]
9^h $14\frac{2}{3}^m$ 44° 22½′	6° 5′	37° 30′	20° 37⅔′
9^h $17\frac{5}{6}^m$ 44° 23½′	6° 23′	37° 4′	20° 38′
9^h 21^m 44° 23¼′	6° 37′	36° 20′	20° 38⅙′

2704

On the same day at noon the clock was moving $5\frac{1}{2}^m$ slower than it should; this error crept in from 5^h in the morning. [Eodem die in Meridie horologium] [mouebatur iuſto tardius 5½ M., qui er-] [ror irrepſit ab Hora 5 Matutina.]

On 12 February, in the morning [DIE 12 FEBRUARIJ, MANE.]

Hours, minutes, seconds [H. M. S.]	Arcturus, west [Arct. occ.]	Azimuth of ♀, east [Az. ♀ or.]	Altitude of ♀ [Alt. ♀]	Declination of ♀ [Decl. ♀]
5^h 52^m 20^s	38° 15′	45° 32′	3° 0′	
5^h 54^m 50^s	38° 52′	45° 1′	3° 13′	20° 20′
				20° 20⅙′

2704 All five heads are the page's, in smaller type. The sentence on the transit of ♀ stands on two lines of its own, with no time, between the rows at 8^h $44\frac{1}{2}^m$ and 8^h $55\frac{5}{6}^m$; it is given whole in the second column. Three declination figures stand on lines of their own, with no time, below the rows at 8^h $58\frac{1}{2}^m$, 9^h $2\frac{2}{3}^m$ and 9^h $7\frac{2}{3}^m$; they are given as rows where they stand. *vtroque.* stands alone on its own line, set flush right under the declination column, between the rows at 9^h $11\frac{5}{6}^m$ and 9^h $14\frac{2}{3}^m$; the page does not tie it to either row, and it names nothing beside "both". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Hours, minutes, seconds [H. M. S.]	Arcturus, west [Arct. occ.]	Azimuth of ♀, east [Az. ♀ or.]	Altitude of ♀ [Alt. ♀]	Declination of ♀ [Decl. ♀]
$5^h\ 57^m\ 15^s$	39° 33¼′	44° 31′	3° 29½′	20° 20½′
$5^h\ 59^m\ 40^s$	40° 6¼′	43° 57½′	3° 42′	20° 21′
$6^h\ 1⅓^m$	40° 32¼′	43° 36′	3° 51′	20° 22′

2705

On 3 December, in the evening[1] [DIE 3 DECEMBRIS, VESPERI[1].]

Reading	Value
Distance of ♀ from the bright and following [star] in the tail of ♈ [Diſt. ♀ a luc. & ſequente] [in cauda ♈]	20° 49⅔′
Altitude of ♀ 4½°. Then the first [star] of the wing of Pegasus was distant from the meridian toward the east [Altit. ♀ 4½°. Tunc diſtabat pri-] [ma alæ Pegaſi a Merid.] [ad or.]	1° 48′
Distance of ♀ from the bright and following [star] in the tail of ♈ [Diſt. ♀ a luc. & ſeq.] [in cauda ♈]	20° 50⅙′
Altitude of ♀ 4¼°. The first [star] of the wing of Pegasus, east [Altit. ♀ 4¼. Prima alæ Peg. or.]	0° 46½′
Declination of ♀ 22° 34⅙′ south; with the other [Declin. ♀ 22 34⅙ Auſt., alt.]	22° 35′
Distance of ♀ from the bright and following [star] in the tail of ♈ [Diſt. ♀ a luc. & ſeq. in cauda ♈]	20° 49¾′
Altitude of ♀ 3° 40′, declination of ♀ [Altit. ♀ 3 40, Decl. ♀]	22° 34′ with both [vtroque]
The first [star] of the wing of Pegasus was distant toward the west [Diſtabat prima alæ Peg.] [ad. occ.]	0° 51¼′

[1] From codex V. [E codice V.][2706]

On 15 December, in the evening [DIE 15 DECEMBRIS, VESPERI.]

[2705] All five heads are the page's, in smaller type. A declination figure stands on a line of its own, with no time, below the row at $5^h\ 54^m\ 50^s$; it is given as a row where it stands. The times, printed as three bare figures, are given as hours, minutes and seconds; the last, *6 1⅓*, printed with two figures, is given as hours and minutes. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2706] "Reading" and "Value" are this edition's heads; the page prints none. Each label that runs over two or three lines is given whole on the row of its figures. *luc. & ſequente* is given as one star, "the bright and following [star]", each distance being a single figure; it can also be read as two stars, "the bright [star] and the following [star]". *alt.* is given as "with the other", as elsewhere; it can also be expanded *altitudo*, "altitude". *vtroque* stands alone on its own line at the right, under the figures 22° 34′ and above the line on the first star of the wing; the page does not tie it to either. *4¼*, printed without a mark, is given as degrees, like the *4½°* marked on the line above; *3 40* within the text is given as degrees and minutes. *Auſt.* is given as "south". The other values, printed without unit marks, are given as degrees and minutes.

Time	Reading	Value
4^h $47\frac{2}{3}^m$	Distance between ♀ and the bright [star] of the Vulture [Diſt. inter ♀ &] [lucid. Vult.]	34° 30½′
	Altitude of ♀ 10½° by the lesser quadrant [Alt. ♀ 10½ per Q. min.]	
	Declination of ♀ [Declin. ♀]	19° 7¼′
	When the declination of ♀ was being observed, the first [star] of the wing of Pegasus was east[2] [Cum obſeruaretur decl.] [♀ fuit prima alæ Peg. or.[2]]	5° 42⅓′
4^h 55^m	Between ♀ and the Vulture [Inter ♀ & Vulturem]	34° 30′
	Altitude of ♀ 9⅓°. The first [star] of the wing of Pegasus was then from the meridian, west [Alt. ♀ 9⅓. Erat tunc prima] [alæ Peg. a merid. occ.]	6° 37⅓′
4^h $59\frac{1}{6}^m$	Between ♀ and the bright [star] of the Vulture [Inter ♀ & luc. Vult.]	34° 30′
	The first [star] of the wing of Pegasus, west [Prima alæ Pegaſi occ.]	7° 30′

[2] [It] should be west. [Debet eße occ.][2707]

Observations of Mercury [OBSERUATIONES MERCURIJ.]

On 24 March, in the evening [DIE 24 MARTIJ, VESPERI.]

N.B. The clock was going $1\frac{1}{3}^m$ faster. [N. B. Horologium velocius ibat 1⅓ M.]

☿ was visible. [Conſpiciebatur ☿.]

Time	Reading	Value
8^h $10\frac{2}{3}^m$	Declination of ☿ [Declin. ☿]	14° 55′ north [B.]

Its altitude was about 5° by the lesser quadrant. [Altitudo eius fuit quaſi 5 P.] [per Quadr. min.]

Time	Reading	Value
8^h 14^m 45^s [8 14′ 45″]	Between ☿ and the eye of ♉ [Inter ☿ & oculum ♉]	31° 53½′
8^h 18^m	The same distance [Eadem diſt.]	31° 56′
8^h $19\frac{1}{2}^m$	Declination of ☿ [Declin. ☿]	14° 58½′
8^h $21\frac{1}{3}^m$	Between the eye of ♉ and ☿ [Inter ocul. ♉ & ☿]	31° 55′

At this last observation the altitude of ☿ was about 3°. [In hac poſtrema obſeruatione] [fuit Altit. ☿ 3° circiter.]

[2707] "Time", "Reading" and "Value" are this edition's heads; the page prints none. Times stand only on the lines at 4^h $47\frac{2}{3}^m$, 4^h 55^m and 4^h $59\frac{1}{6}^m$; the other lines are set in under them, with no time. Each label that runs over two lines is given whole on the row of its figures. The altitudes *10½* and *9⅓*, printed as a single figure with a fraction and no mark, are given as degrees. *Q. min.* is given as "the lesser quadrant"; *min.* can also be expanded *minimum*, "the least". The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

Time	Reading	Value	Remark
8^h $33\frac{2}{3}^m$	Canis Minor, west [Canis] [minor.] [occid.]	31° 33′	for verifying the clock [pro verifi-] [cando] [horologio]
8^h $35\frac{1}{6}^m$		31° 56′	
8^h 36^m		32° 9′	

Note. The assigned times have been corrected. [Nota. Tempora aßignata ſunt cor-] [recta.][2708]

On 27 March, in the evening [DIE 27 MARTIJ, VESPERI.]

The clock was going 12⅓ faster. [Horolog. velocius ibat 12⅓.]

Time	Reading	Value
Corr. 7^h $40\frac{1}{4}^m$ [Corr.] [7 40¼]	Declination of ☿ by the armillae [Declin. ☿ per Arm.]	16° 18¼′
	with the other [alt.]	16° 17¾′

Then its altitude was 8¾° by the lesser quadrant. [Tunc erat Altit. eius 8¾° per min. Q.][2709]

Time	Between the eye of ♉ and ☿ [Inter ocul. ♉] [& ☿]	Altitude of ☿ by the lesser quadrant [Altit. ☿] [per Q. min.]	Declination of ☿ [Decl. ☿]
7^h 46^m	28° 58′	8° 0′	
7^h 48^m	28° 58¼′	7° 40′	
7^h 50^m 30[illegible]	28° 58⅔′	7° 30′	
7^h 53^m			16° 18½′ with the other [alt.] 16° 18′
	Between ♉ and ♄ [Inter ♉ & ♄]		
7^h 56^m	21° 54½′	7° 15′	
7^h 59^m	21° 55′		

[2708] "Time", "Reading", "Value" and "Remark" are this edition's heads; the page prints none. *B.* is given as "north". *P.* is given as degrees. *Quadr. min.* is given as "the lesser quadrant"; *min.* can also be expanded *minimum*, "the least". The time 8^h 14^m 45^s is printed with a single mark after *14* and a double mark after *45*. The label *Canis* / *minor.* / *occid.* runs down the three lines beside the times 8^h $33\frac{2}{3}^m$, 8^h $35\frac{1}{6}^m$ and 8^h 36^m, and the remark *pro verifi-* / *cando* / *horologio* runs down the same three lines at the right; both are given whole on the first row and stand beside all three. The other times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes.

[2709] "Time", "Reading" and "Value" are this edition's heads; the page prints none. The page prints no unit after *12⅓*; on 24 March the clock's lead is printed *1⅓ M.*. A brace after *Corr.* and *7 40¼*, set over two lines, joins the two declination lines; the corrected time is given once, on the first row. *Corr.* is kept abbreviated. *alt.* is given as "with the other", as elsewhere; it can also be expanded *altitudo*, "altitude". *min. Q.* is given as "the lesser quadrant"; *min.* can also be expanded *minimum*, "the least". The time, printed as bare figures, is given as hours and minutes; the declinations, printed without unit marks, as degrees and minutes.

Time	Between the eye of ☉ and ☿ [Inter ocul. ☉] [& ☿]	Altitude of ☿ by the lesser quadrant [Altit. ☿] [per Q. min.]	Declination of ☿ [Decl. ☿]
8^h 1^m	21° 56′	6° 45′	
8^h 3^m			16° 19¼′
	Between ☿ and the eye of ☉ [Inter ☿ & ocul. ☉]		16° 19½′
8^h 9^m	28° 55′	5° 0′	
8^h $11⅓^m$	28° 53′	4° 30′	
8^h $13⅓^m$	28° 52½′	4° 20′	
8^h $15¼^m$			16° 21½′ with the other [alt.] 16° 21¾′
	The observation of ☿ [was] taken up again. [Obſeruatio ☿ denuo inſtituta.]		
8^h $25½^m$		2° 40′	16° 24′
8^h 29^m	28° 52′		
8^h $30½^m$	28° 52½′		
8^h 32^m	28° 50½′	2° 0′	
8^h 36^m			16° 28½′
8^h $54½^m$	The heart of ☋, west [Cor ☋ occid.]	2° 42½′	
8^h 56^m	The heart of ☋, west [Cor ☋ occid.]	3° 0′	

2710

On 28 March, P.M. [DIE 28 MARTIJ P. M.]

Corr.	Declination of ☿, north [Decl. ☿ B.]	Value	Distance between ☿ and the eye of ☉ [Diſt. inter ☿] [& ocul. ☉]	Altitude of ☿ [Alt. ☿]
8^h 5^m	16° 43′	16° 42½′		6¼°
8^h 9^m			28° 9′	5° 55′
8^h 15^m	16° 43⅚′		28° 6′	5° 5′

2710 "Time" is this edition's head; the page prints none over the times. The other three heads are the page's, in smaller type, the first two each over two lines. The rows down to 7^h 53^m and the line *alt. 16 18* stand at the foot of the left column; the rows from *Inter* ☉ & ♄ on stand at the head of the right column, under no date heading and no heads of their own, and are given here in the same table. The labels *Inter* ☉ & ♄ and *Inter* ☿ & *ocul.* ☉ stand over the second column in smaller type, on lines of their own; the second shares its line with the figures 16° 19½′ in the last column, and is given where it stands. In *Inter* ☉ & ♄ the first sign is printed as the sign of Taurus, with no cross below it; on 28 March the page heads a column *Diſt.* ♄ & ☿, with figures of 21° 8′ and 21° 6′. Given as printed. On the two *alt.* lines, *alt.* stands under the altitude column and the figures in the declination column; *alt.* is given as "with the other", as elsewhere, and can also be expanded *altitudo*, "altitude". The sentence *Obſeruatio* ☿ *denuo inſtituta.* runs across the column. At 8^h $54½^m$ and 8^h 56^m the label *Cor* ☋ *occid.* runs across the second column and the figures stand in the altitude column; they belong to that label, not to the altitude of ☿. The time 7^h 50^m 30^s, printed as three bare figures, is given as hours, minutes and seconds; the other times, printed as bare figures, as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

Corr.	Declination of ☿, north [Decl. ☿ B.]	Value	Distance between ☿ and the eye of ♉ [Diſt. inter ☿] [& ocul. ♉]	Altitude of ☿ [Alt. ☿]
$8^h\ 18^m$			28° 5½′	4° 40′
$8^h\ 23^m$			28° 4½′	4° 5′
$8^h\ 26^m$	16° 46′	16° 46¼	Distance of ♄ and ☿ [Diſt. ♄ & ☿]	
$8^h\ 30⅓^m$			21° 8′	3° 15′
$8^h\ 34^m$			21° 6′	2° 50′
$8^h\ 39^m$	16° 49½′			2° 20′

2711

On 31 March, in the evening [DIE 31 MARTIJ, VESPERI.]

Time	Declination of ☿ [Decl. ☿]	Value	Between ☿ and the eye of ♉ [Inter ☿ &] [ocul. ♉]	Altitude of ☿ [Alt.] [☿]
$8^h\ 0^m\ 10^s$	17° 33¼′	17° 33½′	26° 8′	5° 0′
$8^h\ 3^m$			26° 10′	4° 40′
$8^h\ 7^m$			26° 11′	
$8^h\ 10^m$			26° 11′	3° 40′
$8^h\ 13⅔^m$			26° 10¾′	3° 0′

2712

☿ could not be observed further. [Non potuit ☿ vlterius obſeruari.]

The assigned times have been corrected. [Aßignata tempora ſunt correcta.]

Investigation of the longitude and latitude of ☿ for the individual days on which [it] was observed, account being taken of its refraction and parallax. [Inquiſitio] [Longitudinis & Latitudinis ☿] [ad ſingulos dies quibus obſeruabatur,] [habita ratione refractionis &] [Parallaxeos eius.][2713]

[2711] *Corr.* is the page's head over the times, kept abbreviated. "Value" is this edition's head; the page prints none over the third column. The other three heads are the page's, in smaller type; *Decl.* ☿ *B.* stands over the second column only, and *Diſt. inter* ☿ / *&* *ocul.* ♉ runs over two lines, its second line standing on the line of the row at $8^h\ 5^m$. *Diſt.* ♄ *&* ☿ stands in the fourth column on the line of the row at $8^h\ 26^m$, as a head for the figures below it. *B.* is given as "north". *P. M.* is kept abbreviated. *6¼*, a single figure with a fraction, is given as degrees. The times, printed as bare figures, are given as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2712] "Time" and "Value" are this edition's heads; the page prints none over the times or over the third column. The other three heads are the page's, in smaller type; *Decl.* ☿ stands over the second column only, and the other two each run over two lines. The time $8^h\ 0^m\ 10^s$, printed as three bare figures, is given as hours, minutes and seconds; the other times, printed as bare figures, as hours and minutes; the values, printed without unit marks, as degrees and minutes. Empty cells are empty on the page.

[2713] *eius* stands after *Parallaxeos* and is taken with both nouns, "its refraction and parallax"; it can also be taken with the parallax alone, "refraction and its parallax".

N.B. The distance and declination that we used on these days correspond to an altitude of ☿ of very nearly 5°. [N.B. Quibus hiſce diebus vſi ſumus] [diſtantia & declinatione reſpondent] [Alt. ☿ 5 proxime graduum.][2714]

On 24 March, P.M. [DIE 24 MARTIJ P. M.]

Reading	Value
[At] 8^h 15^m, distance between ☿ and Aldebaran by the sextant [H. 8 15′ Diſt. inter ☿ & Ald.] [per Sext.]	31° 55′
Its observed declination [Declin. eius obſeruata]	14° 55′ north [B.]
Subt. for refraction [Subt. pro refractione]	8′
Corrected for refract. [Emend. pro refract.]	14° 47′
Parallax adds [Parallaxis addit]	3′
True declination of ☿ [Declin. ☿ vera]	14° 50′
Declination of Aldebaran, north [Declin. Aldeb. B.]	15° 36⅔′
Side BA [Latus BA]	74° 23⅓′
[Side] CA	75° 10′
[Side] BC	31° 55′
Angle BAC [Ang. BAC]	33° 6′ 2″
Right ascension of Aldebaran [Aſcenſio R. Aldeb.]	63° 6′ 10″
[At] $8¼^h$, declination of ☿ 14° 50′, right ascension [H. 8¼ Decl. ☿ 14 50, Aſc. R.]	30° 0′
Corresponding longitude 3° 4′ 42″ ♉ [Reſp. Long. 3° 4′ 42″ ♉]	
Latitude 2° 24′ 12″ north [Latit. 2 24 12 B.]	

2715

On 27 March [DIE 27 MARTIJ.]

Reading	Value
[At] 8^h 1^m, observed distance between ☿ and ♄ [H. 8 1′ Obſeruata diſt.] [inter ☿ & ♄]	21° 56′

[2714] The page prints the unit as a word, *graduum*, "degrees".

[2715] "Reading" and "Value" are this edition's heads; the page prints none. The label of the first row runs over two lines and is given whole on the row of its figures. *Ald.* and *Aldeb.* are given as "Aldebaran", as *Aldeboræ* on 31 March below. *Subt.* and *refract.* are kept abbreviated; *Emend.* is given as "Corrected", following *emendata* printed in full in the reckonings for 27, 28 and 31 March on this page. *Latus* is printed once, on the row BA; CA and BC stand set in under BA, and the word is carried to them in square brackets. *B.* is given as "north". The single figures *8* and *3* are given as minutes, as the page's own reckoning fixes: 14° 55′ less 8′ gives the printed 14° 47′, and 14° 47′ plus 3′ the printed 14° 50′. The time *8¼*, a single figure with a fraction, is given as hours; *14 50* within the text, and the latitude figures *2 24 12* that follow *Latit.* within the line, are given as degrees and minutes and as degrees, minutes and seconds, as the longitude with its printed marks on the line above. The other values, printed without unit marks, are given as degrees and minutes, or, in three groups, as degrees, minutes and seconds. 63° 6′ 10″ less 33° 6′ 2″ is 30° 0′ 8″, where the page prints *30 0* for the right ascension; given as printed. On p. 352 the distance 31° 55′ stands at 8^h $21⅓^m$, not at 8^h 15^m; given as printed.

Reading	Value
Observed declination of ☿, north [Declin. ☿ obſeruata Bor.]	16° 19⅓′
Refract. subtracts [Refract. ſubtr.]	8′
Parallax adds [Parallaxis addit]	3′
Corrected declination of ☿ [Declin. ☿ emendata]	16° 14⅓′
Declination of ♄, north [Declin. ♄ Borea]	18° 3′
Ascensional angle [Angulus aſcenſionalis]	22° 53′ 23″
The right ascension of ♄ was then [Fuit tunc Aſc. R. ♄]	55° 56′
Right ascension of ☿ [Aſc. R. ☿]	33° 2′ 37″
[At] 8^h 9^m, ☿ was distant from the eye of ☌ [H. 8 9′ Diſtabat ☿ ab oculo ☌]	28° 55′
Declination of ☿, north [Declin. ☿ B.]	16° 14⅓′
BAC	30° 5′ 26″
Right ascension of ☿ [Aſc. R. ☿]	33° 0′ 44″
Therefore let 8^h 9^m be set [Ponatur ergo H. 8 9′]	
Right ascension of ☿ [Aſc. R. ☿]	33° 1⅔′
Declination, north [Decl. B.]	16° 14½′
Corresponding longitude 6° 17′ 23″ ☌ [Reſp. Longitudo 6° 17′ 23″ ☌]	
Latitude 2° 44′ 15″ north [Latitudo 2 44 15 B.]	

2716

On 28 March [DIE 28 MARTIJ.]

Reading	Value
[At] 8^h 15^m, distance of ☿ from the eye of ☌ [H. 8 15′ Diſt. ☿ ab oculo ☌]	28° 6′
Its observed declination [Declin. eius obſeruata]	16° 44′ north [B.]
Refraction subtracts [Refractio ſubtr.]	8′
Parallax adds [Parallaxis add.]	3′
Corrected declination of ☿ [Declin. ☿ emendata]	16° 39′
BAC	29° 15′ 26″
Right ascension of ☿ [Aſc. R. ☿]	33° 50′ 44″
Let the right ascension of ☿ [at] 8^h 15^m be set [Ponatur H. 8 15′ Aſc. R. ☿]	33° 50⅔′
Declination, north [Declin. B.]	16° 39′

2716 "Reading" and "Value" are this edition's heads; the page prints none. The first row stands at the foot of the left column, its label run over two lines; the rows from *Declin.* ☿ *obſeruata Bor.* on stand at the head of the right column under no heading of their own, and are given here in the same table; the next date heading, *DIE 28 MARTIJ.*, follows them. *Bor.*, *Borea* and *B.* are given as "north". *Refract.* is kept abbreviated. *ſubtr.* is given as "subtracts", answering *addit* on the next line; it can also be expanded *ſubtrahenda*, "to be subtracted". The rows after *Ponatur ergo H. 8 9′* stand set in under it. The single figures *8* and *3* are given as minutes, as the page's own reckoning fixes: 16° 19⅓′ less 8′ plus 3′ gives the printed 16° 14⅓′. 55° 56′ less 22° 53′ 23″ gives the printed 33° 2′ 37″. The declination set under *Ponatur*, 16° 14½′, differs from the 16° 14⅓′ printed twice above it (*Declin.* ☿ *emendata*, *Declin.* ☿ *B.*); given as printed. The latitude figures *2 44 15* follow *Latitudo* within the line and are given as degrees, minutes and seconds, as the longitude with its printed marks on the line above. The other values, printed without unit marks, are given as degrees and minutes, or, in three groups, as degrees, minutes and seconds.

Reading	Value
Corresponding longitude 7° 10′ 13″ ♉ [Reſp. Longitudo 7° 10′ 13″ ♉]	
Latitude 2° 51′ 28″ north [Latitudo 2 51 28 B.]	

2717

On 31 March [DIE 31 MARTIJ.]

Reading	Value
[At] 8^h 3^m, distance of ☿ and Aldebaran [H. 8 3′ Diſt. ☿ & Aldeboræ]	26° 10′
Corrected declination of ☿ [Declin. ☿ emendata]	17° 28⅓′ north [B.]
BAC	27° 15′
Right ascension of ☿ [Aſc. R. ☿]	35° 51′ 10″
Corresponding longitude 9° 15′ 56″ ♉ [Reſp. Longitudo 9° 15′ 56″ ♉]	
Latitude 3° 0′ 24″ north [Latitudo 3 0 24 B.]	

2718

There follows a table containing the place of ☿ from the observations, with the Copernican and Alphonsine calculation added [SEQUITUR TABULA CONTINENS LOCUM ☿ EX OBSERUATIONIBUS] [ADIUNCTO CALCULO COPERNIANO & ALPHONSINO.]

2717 "Reading" and "Value" are this edition's heads; the page prints none. *B.* is given as "north". *ſubtr.* is given as "subtracts" and *add.* as "adds", following *addit* printed in full on 24 and 27 March; they can also be expanded *ſubtrahenda* and *addenda*, "to be subtracted" and "to be added". The single figures *8* and *3* are given as minutes, as the page's own reckoning fixes: 16° 44′ less 8′ plus 3′ gives the printed 16° 39′. The right ascension set under *Ponatur*, 33° 50⅔′, stands against the 33° 50′ 44″ on the line above it; given as printed. On p. 352 the declination of ☿ at 8^h 15^m on 28 March is printed *16 43⅚*; here the observed declination is *16 44*. The latitude figures *2 51 28* follow *Latitudo* within the line and are given as degrees, minutes and seconds, as the longitude with its printed marks on the line above. The other values, printed without unit marks, are given as degrees and minutes, or, in three groups, as degrees, minutes and seconds.

2718 "Reading" and "Value" are this edition's heads; the page prints none. *B.* is given as "north". The latitude figures *3 0 24* follow *Latitudo* within the line and are given as degrees, minutes and seconds, as the longitude with its printed marks on the line above. The other values, printed without unit marks, are given as degrees and minutes, or, in three groups, as degrees, minutes and seconds.

In the month of March, day [Menſe] [Mart.] [Die]	Time (hours, minutes) [Tempus] [H. M.]	From the modern observation: longitude [Ex neoterica obſeruatione] [Longitudo]	From the modern observation: latitude [Ex neoterica obſeruatione] [Latitudo]	From Prutenic, Mästlin's [Ex Pruten. Mæſtlini]	From Prutenic, Mästlin's [Ex Pruten. Mæſtlini]	From Alphonsine, Cyprian's [Ex Alph. Cypr.]	From Alphonsine, Cyprian's [Ex Alph. Cypr.]
24	8^h 15^m	3° 4′ 42″ [3^P 4′ 42]	2° 24′ 12″ north [2^{P}24′ 12″ B.]	2° 45′ ♉	1° 48′ north [S.]	2° 3′ ♉	1° 33′ north [S.]
27	8^h 9^m	6° 17′ 23″	2° 44′ 15″	6° 3′	2° 8′	6° 22′	1° 50′
28	8^h 10^m	7° 10′ 13″	2° 51′ 28″	7° 2′	2° 15′	7° 43′	1° 55′
31	8^h 3^m	9° 15′ 56″	3° 0′ 24″	9° 32½′	2° 36′	11° 31′	2° 5′

2719

Observations of the fixed [stars]. The constellation of Aries [OBSERUATIONES FIXARUM.] [ASTERISMUS ARIETIS.]

Diagram. Below the title, an uncaptioned outline pen drawing of a four-legged animal: a long tail at the upper left; the back running to the right to a head at the right, with two curled, tufted shapes at the top and right side of the head, a mouth line and a dot at the nose; a front leg with a fringe of strokes; four legs ending in cloven hooves; hatching along the back, the belly and the neck. Seventeen star marks stand on the drawing, most of them solid six-pointed stars, one at the top of the head drawn as a ring with rays and a dot in its centre. Each carries a handwritten numeral.

- 10 (tip of the tail): 10
- 9 (above it): 9
- 8 (lower edge of the tail, beside a small hatched shape): 8
- 7 (on the back where the tail joins the body): 7
- 6 (below a star near the middle of the back): 6
- [?] (beside the star where the back meets the head): a mark resembling 4, not settled

2719 The heads are the page's, in smaller type, in a ruled frame; *Menſe / Mart. / Die* runs over three lines and *Tempus / H. M.* over two. *Ex neoterica obſeruatione* spans the third and fourth columns and is repeated here over each, with *Longitudo* and *Latitudo* printed under it; *Ex Pruten. Mæſtlini* spans the fifth and sixth columns and *Ex Alph. Cypr.* the seventh and eighth, each repeated here over both columns it spans, with no sub-heads printed under them. *P.* raised after the degree figures of the first row is given as °; the *42* of the first row carries no mark and is given as seconds, as the reckoning for 24 March on this page prints *3° 4′ 42″*. The rows below the first carry no marks and are given in the units of the first row; *9 32½* as degrees and minutes. *B.* and *S.* are given as "north"; they, and the sign ♉, are printed in the first row only. The times, printed as bare figures, are given as hours and minutes. The 28 March time is printed *8 10* here, where the reckoning for 28 March above sets *H. 8 15′*; given as printed. The other times, longitudes and latitudes of the observation columns agree with the reckonings above.

- 3 nostra. (in a cursive hand, above the ringed star at the top of the head): "3 our" [3 noſtra.]
- 16 (left of the star below the ringed star): 16
- 3 (right of a star on the forehead; below it a short dark mark like an eye): 3
- 2 (beside the star at the top of the right-hand curl): 2
- [?] (below the star at the foot of that curl): a hook-shaped mark, possibly 1, not settled
- 5 (left of the star on the lower jaw): 5
- 15 (middle of the body): 15
- 11 (lower in the body, near the hind leg): 11
- 12 (lower in the body, near the hind leg): 12
- 13 (on the hind leg): 13
- 14 (right of the hind leg, above a star): 14[2720]

On 5 January [DIE 5 JANUARIJ.]

Reading	Instrument	Value
Meridian altitude of the bright [star] of ♈ [Alt. merid. luc. ♈]	by the revolving [quadrant] [per Volub.]	55° 35′
	by the steel [quadrant] [per Chalyb.]	55° 34⅔′

2721

On 8 January, in the evening [DIE 8 JANUARIJ, VESPERI.]

Number in the delineation[1] [Numerus] [delinea-] [tionis[1]]	Mag-ni-tude [Magn.]	Between the eye of ♉ and [Inter oculum ♉ &]	Value
16	5	the little star above the horns of ♈ [ſtellulam ſupra] [cornua ♈]	37° 37½′
			37° 38′
5	5	the neck [collum]	37° 49½′
			37° 49¾′
7	5	the little star in the lead-out of the tail of ♈ [ſtellulam in educ-] [tione caudæ ♈]	23° 19½′

[2720] The drawing carries no caption; it stands under the title *ASTERISMUS ARIETIS. noſtra* is "our"; the page does not say what it qualifies. The numerals appear to answer to the left-hand column of the 8 January table below, *Numerus delineationis*; the page does not say so; two of the drawn marks are not settled on the scan.

[2721] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first line runs in full across the column, *per Volub.* standing on it before the figures; *per Chalyb.* stands set in under it. The values, printed without unit marks, are given as degrees and minutes.

Number in the delineation[1] [Numerus] [delinea-] [tionis[1]]	Mag-ni-tude [Magn.]	Between the eye of ♉ and [Inter oculum ♉ &]	Value
			23° 20′
8	4	the first or more southern preceding [star] in the tail of ♈ [primam vel auſtra-] [liorem præced. in] [cauda ♈]	20° 17½′ twice [bis]
9	5	the middle [star] of the tail of ♈ [mediam caudæ ♈]	19° 40′
			19° 39¾′
10	6	the last of the three in the tail of ♈ [extremam trium] [in cauda ♈]	18° 5½′
			18° 6′[2]
3	6	the preceding [star] of the two in the forehead of ♈ [præced. duarum] [in fronte ♈]	34° 7′ twice [bis]
4	6	the following [star] of the two in the mouth of ♈ [ſequentem duarum] [in rictu ♈]	32° 50′
			32° 49½′
11	6	the little star in the thigh or hip of ♈; [it] is the upper and following [star] of the two upper [stars] in such [a figure] [ſtellulam in femore] [vel coxendice ♈,] [eſt ſuperior & ſe-] [quens duarum ſu-] [periorum in tali]	23° 48′ twice [bis]
11	6, greater [maior.]	the little star in the thigh of ♈; [it] is the preceding [star] of the two upper [stars] in the square [ſtellulam in femore] [♈, eſt præcedens] [duarum ſuperio-] [rum in quadrato]	25° 28⅓′
			25° 28¼′
13	6	the little star in the hind knee of ♈; [it] is the following [star] of the two lower [stars] in this oblong square. [ſtellulam in genu ♈] [poſteriori, eſt ſequ-] [ens duarum inferi-] [orum in oblongo] [iſto quadrato.]	25° 9½′
			25° 9′
14	6 min.	the little star of the preceding knee; [it] is [ſtellulam præce-] [dentis genu, eſt in-]	

[1] The numbers of the fixed stars are always cited from Ptolemy's catalogue. [Numeri ſtellarum fixarum ſemper e catalogo Ptolemæi citati ſunt.]

[2] Added later: "Here [is] an error, for the distance comes out 18° 15½′." [Adſcriptum eſt poſtea: »Hic error, ſit enim diſt. 18 15½«.][2722]

Number in the delineation	Mag-nitude	Between the eye of ♉ and	Value
		the preceding [star] of the lower [stars] in this □ [feriorum in □ iſto] [præcedens]	26° 45½′
			26° 46′
6	6	the little star in the back of ♈, or the edge [ſtellulam in dorſo] [♈ ſiue limbo]	28° 7′ twice [bis]

[2723]

Declinations observed by the armillae [Declinationes per Armillas] [obſeruatæ.]

[2722] The heads of the first three columns are the page's, in smaller type except *Inter oculum* ♉ &; "Value" is this edition's head; the page prints none over the figures. *Numerus / delinea- / tionis*[1] runs over three lines. *Inter oculum* ♉ & governs every star named below it: each is the second star of a distance from the eye of ♉. The rows from the star numbered 3 on stand in the right-hand column, under no heads of their own, in the same columns, and are given here in the same table. Each label that runs over several lines is given whole on its first row; where a second figure stands on a later line of the same label, it is given on a row of its own with no label. *bis* is given as "twice". *Magn.* is given as "Magnitude". At the second star numbered 11 and at the star numbered 14 a brace joins the *6* of the magnitude column to *maior.* and *min.* on the line below it; *maior.* is given as "greater"; *min.* is kept abbreviated (*minor*, "lesser", is the likely expansion). Beside the first star numbered 11, four asterisks are set in the first two columns over three lines (one, then one further right, then two), standing beside *in tali*; the word understood with *tali* is given as "[a figure]"; the next entry speaks of *quadrato*, "square", and it can also be supplied as "[a square]". *præced.* is given in the singular, as *præcedens* printed in full below; in the row of the star numbered 8 it can also be taken as a genitive plural, "the first or more southern of the preceding [stars] in the tail of ♈". *rictu* is given as "mouth" (the open jaws). *Hic error* is given as "Here [is] an error"; it can also be read "This [is] an error". Footnote 2 is keyed to the second figure of the star numbered 10 only; the first figure on that row, 18° 5½′, carries no cue. The page ends with this star's line *dentis genu, eſt in-*, the last word divided after *in* at the foot of the column; nothing after *eſt* is given here. The values, printed without unit marks, are given as degrees and minutes, the figures of footnote 2 likewise.

[2723] These four lines stand at the head of the left column under no heading and with no column heads; they end the 8 January table of p. 354, and that table's heads are repeated here in English (they are not printed on this page; "Value" is this edition's head there too). The first row continues the label of the star numbered 14, whose first lines stand at the foot of p. 354: the page opens with *feriorum*, the second part of the word *in- / feriorum*, "lower", given here whole; with p. 354 the label reads "the little star of the preceding knee; [it] is the preceding [star] of the lower [stars] in this □". The second figure of that star stands on the line *præcedens* and is given on a row of its own. The star numbered 6 has *6* in the number and the magnitude positions; its label runs over two lines and is given whole on its first row; *ſiue limbo* can also be taken with *dorſo* alone, "in the back, or edge, of ♈". □ is printed as a sign, an open square, and is kept as printed here and below. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

Number in the figure, each to be seen in its own place [Numerus] [in Schemate] [ſuo quisque] [loco videndus]	Star	In-stru-ment	Value
5	Declination of the little star in the neck of ♈ (which is below I ♈)[1] [Declin. ſtellulæ in collo ♈] [(quæ eſt infra I ♈)[1]]		15° 46′
		with both [vtroq.]	
8	Of the preceding and more southern [star] in the tail [Præcedentis & auſtra-] [lioris in cauda]		18° 6½′
		with both [vtroque]	
9	Of the middle [star] of the tail [Mediæ caudæ]		19° 27′
		with the other [alt.]	19° 27¾′
10	Of the last [star] of the tail [Extremæ caudæ]		19° 39⅙′
			19° 39¼′
7	Of the little star in the lead-out or root of the tail [Stellulæ in eductione] [vel radice caudæ]		19° 40′
			19° 39¼′
12	Of the preceding [star] of the two in the thigh [Præcedentis duarum] [in femore]		15° 43′
			15° 44′
11	Of the following and upper [star] in the belly, or rather the thigh, the following [star] of the upper [stars of the] □ [Sequentis & ſuperioris] [in aluo ſiue potius fe-] [more, ſequentis ſupe-] [riorum □]		16° 22½′
			16° 23½′
13	The knee of the hind foot, of the following [star] of the two lower [stars] in the □ [Poſterioris pedis ge-] [nu, ſequentis duarum] [inferiorum in □]		13° 21′
			13° 21¾′
14	Of the one which precedes the knee, or which is in the front knee of the hind feet (of the preceding [star] of the two lower [stars of the] □) [Illius quæ genu præ-] [cedit, ſiue quæ eſt in] [genu anteriori poſte-] [riorum pedum (præ-] [cedentis duarum in-] [feriorum □)]		13° 31′
			13° 30½′
…	Of the little star which is above the horns of ♈ (magnitude 5: preceding the bright [star] of ♈) [Stellulæ quæ eſt ſupra] [cornua ♈ (5 magn:] [præced. lucidam ♈)]		21° 33½′
			21° 34¼′
…	Of the last [star] of the hind feet [Extremæ poſterio-] [rum pedum]		10° 41¾′
			10° 41¼′
3	Of the preceding [star] of the two in the forehead of ♈ [Præc. duarum] [in fronte ♈]		19° 16′
4	Of the following [star] in the mouth [Sequentis in rictu]		17° 57½′

Number in the figure, each to be seen in its own place [Numerus] [in Schemate] [ſuo quisque] [loco videndus]	Star	In-strument	Value
6	Of the one which is in the back [Eius quæ eſt in dorſo]		20° 8¾′

[1] Added later. [Poſtea adſcriptum.][2724]

On 30 January [DIE 30 IANUARIJ.] Note. The following observations of the stars of ♈ were made from the head of Andromeda, which is shared with the □ of Pegasus, chiefly for this reason: that, with the observation repeated on the other side, toward the west, the right ascensions could be corrected the other way round; and so also in the rest. [Nota. Sequentes obſeruationes in] [ſtellis ♈ factæ ſunt a capite Andro-] [medæ communi cum □ Pegaſi, eam] [præſertim ob cauſam, vt ab altera] [parte verſus occaſum repetita anim-] [aduerſione viceverſa aſcenſiones rec-] [tæ corrigi poßent, & ſic etiam in cæ-] [teris.]

Number in our delineation [Numerus] [delineat.] [noſt.]	Mag-ni-tude [Mag.]	Between the head of Andromeda and [Inter caput Andromedæ &]	Value
3	3 mai.	the bright [star] of the head, or our 3 [lucidam capitis] [vel 3 noſtram]	27° 7⅓′
		repeated [repetita]	27° 7½′
2	3 min.	the second [star] of ♈ [ſecundam ♈]	25° 24½′ twice [bis]
1	4 mai.	the first [star] of ♈ [primam ♈]	25° 49′
			25° 48⅚′
5	6	the neck of ♈ [ceruicem ♈]	27° 21′
			27° 21½′

[2724] The head over the number column is the page's, in smaller type over four lines; "Star", "Instrument" and "Value" are this edition's heads; the page prints none over the text and the figures, and this table has no magnitude column. The labels after the first are in the genitive, depending on *Declinationes* of the title, and are given with "Of"; the first row prints *Declin.*, "Declination", on its line. *vtroq.* and *vtroque*, "with both", each stand on a line of their own, set under the figures of the line above (15° 46′ and 18° 6½′); the page does not tie either to a figure, and they are given on rows of their own. *alt.*, "with the other", stands on the line of its figure. In the row of the star numbered 5, the sort after *infra* is a capital I, not the figure 1 used elsewhere on the page; it can be read as the Roman numeral one; given as printed. Footnote 1 is keyed to the closing parenthesis of that row. In two rows three points stand in the number column, where no number is given. *Præc.* and *præced.* are given as "preceding"; *5 magn:* is given as "magnitude 5". In the row of the star numbered 11, *ſequentis ſuperiorum* □ prints no preposition; "of the" is supplied in square brackets; "in the □" is the other reading, as the row of the star numbered 13 prints *in* □. The values, printed without unit marks, are given as degrees and minutes.

Number in our delineation [Numerus] [delineat.] [noſt.]	Mag-ni-tude [Mag.]	Between the head of Andromeda and [Inter caput Andromedæ &]	Value
16	6	the preceding [star] of the three below the bright [star] of ♈ [præcedent. trium] [infra lucidam ♈]	27° 14¾′
			27° 15½′
3 vet.	6	the following [star] of the three below the bright [star] in the forehead [ſequentem trium] [infra lucid. in fronte]	29° 10⅙′
			29° 11′
4	6	the last of the three below the bright [star] of ♈ in the mouth [vltimam trium in-] [fra lucid. ♈ in rictu]	30° 50⅚′
			30° 51′
6	6	the one which is in the back of ♈, preceding [illam quæ eſt in] [dorſo ♈ præced.]	34° 32⅔′
			34° 31⅚′
15	6	the one which is in the back; [it] follows near the root of the tail, in the belly [eam quæ eſt in dor-] [ſo, ſequitur prope] [radicem caudæ] [in aluo]	36° 1½′
			36° 2′
14	6 min.	the one which is in the front knee of the hind feet; [it] is the more western of the two lower [stars] in the □ [eam quæ eſt in ge-] [nu anteriori poſte-] [riorum pedum, eſt] [occidentalior dua-] [rum infer. in □]	38° 31′
			38° 30′
13	6 mai.	the one which is in the hind knee [eam quæ eſt in] [genu poſteriori]	40° 4⅓′
			40° 5′
12	6	the preceding [star] in the hind thigh; [it] is the more western of the two upper [stars] [præcedentem in] [femore poſteriori,] [eſt occidental. du-] [arum ſuperiorum]	38° 31′
			38° 31⅔′
11	6	the following [star] in the thigh [ſequentem in] [femore]	39° 49′ twice [bis]
7	5 mai.	the lead-out of the tail [eductionem caudæ]	39° 12′
8	5	the first [star] of the tail of ♈ [primam caudæ ♈]	42° 28′
			42° 27½′
9	5	the middle [star] of the tail [mediam caudæ]	42° 44⅚′
			42° 45½′
10	nebul.	the last [star] of the tail [extremam caudæ]	44° 3⅓′

2725

Declinations of the same [stars] by the armillae [Declinationes earundem per] [Armillas.]

Number in the delineation [Num.] [delinea-] [tionis]	Mag-ni-tude [Mag.]	Star	Value	*Limi-tation [Limi-tatio]*
5		Of the one which is in the neck [Eius quæ eſt in] [collo]	15° 45½′	
			15° 44½′	*15° 45½′*
16		Of the very small [star] below the bright [star] of ♈, the preceding [star] of the three [Paruulæ infra lucid. ♈] [præced. trium]	20° 39′	
3 vet.		Of the following [star] of the three, or the middle [star] of the three below the bright [star] of ♈, which precedes in the forehead [Sequentis trium vel] [mediæ trium infra lu-] [cid. ♈ quæ præcedit] [in fronte]	19° 14′	*19° 15′*
4		Of the following [star] in the mouth [Sequent. in rictu]	17° 57½′	*17° 57½′*
6		In the back [In dorſo]	20° 8′	*20° 8½′*
15	6	The one which is in the belly [Quæ eſt in aluo]	18° 13¼′	
13		In the hind knee, in the □, of the more eastern [star] [In poſteriori genu] [in □ orienta-] [lioris]	13° 19⅝′	
			13° 21′	*13° 21′*
12	6	In the □, the upper preceding [star] [In □ ſuper.] [præced.]	15° 43′	*15° 43½′*
11	6	In the □, the upper following [star] [In □ ſuper.] [ſequent.]	16° 21½′	*16° 22′*
14		Of the preceding [star] of the two lower [stars] in the □ of ♈ [Præcedentis duarum] [infer. in □ ♈]	13° 29′	*13° 30′*

2725 The heads of the first three columns are the page's (the first two in smaller type); "Value" is this edition's head; the page prints none over the figures. *delineat. noſt.* is given as "our delineation". *Inter caput Andromedæ &* governs every star named below it: each is the second star of a distance from the head of Andromeda. Braces join the magnitude figure to *mai.* or *min.* on the line below it at the stars numbered 3 (first row), 2, 1, 14, 13 and 7; *mai.* and *min.* are kept abbreviated (*maior*, "greater", and *minor*, "lesser", are the likely expansions). At the second star numbered 3 a brace in the number column joins *3* to *vet.*; *vet.* is kept abbreviated, the page not expanding it (*vetus*, "old", and *veterum*, "of the old", are both possible). At the star numbered 10, *nebul.* stands in the magnitude column; it is kept abbreviated (*nebuloſa*, "nebulous", is the likely expansion). At the stars numbered 2, 1 and 7 the label and its first figure stand centred on the brace, between the two lines. *repetita*, "repeated", stands at the right of the text column on the line of its figure. *præcedent.* and *præced.* are given as "preceding", *lucid.* as "the bright [star]", *infer.* as "lower"; *occidental.* is given as the comparative, "more western", as *occidentalior* is printed in full in the row of the star numbered 14; *occidentalis*, "western", is the other expansion. In the row of the second star numbered 3, *in fronte* is taken with *lucid.*; "the following [star] of the three in the forehead, below the bright [star]" is the other construal. In the row of the star numbered 15, *in aluo* is taken with the root of the tail; it can also stand apart, "…near the root of the tail; in the belly". Each label printed over several lines is given whole on its first row; where a second figure stands on a later line, it is given on a row of its own with no label. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

Number in the delineation [Num.] [delinea-] [tionis]	Mag-ni-tude [Mag.]	Star	Value	*Limi-tation* [*Limi-tatio*]
7	5	In the lead-out of the tail [In eductione] [caudæ]	19° 40′	*19° 39½′*
8		Of the preceding [star] of the three in the tail [Præc. trium in] [cauda]	18° 5½′	
			18° 6′	*18° 6′*
9		Of the middle [star] of the three in the tail [Mediæ trium in] [cauda]	19° 27½′	*19° 27½′*
10		Of the last [star] in the tail [Extremæ in] [cauda]	19° 39′	*19° 39′*

2726

On 8 February [*DIE 8 FEBRUARIJ.*]

Reading	*Instrument*	*Value*
Declination of the head of Andromeda [*Capitis Andromedæ Declin.*]		*26° 50′*
	with the other [*alt.*]	*26° 49¾′*
Repeated declination [*Repetita Declinatio*]		*26° 50′*
		26° 49⅔′
Its altitude about the time of the observation [*Altitudo eius circa tempus*] [*obſeruationis*]		*27½°*

Therefore this star was not subject to any very perceptible refraction, neither here nor in the preceding observations. You can compare. [*Ergo non admodum ſenſibili refrac-*] [*tioni fuit obnoxia hæc ſtella, neque*] [*hic neque in præcedentibus obſerua-*] [*tionibus. Potes conferre.*]

[2726] The heads *Num. delineationis* (over three lines, *delinea-* / *tionis*), *Mag.* and *Limitatio* are the page's, in smaller type, *Limitatio* in italic; "Star" and "Value" are this edition's heads; the page prints none over the text and the first figures. *Num.* is given as "Number". The figures of the *Limitatio* column are set in italic and are given in italic. Magnitudes are printed only for the stars numbered 15, 12, 11 and 7. At the star numbered 3 a brace joins *3* to *vet.* below it; *vet.* is kept abbreviated (*vetus*, "old", and *veterum*, "of the old", are both possible). Where a label runs over two lines with a figure on each, the second figure is given on a row of its own; the *Limitatio* figure stands on the second line. *quæ præcedit in ſronte* is given as "which precedes in the forehead"; it can also be taken "which precedes, in the forehead". *In □ orientalioris* and *In □ ſuper.* are given in the order printed; *ſuper.* is given as "upper" (*ſuperior* or *ſuperioris*); *præced.*, *Præc.* and *Præcedentis* as "preceding", *ſequent.* and *Sequent.* as "following", *infer.* as "lower", *lucid.* as "the bright [star]". *Paruulæ* is given as "the very small [star]". The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Declination of 2 ♈ by the armillae [Declin. 2 ♈ per Armillas]		18° 46½′
Declination of 1 ♈[1] by the armillae [Declin. 1 ♈[1] per Armillas]		21° 29′
	with the other [alt.]	21° 29½′
Repeated declination [Repetita Declin.]		21° 29′
		21° 29¼′

[1] It should be 3 ♈ (α Arietis). [Debet eße 3 ♈ (α Arietis).][2727]

On 10 February [DIE 10 FEBRUARIJ.]

Reading	Instrument	Value
Declination of the first [star] by the armillae [Primæ Declin. per Armillas]		17° 14½′
		17° 14¾′
[It] had an altitude of about 35° [Habuit altitudinem quaſi 35 P.]		
Declination of the second [star] of ♈ [Secundæ ♈ Declin.]	with one [vno]	18° 46½′
	with the other [alt.]	18° 46⅝′
Altitude 36½° [Altitudo 36½.]		
Declination of the third [star] of ♈ [Tertiæ ♈ Declin.]	with both pinnules [vtr. pin.]	21° 29′
Altitude 40° [Altitudo 40 P.]		
Declination of the same third [star] of ♈, repeated [Declin. eiusdem tertiæ] [♈ repetita]	with one [vno]	21° 29′
	with the other [alt.]	21° 29⅛′

2728

On 23 November [DIE 23 NOUEMBRIS.] Observation of the stars of ♈ which had not come out well before. [Obſeruatio ſtellarum ♈, quæ ante] [non bene ſe habuere.]

[2727] From the date heading to *Potes conferre.* the page sets italic, given here in italic; the declinations that follow are in roman again, under no new heading. "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *alt.*, "with the other", stands on the line of its figure, with no *vno* printed on the line above. The altitude carries *g.* (*gradus*, degrees) after its figure, given as °. α in footnote 1 is the Greek letter alpha [Greek: α (alpha)]. The figures 2 and 1 before the sign of Aries are figures, not letters. The other values, printed without unit marks, are given as degrees and minutes.

[2728] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *P.* (*partes*) after 35 and 40 is given as °; the altitude 36½ is printed with no unit mark, and is given as degrees as the altitudes printed with *P.* on the lines above and below it are. The altitude lines stand set in under the declination lines, the 35 running into the figure columns; they are given as rows of their own with their figures in the label, as printed. The fraction after 17° 14 is printed with an ink blot over its bar; the figures 1 and 2 stand clear of it. *vtr. pin.* is given as "with both pinnules". The declinations, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Between the eye of ♉ and 16 ♈ [Inter oculum ♉ & 16 ♈]		35° 35½′
		35° 36¼′
Between the eye of ♉ and 10 ♈ [Inter oculum ♉ & 10 ♈]		18° 15¼′
		18° 16′
Between the eye of ♉ and 15 ♈ [Inter oculum ♉ & 15 ♈]		27° 9½′
		27° 10′
Meridian altitude of the bright [star] of ♈ [Alt. merid. lucid. ♈]	by the steel [quadrant] [per Chalyb.]	55° 35¼′
	by the revolving [quadrant] [per Volub.]	55° 34⅝′

2729

On 29 November, in the evening [DIE 29 NOUEMBRIS, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the second [star] of ♈ [Alt. merid. ſecundæ ♈]	by the steel [quadrant] [per Chal.]	52° 51⅙′
	by the revolving [quadrant] [per Volub.]	52° 51⅙′
[It] is the middle [star] of the three bright [stars] in ♈. [Eſt media trium lucidarum in ♈.]		
Meridian altitude of the bright [star] of ♈ [Alt. merid. lucidæ ♈]	by the steel [quadrant] [per Chalyb.]	55° 34⅙′
	by the revolving [quadrant] [per Volub.]	55° 34⅝′

Among rather dense clouds. [Inter denſiores nebulas.][2730]

On 3 December [DIE 3 DECEMBRIS.]

Reading	Instrument	Value
Meridian altitude of the first [star] in the head of ♈ [Alt. merid. primæ in capite ♈]	by the revolving [quadrant] [per Volub.]	51° 21′
	by the steel [quadrant] [per Chalyb.]	51° 20⅔′

[2729] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *quæ … non bene ſe habuere* is given as "which had not come out well before"; *quæ* can refer to the stars or to their earlier observation, the page does not say which, and "which were not in good order before" is another rendering. The figures 16, 10 and 15 after the sign are given as printed. The values, printed without unit marks, are given as degrees and minutes.

[2730] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Inter denſiores nebulas.* stands on its own line after the last figure of this date, set in; the page does not say which of the readings it qualifies. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of the second [star] of ♈ [Alt. mer. ſecundæ ♈]	by the steel [quadrant] [per Chalyb.]	52° 51⅓′
	by the revolving [quadrant] [per Volub.]	52° 51½′
Meridian altitude of the third or bright [star] of ♈ [Alt. mer. tertiæ ſeu lucidæ ♈]	by the steel [quadrant] [per Chalyb.]	55° 34½′
	by the revolving [quadrant] [per Volub.]	55° 34⅓′

2731

The constellation of Taurus, as it was marked by us from the sky while observing [ASTERISMUS TAURI] [QUEMADMODUM A NOBIS CŒLITUS INTER OBSERUANDUM] [DENOTATUS EST.]

Diagram. Below the title, an uncaptioned pen drawing of the fore part of a bull, facing left: two long horns rising to the upper left, the left one wavy, the upper one straighter, both hatched along their lower parts; a band of curled hair across the brow between them; the face at the left of the brow band, with an ear at its right; the neck and back running right to a border of scalloped, cloud-like curls at the right edge, where the body ends against a band of horizontal hatching; two forelegs bent below, the lower one ending in a cloven hoof. Star marks of more than one form stand on the drawing (six-pointed, five-pointed, one large four-pointed star drawn hollow, one drawn as a ring with rays, one as a ringed star), most with a handwritten numeral beside them, several set sideways along the horns. A cluster of eight star marks with two dots stands on the back near the right border; three of its stars are joined by thin lines to numerals, the other five carry none.

- Tip of the left horn, beside a ringed star: 19
- Left horn, next star down (set sideways): 41
- Left horn, next star down (set sideways): [?] — a mark like 40, not settled
- Left horn, lower: 18
- Left horn, lower: 17
- Left horn, near its root: 16
- Tip of the upper horn, beside a ringed star (set sideways): 21
- Upper horn, near its root, above a star (set sideways): 26
- Face, below a small star: 39
- Face, below the large hollow four-pointed star: 14
- Brow, below a star: 15
- Face, beside a star with a small circle above it: [?] — a mark like 12, not settled
- Face, below a star with a small circle above-left of it: 13

[2731] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Alt. mer.* is given as "Meridian altitude", as *Alt. merid.* on the line above. The values, printed without unit marks, are given as degrees and minutes.

- Lower face, below three stars: 38, 37, 11
- Ear, to the left of a star: 33
- Ear, beside a star above it: [?] — not settled
- Neck and back: 28, 29, 27, 43, 26, 25, 24
- The cluster on the back: 32 and 30 above it, 31 below it, each joined by a line to one star
- Forelegs: 9, 36
- Upper foreleg, beside a star: 10
- Forelegs: 35; 7 (a small curved mark below it); 8
- In the hoof, beside two stars: 34
- Body, beside a star: [?] — a looped mark with a rising tail joined to a line of the drawing, like a 6, not settled
- Body: 5
- At the right, inside the border: 1, 2, 3, 42, 4[2732]

On 9 January, in the evening [DIE 9 JANUARIJ, VESPERI.]

Number of position, as can be seen in the figure placed here [Numerus ſitus] [quemadmodum] [in appoſita hic] [figuratione] [videre] [eſt]	Number of magnitude [Numer.] [quantit.]	Star	Value
4	4	Between the eye of ♉ and the lowest of those four which are in the intersection of ♉ [Inter oculum ♉ & Infimam] [ex quatuor illis quæ ſunt in] [interſectione ♉]	18° 51¾′ twice [bis]
3	4	the second, next above this one, in the intersection of ♉ [Secundam proxime] [ſuperiorem hac] [in interſectione ♉]	18° 5′
			18° 4½′
2	6	the third lowest in the intersection [Tertiam infimam] [in interſectione]	16° 43′ twice [bis]
1	5	the uppermost in the cutting-off [Supremam in] [abſcißione]	16° 8¾′ twice [bis]
		Between the bright [star] of the feet of ♊ and [Inter lucidam pedum ♊ &]	
42	6	the little star which is also in the intersection of ♉, near 2, counting from the south [Stellulam quæ eſt] [etiam in interſec-] [tione ♉ apud 2 ab] [auſtro numerando]	45° 33½′
			45° 34′

[2732] The drawing carries no caption; it stands under the title. The numerals appear to answer to the first column of the 9 January table below, whose head refers to "the figure placed here"; the page does not pair them star by star. Seven of the drawn marks are not settled on the scan. The mark near the root of the upper horn, set sideways, reads 26 on a native-resolution crop, so that 26 is printed twice in the drawing (also on the neck and back).

Number of position, as can be seen in the figure placed here [Numerus ſitus] [quemadmodum] [in appoſita hic] [figuratione] [videre] [eſt]	Number of magnitude [Numer.] [quantit.]	Star	Value
5	5	the shoulder of ♉ [Armum ♉]	41° 23½′
			41° 23¾′

2733

Number of position, as can be seen in the figure placed here	Number of magnitude	Star	Value
34	6	the little star in the hoof of the left foot [Stellulam in vngula] [ſiniſtri pedis]	43° 20⅙′
			43° 20′
6	4	the breast of ♉ [Pectus ♉]	38° 8½′ twice [bis]
8	4	the preceding [star] in the front foot of ♉ [Præcedentem in] [pede anteriore ♉]	39° 13½′
			39° 13¾′
7	4	the knee of the preceding foot of ♉ [Genu præcedentis] [pedis ♉]	35° 26′
			35° 26½′
35	6	the little star in the middle between the uppermost in the preceding foot of ♉ and the lower in the following foot, which is in a straight line with those two [Stellulam mediam] [inter ſupremam in] [præced. pede ♉ &] [inferiorem in ſequ-] [enti pede, quæ eſt] [cum duabus illis in] [recta linea]	33° 18⅔′
			33° 18′
10	5	the more southern or lower [star] in the following or left foot [Auſtraliorem ſive] [inferiorem in pede] [ſequenti vel ſiniſtro]	30° 20′

2733 The heads of the first two columns are the page's, in smaller type, divided by a short vertical rule; "Star" and "Value" are this edition's heads; the page prints none over the text and the figures. *Numer. quantit.* (*numerus quantitatis*, "number of size") is given as "Number of magnitude". The date heading stands beside the head lines. *Inter oculum* ♉ *& Infimam* is set on the last head line, in text type, and runs on into the first row; each star named after *Inter oculum* ♉ *&* and after *Inter lucidam pedum* ♊ *&* stands in the accusative and is the second star of a distance from the star those words name. The rows from the star numbered 1 on stand in the right-hand column, under no heads of their own, in the same columns, and are given here in the same table; the line *Inter lucidam pedum* ♊ *&* stands there on its own, with no figures. Each label that runs over several lines is given whole on its first row; where a second figure stands on a later line of the same label, it is given on a row of its own with no label. *bis* is given as "twice". *interfectione* is given as "intersection" and *abſciſsione* as "cutting-off". *Tertiam infimam* is given as "the third lowest"; it can also be taken "the third, [the] lowest". *apud 2* is given as "near 2"; it can also be taken "at the 2nd". The sign of Taurus after the first *interfectione* is printed with its lower ring open on the left. The values, printed without unit marks, are given as degrees and minutes.

Number of position, as can be seen in the figure placed here	Number of magnitude	Star	Value
			30° 19⅓′
9	5	the more northern [star] in the following foot of ♉ [Borealiorem in] [pede ſequenti ♉]	19° 12′ twice [bis]
11	3	the first of the Hyades, which is in the nostrils of ♉ [Primam ſuccularum quæ] [eſt in naribus ♉]	33° 8′ twice [bis]
13	4	that which is between the southern eye and the nostrils, the third of the Hyades [Illam quæ eſt inter] [auſtralem oculum &] [nares ſuccularum] [tertiam]	30° 58¾′
			30° 59′
12	3	the 2nd of the Hyades, which is between the nostrils and the northern eye [2 ſuccularum quæ] [eſt inter nares &] [bor. ocul.]	32° 13′
			32° 13¼′
15	3	the northern eye of ♉ [Borealem] [oculum ♉]	30° 49′
			30° 49¾′
23	4	the southern [star] in the ear of ♉ [Auſtralem] [in aure ♉]	31° 42′ twice [bis]
22	5	the northern [star] in the ear, of the two brighter [ones] [Borealem in aure] [ex duabus lucidio-] [ribus]	31° 32½′
			31° 33′
33	5	the end of the Pleiades, or that which is in the point nearest to the east [Terminum Pleiadum] [vel illam quæ eſt in] [cuſpide proxime ad] [orientem]	40° 7′ twice [bis]
32	3	the bright [star] of the Pleiades [Lucid. Pleiadum]	40° 30¼′
			40° 30′
30	5	the more western end of the Pleiades, or that which is the last toward the west in the Pleiades [Occidentaliorem] [terminum Pleiadum] [ſiue illam quæ eſt ex-] [trema verſus occa-] [ſum in Pleiadibus]	41° 6′
			41° 5⅚′
24	5	the preceding [star] in the neck of ♉; that [star] is the more western of the two in the neck which are in a straight line with the northern eye and the Pleiades [Præcedentem in] [collo ♉, eſt illa oc-] [cidentalior duarum] [in collo, quæ ſunt in] [recta linea cum bo-] [reali oculo & Pleia-] [dibus]	36° 28′ twice [bis]
25	6	the following [star] of the same two in the neck of ♉ [Sequentem dua-] [rum earundem in] [collo ♉]	33° 30¾′
			33° 31¼′
		Between the lower head of ♊ and [Inter inferius caput ♊ &]	
20	5	that which is in the root of the northern horn of ♉ [Illam quæ eſt in] [radice cornu borea-] [lis ♉]	41° 28¼′ twice [bis]
16	6	the little star of magnitude 6 in the root of the southern horn of ♉ [Stellulam 6 magn.] [in radice auſtralis] [cornu ♉]	40° 47¾′
			40° 47′

Number of position, as can be seen in the figure placed here	Number of magnitude	Star	Value
18	5	the following [star] in the southern horn of ♉ [Sequentem in] [auſtrali cornu ♉]	37° 17′ twice [bis]
41	6	the 4th in the southern horn of ♉, nearest to the last [4^{am} in auſtrali cornu] [♉ extremæ proxi-] [mam]	31° 45½′
			31° 45¾′
19	3	the last or sixth in the southern horn [Extremam ſeu ſex-] [tam in auſtrali] [cornu]	29° 48½′
			29° 49′

2734

Declinations of the same [stars] by the subterranean armillae [Declinationes earundem] [per Armillas ſubterraneas]

Number of position, as can be seen in the figure placed here	Number of magnitude	Star	Instrument	Value
11	3	Of the star in the nostrils of ♉ [Stellæ in naribus ♉]		14° 34½′
12	3	Of the second of the Hyades, which is between the nostrils and the northern eye [Secundæ ſuccula-] [rum quæ eſt inter] [nares & bor. ocul.]		16° 30′
			with both [vtroq.]	

2734 The rows above continue the 9 January table of p. 357, still under *Inter lucidam pedum* ♊ & until the line *Inter inferius caput* ♊ &; the page prints no heads, and the heads of p. 357 are repeated here in English. "Star" and "Value" are this edition's heads. The label of the star numbered 24 runs from the foot of the left-hand column (*… quæ ſunt in*) to the head of the right-hand column (*recta linea cum boreali oculo & Pleiadibus*) and is given whole on one row. The line *Inter inferius caput* ♊ & stands on its own, with no figures; each star named after it is the second star of a distance from the lower head of ♊. Each label that runs over several lines is given whole on its first row; where a second figure stands on a later line of the same label, it is given on a row of its own with no label. *ſive* in the row of the star numbered 10 is printed with a v; the page elsewhere prints *ſiue*. *ſuccularum* is given as "of the Hyades". *nares ſuccularum tertiam* (star numbered 13) is given as "the nostrils, the third of the Hyades", *tertiam* agreeing with *Illam. præced.* is given as "preceding", *bor. ocul.* as "the northern eye", *Lucid.* as "the bright [star]", *6 magn.* as "of magnitude 6"; *4^{am}* is given as "the 4th". *eſt illa occidentalior* is given as "that [star] is the more western". *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

Number of position, as can be seen in the figure placed here	Number of magnitude	Star	Instrument	Value
15	3	Of the northern eye of ♉ [Borealis oculi ♉]	with one [vno]	18° 13′
			with the other [alt.]	18° 12½′
4	4	Of the lowest in the intersection of ♉ [Infimæ in inter-] [ſectione ♉]		7° 32′
				7° 32¼′
3	4	Of the next to this one in the same intersection [Huic proximæ in] [eadem interſectione]		8° 15′
				8° 16′
1	5	Of the uppermost in the intersection [Supremæ in inter-] [ſectione]		11° 29′
				11° 29¼′
2	6	Of the lower of the two upper [stars] in the intersection [Inferioris duarum] [ſuperiorum in] [interſectione]		9° 52′
				9° 53′
8	4	Of the lower [star] of the right or preceding foot, or of that which is in the hock or ankle [Inferioris dextri vel] [præcedentis pedis,] [ſiue eius quæ eſt in] [ſuffragine ſiue talo]		4° 47′
				4° 47½′
..	..	Of that which is in the knee of the right or preceding foot [Eius quæ eſt in genu] [dextri vel præced.] [pedis]		11° 16′
				11° 15½′
13	3			14° 57′
				14° 57½′

2735

On 10 January [DIE 10 JANUARIJ.]

2735 The title stands centred over the right-hand column, in text type, after a line's space; it is given as a plain title line. The page prints no heads over this table; the first two heads are those of p. 357, repeated in English, and "Star", "Instrument" and "Value" are this edition's. The labels are in the genitive, depending on *Declinationes* of the title, and are given with "Of". *vtroq.*, "with both", stands on a line of its own at the right, under the figures of the line above (16° 30′); the page does not tie it to a figure, and it is given on a row of its own. *vno*, "with one", and *alt.*, "with the other", stand on the lines of their figures. In the row of *Eius quæ eſt in genu …* two points stand in each number column, where no number is given. In the last row the number columns print 13 and 3 and the label space of both lines is blank; the page names no star there. The star numbered 13 is given magnitude 4 in the distances above (the star between the southern eye and the nostrils) and magnitude 3 here; given as printed. *ſuffragine* is given as "hock" and *talo* as "ankle". The values, printed without unit marks, are given as degrees and minutes.

Number [Num.]	Magnitude [Mag.]	Declination [Declinatio]	Instrument	Value
34	6	Of the little star preceding the ankle of ♉ [Stellulæ præceden-] [tis talum ♉]		4° 43′
				4° 43½′
5	5	Of the one which is in a straight line with the uppermost in the intersection and the right knee [Eius quæ eſt in recta] [linea cum ſuprema] [in interſectione &] [dextro genu]		9° 49½′
				9° 50′
7	4	Of the right knee [Dextri genu]		7° 49½′
				7° 49′
35	6 nearly [fere]	Of the middle [star] between the right knee and the lower [star] in the left foot [Mediæ inter genu] [dextrum & inferio-] [rem in ſiniſtro pede]		8° 26½′
				8° 26′
10	4	Of the lower [star] in the left or following foot [Inferioris in ſiniſtro] [vel ſequenti pede]		9° 14½′
			with both [vtroq.]	
9	4	Of the knee of the left or following foot [Genu ſiniſtri vel] [ſequentis pedis]		11° 38′
				11° 38½′
24	5	Of the preceding [star] in the neck of ♉ [Præcedentis in] [ceruice ♉]		20° 52¾′
				20° 52′
27	5	Of the upper of the two preceding [stars] in the quadrilateral of the neck of ♉ [Superioris duarum] [præcedentium in] [quadril. colli ♉]		27° 50′
				27° 51′
26	5	Of the southern [star] of the two preceding [stars] in the quadrilateral of the neck [Auſtralis præce-] [dentium duarum] [in quadril. colli]		26° 26′
				26° 25′
43	6	Of the very small [star] near the more southern of the two preceding [stars] in the quadrilateral of ♉ [Paruulæ apud auſtra-] [liorem duarum præ-] [cedent. in quadri-] [latero ♉]		25° 20′
			with both [vtroq.]	
29	5	Of the more northern of the two following [stars] in the quadrilateral of the neck [Borealioris duarum] [ſequentium in] [quadril. colli]		26° 18′
				26° 19′
28	5	Of the more southern of the two following [stars] in the quadrilateral of the neck [Auſtralioris duarum] [ſequent. in quadri-] [latero colli]		24° 34′
				24° 34½′
37	5	Of the preceding [star] of the three which are near the Hyades [Præcedentis trium] [quæ ſunt apud] [ſucculas]		13° 44½′
				13° 43½′
38	5	Of the middle [star] of the three neighbouring [stars] in the Hyades, toward the south [Mediæ trium vici-] [narum in ſucculis] [ad auſtrum]		13° 56½′
				13° 55½′
39	5	Of the last of the three near the Hyades [Poſtremæ trium] [apud ſucculas]		14° 58′
				14° 57½′

Number [Num.]	Magnitude [Mag.]	Declination [Declinatio]	Instrument	Value
36	6	Of the little star situated toward the south near these three [stars] neighbouring the Hyades [Stellulæ ad] [auſtrum apud has] [tres vicinas ſuccu-] [lis ſitæ]		12° 5′
				12° 4′
20	4	Of the first of the northern horn of ♉ [Primæ borealis] [cornu ♉]		22° 5½′
				22° 6′
16	5	Of the first of the southern horn [Primæ auſtralis] [cornu]		18° 6′
				18° 5¾′
18	4 nearly [fere]	Of the second in the southern horn of ♉ [Secundæ in] [auſtrali cornu ♉]		20° 56½′
				20° 56′
17	6 nearly [fere]	Of the little star distant a little toward the south from the 2nd in the lower horn [Stellulæ paululum] [ad auſtrum a 2. in] [cornu inferiori di-] [ſtantis]		19° 49′
				19° 49½′
40	6	Of the third in the southern horn of ♉ [Tertiæ in auſtrali] [cornu ♉]		21° 36′
				21° 35′
41	6	Of the fourth in the southern horn of ♉ [Quartæ in auſtrali] [cornu ♉]		21° 31′
				21° 31¾′
19	3	Of the last of the southern horn [Extremæ auſtralis] [cornu]		20° 50½′
				20° 50′
25	5	Of the following [star] in the neck [Sequentis in] [ceruice]		19° 32′
				19° 31′
23	4	Of the more southern [star] in the ear [Auſtralioris in] [aure]		21° 18′
				21° 17′
22	4 nearly [fere]	Of the more northern [star] in the ear [Borealioris in aure]		21° 49′
				21° 49½′
30[1]	4	Of the preceding [star] of the Pleiades [Præcedentis] [Pleiadum]		22° 49′
				22° 48½′
32	3	Of the bright [star] of the Pleiades [Lucidæ Pleiadum]		22° 46′
				22° 46½′
33	4	Of the point of the Pleiades, or of that which is at the end toward the east [Cuspidis Pleiadum] [ſiue illius quæ eſt in] [termino ad ortum]		22° 46′
				22° 46½′

2736

Distances by the sextant. [Diſtantiæ per Sextantem.]

Number	Magnitude	Star	Value
		Between the lower head of ♊ and [Inter inferius caput ♊ &]	
37	5	the first or preceding [star] of the three toward the south from the Hyades [Primam vel] [præcedentem 3ium ad] [Auſtr. a ſucculis]	47° 52′ twice [bis]
38	5	the middle [star] of the same three near the Hyades [Mediam trium] [earundem apud] [ſucculas]	46° 13½′
			46° 13′
39	5	the last of these three, below the Hyades [Poſtremam] [trium iſtarum infra] [ſucculas]	44° 36½′
			44° 37′
36	5	the very small [star] distant toward the south from these three, which is in the thigh of ♉ [Paruulam ad] [auſtr. ab iſtis tribus] [diſtantem quæ eſt] [in femore ♉]	48° 6′ twice [bis]
17	6	that which is below 2 in the southern horn [Illam quæ eſt infra] [2 in auſtrali cornu]	36° 37¼′
27	5	the upper of the two preceding [stars] in the quadrilateral of the neck [Superiorem duarum] [præcedentium in] [quadril. colli]	47° 34′
			47° 34½′

[2736] The heads *Num.* and *Mag.* (in smaller type) and *Declinatio* (in text type, over the labels) are the page's; "Instrument" and "Value" are this edition's heads; the page prints none over the figures. *Num.* is given as "Number" and *Mag.* as "Magnitude". The labels are in the genitive, depending on *Declinatio*, and are given with "Of". The rows from the star numbered 20 on stand in the right-hand column, under no heads of their own, and are given here in the same table. Each label that runs over several lines is given whole on its first row; where a second figure stands on a later line of the same label, it is given on a row of its own with no label. *vtroq.*, "with both", stands on a line of its own at the right, under the figures of the line above (9° 14½′ and 25° 20′); the page does not tie it to a figure, and it is given on a row of its own. At the stars numbered 35, 18, 17 and 22, *fere* stands under the magnitude and a brace after the magnitude and *fere* points to the label; *fere* is given as "nearly" with the magnitude; it can also be taken with the whole entry. *quadril.* is given as "quadrilateral", the page printing *quadrilatero* in full in the rows of the stars numbered 43 and 28. *Paruulæ* is given as "the very small [star]". In the row of the star numbered 38, *ad auſtrum* is given with the three stars ("toward the south"); it can also be taken with *vicinarum*, "neighbouring toward the south". In the row of the star numbered 36, *ſitæ* agrees with *Stellulæ*, "the little star … situated". *a 2.* (row of the star numbered 17) is given as "from the 2nd". *ad ortum* (literally "toward the rising") is given as "toward the east". The magnitudes printed here differ from those given to the same numbers in the 9 January distances of p. 358 for the stars numbered 10 (4 here, 5 there), 9 (4, 5), 20 (4, 5), 16 (5, 6), 18 (4 nearly, 5), 25 (5, 6), 22 (4 nearly, 5), 30 (4, 5) and 33 (4, 5); the star numbered 36 has magnitude 6 here and 5 in the distances below; all given as printed. The values, printed without unit marks, are given as degrees and minutes.

2737

[1] Added later: "It seems to be not 30 but 31 of Ptolemy." [Poſtea adſcriptum eſt: »Videtur non 30 ſed 31 Ptolemæi eße«.]

Number	Magnitude	Star	Value
43	5	the southern [star] of the two preceding [stars] in the quadrilateral [Auſtral.] [duarum præced. in] [quadrilatero]	48° 1′
			48° 1¼′
26	6	the very small [star] near the lower of the two preceding [stars] in the quadrilateral [Paruulam apud in-] [feriorem duarum] [præc. in quadr.]	47° 21½′ twice [bis]
29	5	the more northern of the two following [stars] in the quadrilateral of the neck [Borealiorem] [duarum ſequent.] [in quadr. colli]	44° 6½′
			44° 6′
28	5	the lower of the two in the quadrilateral of the neck [Inferiorem duarum] [in quadril. colli]	45° 1½′ twice [bis]
6		Declination of the breast of ♉ [Declin. pectoris ♉]	20° 18′[1]

2738

On 11 January, in the evening [DIE 11 JANUARIJ, VESPERI.]

2737 The title stands in the right-hand column in text type, beginning to the left of the labels; it is given as a plain title line. The page prints no heads over this table; the first two heads are those at the head of the left-hand column, repeated in English, and "Star" and "Value" are this edition's. The line *Inter inferius caput* ☊ & stands on its own, with no figures; each star named after it stands in the accusative and is the second star of a distance from the lower head of ☊. *3ium* (*trium*) is given as "of the three". *Auſtr.* and *auſtr.* are given as "south", the page printing *ad auſtrum* in full in the declinations above. *infra 2* is given as "below 2"; it can also be taken "below the 2nd". *bis* is given as "twice". The sign of Taurus in the row of the star numbered 36 is printed with its lower ring open at the bottom. The star numbered 36 has magnitude 5 here and 6 in the declinations above; given as printed. The values, printed without unit marks, are given as degrees and minutes.

2738 The rows above continue the distances by the sextant of p. 359, still under *Inter inferius caput* ☊ &; each star named stands in the accusative and is the second star of a distance from the lower head of ☊. The page prints no heads over this column; the heads of p. 359 are repeated in English, "Star" and "Value" being this edition's. *Auſtral.* can expand to *Auſtralem*, "the southern [star]", given here, or to *Auſtraliorem*, "the more southern [star]". *præced.* and *præc.* are given as "preceding", *ſequent.* as "following", *quadr.* and *quadril.* as "quadrilateral" (the page prints *quadrilatero* in full in the row of the star numbered 43). The last row, a declination of the breast of ♉, stands among the distances with the number 6 and no magnitude; its footnote is given at the foot of the page. The same row label is printed again in the 29 January entries below, with the declination 11° 12½′ and 11° 13′; 20° 18′ is given as printed. The star numbered 43 has magnitude 5 here and 6 on p. 359, and the star numbered 26 magnitude 6 here and 5 on p. 359; given as printed. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of the eye of ☿ [Alt. oculi ☿ merid.]		
	by the revolving [quadrant] [per Volub.]	49° 42⅓′
	by the steel [quadrant] [per Chal.]	49° 42′ 5″
	or [vel]	⅙
Declination of the eye of ☿ by the armillae [Declin. oculi ☿ per Armillas]		15° 37¼′
		15° 37½′
The same declination repeated [Eadem declin. repetita]		15° 37′
		15° 37½′
The same repeated [Eadem repetita]		15° 37′
		15° 37⅓′
	with one [vno]	15° 38′
	with the other [alt.]	15° 38¼′

2739

On 29 January, in the evening [DIE 29 JANUARIJ, VESPERI.]

Number	Magnitude	Reading	Instrument	Value
		Meridian altitude of the eye of ☿ [Alt. mer. oculi ☿]	by the revolving [quadrant] [per Vol.]	49° 41⅔′
			by the steel [quadrant] [per Chalyb.]	49° 41′ 55″
40	6	Between the lower head of ♊ and the 4th in the southern horn of ☿ [Inter inferius] [caput ♊ &] [4^{am} in cornu] [auſtrali ☿]		33° 31½′
				33° 31¾′
42	6	Declination of the very small [star] near the two southern [stars] in the intersection of ☿ [Declin. paruulæ] [apud duas auſtrales] [in interſectione ☿]	with both [vtr.]	7° 53′
6	4	Declination of the breast of ☿ [Declin. pectoris ☿]		11° 12½′
				11° 13′

2739 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. These lines are set full measure, with no number or magnitude. *Alt. oculi* ☿ *merid.* stands on its own line, with no figures, *merid.* at the end of it; it is given as "Meridian altitude". *per Volub.* and *per Chal.* are given as "by the revolving [quadrant]" and "by the steel [quadrant]". In the row *per Chal.* the page prints the seconds mark after the 5. In the row *vel*, "or", the ⅙ stands alone after the place of the minutes, under the 42 of the line above; it is most likely a fraction of the minutes, 42⅙′, offered as an alternative to 42′ 5″; given as printed. *declin.* is given as "declination", *repetita* as "repeated". The other values, printed without unit marks, are given as degrees and minutes.

2740

N.B. Declination of the eye of ♉ this year: 15° 36½′ or ⅔. [*N. B. Declin. oculi ♉ hoc anno*] [*15 36½ vel ⅔.*][2741]

Number	Magnitude	Reading	Value
13	3	Declination of the middle [star] between the nostrils and the southern eye of ♉ [Declin. mediæ] [inter nares &] [auſtral. ocul. ♉]	14° 53½′ 14° 54′
24	5	Declination of the more western of the two in the neck, namely in a straight line with the Pleiades and the northern eye [Declin. occiden-] [talioris duarum in] [collo, ſcilicet in] [recta linea cum] [Pleiadibus &] [boreali oculo]	20° 50′ 20° 50½′

2742

On 9 February, *in the evening* [DIE 9 FEBRUARIJ,] [*VESPERI.*] The stars in the constellation of ♉ were observed again, the other way round, from the bright [star] of ♈. [Obſeruabantur denuo ſtellæ in Aſte-] [riſmo ♉ viceuerſa a lucida ♈.]

Number [Num.]	Star	Value
	Between the bright [star] of ♈ and [Inter lucidam ♈ &]	
4	the lowest of the four in the intersection of ♉ [Infimam quatuor in] [interſectione ♉]	23° 32½′ twice [bis]
3	the next above in the intersection of ♉ [Proxime ſuperiorem in] [interſectione ♉]	23° 31′
	Repeated [*Repetita*]	*23° 30¾′*

[2740] "Reading", "Instrument" and "Value" are this edition's heads, and the first two heads repeat those of p. 359 in English; the page prints none here. The first two rows are set full measure, with no number or magnitude. *Alt. mer.* is given as "Meridian altitude", *per Vol.* and *per Chalyb.* as "by the revolving [quadrant]" and "by the steel [quadrant]". The three figures *49 41 55*, printed without marks, are given as degrees, minutes and seconds, the page printing a seconds mark in the like row of 11 January above. In the row of the star numbered 40 the number stands on the first line of a label of four lines, which names both stars of a distance; it is given whole on one row. *vtr.* stands after the figures, in smaller type, and is given as "with both", like *vtroq. Declin.* is given as "Declination". The other values, printed without unit marks, are given as degrees and minutes.

[2741] The note is set in italic across the column. The ⅔ stands alone after *vel*; it most likely stands for 36⅔′; given as printed.

[2742] These rows continue the 29 January entries after the note; "Reading" and "Value" are this edition's heads. *auſtral. ocul.* is given as "the southern eye". The declination of the star numbered 13 is given here as 14° 53½′ and 14° 54′, and on p. 358 as 14° 57′ and 14° 57½′; that of the star numbered 24 here as 20° 50′ and 20° 50½′, and on p. 359 as 20° 52¾′ and 20° 52′; all given as printed. The values, printed without unit marks, are given as degrees and minutes.

Number [Num.]	Star	Value
1	*the uppermost of the intersection, which is number 1* [*Supremam interſectio-*] [*nis quæ eſt num. 1*]	22° 28′
		22° 28⅙′
6	the breast of ♉, number 6 [Pectus ♉ n. 6]	29° 3′ twice [bis]
8	the foot of ♉ [Pedem ♉]	32° 55½′
		32° 56′
7	the 7th of ♉ [7^{mam} ♉]	33° 59¼′ twice [bis]
10	the 10th of ♉ [10^{mam} ♉]	37° 48′
		37° 48¼′
9	the 9th of ♉ [9^{nam} ♉]	37° 24½′
		37° 25′
30	the preceding [star] among the Pleiades, the 30th [Præcedentem inter] [Pleiades 30^{mam}]	22° 20′
		22° 20½′
32	the bright [star] in the Pleiades, 32 [Lucidam in Pleia-] [dibus 32]	22° 54′
		22° 54½′
33	the last of the Pleiades [Extremam Pleiadum]	23° 18¼′ twice [bis]
24	that in the back, 24 [Illam in dorſo 24]	27° 4¾′
		27° 5′
23	the more southern [star] in the ear of ♉ [Auſtraliorem in aure ♉]	31° 47′
		31° 47¼′
22	the uppermost in the ear of ♉ [Supremam in aure ♉]	31° 54¼′ twice [bis]
11	the mouth in the Hyades [Os in ſucculis]	32° 8′
		32° 8⅓′
12	the middle [star] of the three upper [stars] in the Hyades [Mediam trium] [ſuperiorum in ſucculis]	32° 16′
		32° 16½′
15	the last of the three upper [stars] in the Hyades [Vltimam trium] [ſuperiorum in ſucculis]	33° 10½′ twice [bis]
13		34° 4¾′
		34° 5′
20	the root of the upper horn of ♉ [Radicem ſuperioris] [cornu ♉]	35° 32½′
		35° 33′
19	the last of the lower horn of ♉ [Extremam inferioris] [cornu ♉]	48° 27′
		48° 27¼′
21	the last of the uppermost horn [Supremi cornu] [extremam]	44° 41¾′
		44° 42′

2743

N.B. Around the last observation the altitude of the bright [star] of ♈ was about 25°; hence refraction could bring in no hindrance. [N. B. Circa vltimam obſeruationem] [fuit altit. lucidæ ♈ circiter 25 partium,] [vnde refractio nihil impedimenti po-] [terat importare.]

Declinations by the armillae. [Declinationes per Armillas.]

Num-ber	Star	Instrument	Value
4	Of the lowest in the intersection of ♉ [Infimæ in] [interſectione ♉]	with both [vtroq.]	7° 31′

2744

1 This declination is false. [Falſa eſt hæc declinatio.]

[It] then had an altitude of very nearly 24°. Therefore [it] was still short of perceptible refraction. [Habuit tunc altitudinem proxime 24] [partium. Ergo adhuc erat citra ſenſi-] [bilem refractionem.][2745]

Num-ber	Star	Instrument	Value
3	Of the third of ♉ [Tertiæ ♉]		8° 15′ 8° 15¼′
1	Of the uppermost in the intersection [Supremæ in] [interſectione]		11° 29½′ 11° 29′
8			4° 47′ 4° 47¼′

[2743] The head *Num.* is the page's, in small capitals; "Star" and "Value" are this edition's heads. This column has one number column and no magnitudes. The line *Inter lucidam* ♈ *&* stands on its own, with no figures; each star named after it stands in the accusative and is the second star of a distance from the bright star of ♈. *viceuerſa* is given as "the other way round"; it can also be taken "conversely". *Repetita* and its figures are set in italic, as is the label of the star numbered 1 and that number; the figures of that star are upright. *n. 6* is given as "number 6", the page printing *num.* in the row above. *7*mam, *10*mam, *9*nam and *30*mam are given as ordinals. *Os* is given as "the mouth"; it can also be read "bone". In the row of the star numbered 13 the label space of both lines is blank; the page names no star there. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

[2744] The title stands in the right-hand column in text type; the page prints no heads over this table, "Number" repeating the head *Num.* above in English, and "Star", "Instrument" and "Value" being this edition's. *vtroq.* stands at the right, under the figures of the line above, and is given on a row of its own. The declination of the star numbered 4 is given here as 7° 31′ and on p. 358 as 7° 32′ and 7° 32¼′; given as printed. The value, printed without unit marks, is given as degrees and minutes.

[2745] The page opens with these lines, set across the left-hand column; they name no star. *partium* fixes the 24 as degrees. *citra* is given as "short of"; it can also be taken "on this side of".

Number	Star	Instrument	Value
7	In the knee of ♉ [In genu ♉]		7° 48½′
			7° 48′
6	Of the breast of ♉ [Pectoris ♉]		11° 14½′
			11° 15′
10	In the upper foot [In pede ſuperiori]		9° 14′
			9° 14½′
9	In the knee of the upper foot [In genu ſuperioris pedis]		11° 38′
			11° 37¾′
30	Of the western end of the Pleiades [Occident. termini] [Pleiadum]		22° 45′
			22° 45½′
32	32 in the Pleiades has the same declination as 30. [32 in Pleiadibus habet] [eandem declin. quam 30.]		
33	Of the eastern end of the Pleiades [Orientalis termini] [Pleiadum]		22° 44′
		with both [vtroq.]	
24	In the back of ♉ [In dorſo ♉]		20° 53′
			20° 53½′
11	Of the mouth of ♉ [Oris ♉]		14° 34′
			14° 34¾′
12	Of the middle [star] of the three upper [stars] in the Hyades [Mediæ trium ſuper.] [in ſucculis]		16° 30½′
			16° 30¾′
15	Of the northern eye of ♉ [Borealis oculi ♉]		18° 12′
			18° 12¼′
13	In the Hyades, of the middle [star] of the lower three [In ſucculis mediæ] [inferiorum trium]		14° 54′
			14° 54¼′
23	Of the lower [star] in the ear [Inferioris in aure]		21° 15′
		with both [vtroq.]	
22	Of the upper [star] in the ear [Superioris in aure]		21° 49′
		with both [vtroq.]	
20	In the root of the upper horn of ♉ [In radice ſuperioris] [cornu ♉]		22° 6′
			22° 6½′
19	Of the last of the lower horn [Extremæ infer. cornu]		20° 50′
			20° 49½′
21	Of the last of the upper horn [Extremæ ſuper. cornu]		28° 10¾′
			28° 10½′

2746

On 28 October[1] [DIE 28 OCTOBRIS[1].]

Time	Reading	Value
9^h 29½^m	Between the eye of ♉ and the upper head of ♊ [Inter oculum ♉] [& ſuper. cap. ♊]	33° 39′
9^h 30⅔^m		33° 39′

2747

On 23 November [DIE 23 NOUEMBRIS.]

Num-ber	Star	Value
4	Between the eye of ♉ and the lowest in the intersection of ♉ [Inter oculum ♉ & infi-] [mam in interſectione ♉]	18° 51′
		18° 51½′

2746 These rows stand in the left-hand column after the opening lines, under no new title or date heading, in the same columns as the declination of the star numbered 4 at the foot of p. 360 under *Declinationes per Armillas.*; that page's English heads are repeated here and are this edition's, the page printing none. There is one number column and no magnitudes. The row numbered 8 has no label. The row numbered 32 carries only the remark, with no figures; *declin.* is given as "declination". *vtroq.* stands at the right, under the figures of the line above (in the row of the star numbered 33 on the line of *Pleiadum*), and is given as "with both" on a row of its own. *Occident.* is given as *Occidentalis*, "western", following *Orientalis* printed in full in the row of the star numbered 33; it can also expand to *Occidentalioris*, "more western", the form the right-hand column prints. *ſuper.* in the row of the star numbered 12 is given as *ſuperiorum*, "upper [stars]", as p. 360 prints it in full; *infer.* and *ſuper.* in the rows of the stars numbered 19 and 21 are given as *inferioris* and *ſuperioris*, the row of the star numbered 20 printing *ſuperioris cornu* in full. Declinations that differ from those printed for the same star numbers on earlier pages, all given as printed: 7, here 7° 48½′ and 7° 48′, on p. 359 7° 49½′ and 7° 49′; 6, here 11° 14½′ and 11° 15′, on p. 360 11° 12½′ and 11° 13′ (and 20° 18′, footnoted there as false); 30, here 22° 45′ and 22° 45½′, on p. 359 22° 49′ and 22° 48½′; 32, which the remark here sets equal to 30, on p. 359 22° 46′ and 22° 46½′; 33, here 22° 44′, on p. 359 22° 46′ and 22° 46½′; 24, here 20° 53′ and 20° 53½′, on p. 359 20° 52¾′ and 20° 52′, on p. 360 20° 50′ and 20° 50½′; 11, here 14° 34′ and 14° 34¾′, on p. 358 14° 34½′; 12, here 16° 30½′ and 16° 30¾′, on p. 358 16° 30′; 15, here 18° 12′ and 18° 12¼′, on p. 358 18° 13′ and 18° 12½′; 13, here 14° 54′ and 14° 54¼′, on p. 358 14° 57′ and 14° 57½′ (on p. 360 14° 53½′ and 14° 54′); 23, here 21° 15′, on p. 359 21° 18′ and 21° 17′. The values, printed without unit marks, are given as degrees and minutes.

2747 "Time", "Reading" and "Value" are this edition's heads; the page prints none. The times stand at the left of the column, *H.* (hour) printed before the first only; the second, *9 30⅔*, is given as hours and minutes like the first. The label runs over two lines, each with its own time and value; it is given whole on the first row. *ſuper. cap.* is given as "the upper head" (*ſuperius caput*). The values, printed without unit marks, are given as degrees and minutes.

Num-ber	Star	Value
15	Between the bright [star] of ♈ and 15 of ♉ [Inter lucidam ♈ & 15 ♉]	33° 8¾′ twice [bis]
31	Between the northern horn of ♉ and 31 of ♉ [Inter boreale cornu ♉ &] [31 ♉]	23° 7′
		23° 8′
5	Between the bright [star] of ♈ and 5 of ♉ [Inter lucid. ♈ & 5 ♉]	27° 3′ twice [bis]
16	Between the bright [star] of ♈ and 16 of ♉ [Inter lucid. ♈ & 16 ♉]	38° 29¼′
		38° 29½′
18	Between the bright [star] of ♈ and 18 of ♉ [Inter lucid. ♈ & 18 ♉]	40° 30½′
		40° 31⅔′
17	Between the bright [star] of ♈ and 17 of ♉ [Inter lucid. ♈ & 17 ♉]	41° 53½′ twice [bis]
40	Between the bright [star] of ♈ and 40 of ♉ [Inter lucid. ♈ & 40 ♉]	44° 9½′ twice [bis]
41	Between the bright [star] of ♈ and 41 of ♉ [Inter lucid. ♈ & 41 ♉]	46° 2⅓′
		46° 2⅔′
21	Between the bright [star] of ♈ and 21 of ♉ [Inter lucid. ♈ & 21 ♉]	44° 43′
		44° 43⅔′

2748

Reading	Instrument	Value
Meridian altitude of the eye of ♉ [Alt. Merid. oculi ♉]	by the steel [quadrant] [per Chal.]	49° 42′ 35″
	by the revolving [quadrant] [per Volub.]	49° 41⅚′
	by the sextant [per Sext.]	49° 42′
Declination of the eye of ♉ [Declin. oculi ♉]		15° 37′
		15° 37⅓′

2749

2748 The page prints no heads; "Number", "Star" and "Value" are this edition's. The number column carries a star number on the first line of each label, and the label repeats it after &, except in the first row. *lucid.* is given as *lucidam*, "the bright [star]", as the row of the star numbered 15 prints it in full. *bis* is given as "twice". Distances that differ from those printed earlier between the same stars, given as printed: the eye of ♉ and the lowest in the intersection, here 18° 51′ and 18° 51½′, on p. 357 18° 51¾′ twice; the bright star of ♈ and 15, here 33° 8¾′ twice, on p. 360 33° 10½′ twice; the bright star of ♈ and 21, here 44° 43′ and 44° 43⅔′, on p. 360 44° 41¾′ and 44° 42′. The values, printed without unit marks, are given as degrees and minutes.

2749 These lines follow the distances of 23 November, set full measure from the left of the column; "Reading", "Instrument" and "Value" are this edition's heads. *Alt. Merid.* is given as "Meridian altitude"; *per Chal.*, *per Volub.* and *per Sext.* as "by the steel [quadrant]", "by the revolving [quadrant]" and "by the sextant". The three figures *49 42 35*, printed without marks, are given as degrees, minutes and seconds. The declination names no instrument. The other values, printed without unit marks, are given as degrees and minutes.

On 3 December [DIE 3 DECEMBRIS.]

Star	Value
Between the bright [star] of ♈ and 39 of ♉ [Inter lucid. ♈ & 39 ♉]	36° 29′
	36° 29½′
38 of ♉ [38 ♉]	35° 35′
	35° 35⅔′
37 of ♉ [37 ♉]	32° 2′
	32° 2⅙′
25 of ♉ [25 ♉]	30° 14½′
	30° 14¾′
36 of ♉ [36 ♉]	35° 7′
	35° 7½′
35 of ♉ [35 ♉]	35° 34½′
	35° 35′
34 of ♉ [34 ♉]	32° 58′
	32° 58⅔′
27 of ♉ [27 ♉]	27° 23⅓′
	27° 23¼′
26 of ♉ [26 ♉]	28° 10′
	28° 11′
43 of ♉ [43 ♉]	27° 11¼′
	27° 12′
28 of ♉ [28 ♉]	30° 49½′
	30° 50′
29 of ♉ [29 ♉]	30° 15¼′
	30° 16′

Reading	Value
Declination of the more western [star] of the Pleiades [Declin. occidentalioris] [Pleiadum]	22° 42½′
	22° 43′

2750

1 From codex V (among the observations of Saturn). [E codice V (inter obſervationes Saturni).]

The constellation of Gemini, according to our marking made from the sky [ASTERISMUS GEMINORUM] [SECUNDUM NOSTRAM CŒLITUS FACTAM DENOTATIONEM.]

Diagram. Below the title, an uncaptioned pen drawing across most of the measure of two unclothed human figures side by side, with bands at the wrists

2750 The page prints no heads; "Star", "Reading" and "Value" are this edition's. Nothing stands in the number column under this date. The first label is set from the left of the column; the later rows print only a star number and the sign of Taurus, set under *39* ♉, the words *Inter lucid.* ♈ & not being repeated. *lucid.* is given as "the bright [star]", as above. The declination line is set full measure and names no instrument and no star number. The values, printed without unit marks, are given as degrees and minutes.

and ankles. The left-hand figure is the smaller, with curly hair, facing right, one arm raised with the hand open at the upper left; a hand is drawn below its bent arm. The right-hand figure is taller, facing left toward it, one arm stretched out to the right and raised, the hand open at the upper right. Legs and feet stand below, the feet at the bottom of the drawing. Six-pointed star marks, several with a ring at the centre, stand on the drawing, most with a handwritten numeral beside them.

- Left of the wrist of the raised hand at the upper left, whose palm holds a star: 25
- Between that hand and a ringed star at the back of the left-hand figure's head, left of the star: 24
- Right of a star on the left-hand figure's forehead: 23
- Below a ringed star at the left-hand figure's chin: 19
- Beside a star on the left-hand figure's raised forearm, set diagonally: 20
- Right of a ringed star on the right-hand figure's forehead: [?] — a mark like a 2 followed by a stroke running into the hatching of the hair, not settled
- Left of a star at the right-hand figure's jaw: [?] — a mark like a 2 followed by a stroke touching the star, not settled
- Right of a star at the upper centre, on the contour of the shoulder: 18
- Above and right of a star below that one: 17
- Right of a star at the centre: 14
- Right of a star at the lower centre-left: 13
- Left of a star right of centre, set sideways: 12
- Right of a star on the outstretched arm at the upper right: 16
- Right of a star in the palm of the raised hand at the far upper right: 15
- Right of a star on a thigh, right of centre: 11
- Left of a star on a knee at the right: 9
- Below a star on a leg at the lower centre: 10
- Below and left of a star in a foot at the lower left: 7
- Left of a star in a foot at the lower left: 6
- Below a foot holding a star, at the bottom centre: 5
- Right of a star in a foot at the bottom right: 4
- Right of a star at the heel of the foot furthest right: 3
- Right of a star in the same foot: 2
- Right of a star beyond the toes of that foot: I

- Unnumbered: a small star between the two heads; a small star below the star numbered 17; a small star on the outstretched arm between the stars numbered 16 and 15[2751]

On 3 January, in the evening [DIE 3 JANUARIJ, VESPERI.] Observation of the constellation of Ⅱ by the old sextant. [Obſeruatio Aſterismi Ⅱ] [per Sextantem Veterem.]

Number in the image [Num. in] [imagine]	Star	Value
	Distance between the eye of ♉ and [Diſtantia inter oculum ♉ &]	
	the fore-foot [Greek: πρόποδα (propoda, "fore-foot")] of Ⅱ	21° 47′ twice [bis]
	repeated [repetita]	21° 46½′
2	the sole of the foot [Plantam pedis]	24° 3¾′
	repeated [repetita]	24° 4′
3	the heel of the foot [Calcem pedis]	25° 53⅚′ twice [bis]
4	the following foot [Sequentem pedem]	27° 2′
	repeated [repet.]	27° 2⅓′
6	the lowest or southern foot [Infimum ſiue] [auſtralem] [pedem]	31° 27′
	repeated [repet.]	31° 27¾′
	repeated [repet.]	31° 28′
9	the northern [star] in the right knee [Boreal. in genu dextro]	31° 2¼′
	repeated [repet.]	31° 2⅓′
	the middle [star] of the three in the knee [Mediam trium in genu]	35° 16⅚′
		35° 17′
	the lowest or southern [star] in the southern knee [Infimam ſiue auſtralem] [in genu auſtrali]	38° 47⅔′
		38° 48′
	the lower belly [Ventrem inferiorem]	39° 1′
	repeated [repet.]	39° 0⅚′

[2751] The drawing carries no caption; it stands under the title. The first column of the 3 January table below is headed *Num. in imagine*, "Number in the image"; the page does not pair the numerals of the drawing with the rows of the table. No numeral 8 was found on the drawing. Two of the drawn marks are not settled on the scan. The mark beyond the toes of the foot furthest right is set as a capital I: a bar at the top on both sides and a foot bar to the right, where the drawing's other 15 (in 10–19 and 21) carry none. By its place among the foot stars 2, 3 and 4 it numbers star 1. It is given as printed.

2752

Number in the image	Star	Value
	the uppermost arm [Brachium ſupremum]	35° 16′
	repeated [repet.]	35° 16¼′
18	the upper back [Dorſum ſuperius]	40° 41½′
	repeated [repet.]	40° 42′
19	the [star] which is in the right shoulder [Eam quæ eſt in] [humero dextro]	42° 50′
		42° 50¼′
	the lowest [star] toward the south in the left shoulder [Infimam verſus auſtrum] [in ſiniſtro humero]	44° 39½′
		44° 39′
	repeated [repetita]	44° 39¼′

2753

Now follow the declinations of the same preceding [stars], in order, observed at the same time. [Sequuntur nunc earundem præce-] [dentium Declinationes ad ordinem] [eodem tempore obſeruatæ.]

Num-ber	Star	Instrument	Value
	Declination of Propus [Declin. propodis]	by the armillae [per Armillas]	23° 12¾′
	Of the sole of the foot [Plantæ pedis]		22° 33¾′
	Of the heel of the foot [Calcis pedis]		22° 39¾′
	Of the following foot [Sequentis pedis]		20° 24½′
	Of the lowest foot [Infimi pedis]		13° 16½′

2752 The head of the first column, *Num. in / imagine*, is the page's, in small type over the number column; "Star" and "Value" are this edition's heads. The rows from the star numbered 6 on stand in the right-hand column, under no heads of their own, in the same columns, and are given here in the same table; that column begins level with the date heading. The line *Diſtantia inter oculum* ♉ & stands with no figures; each star named after it stands in the accusative and is the second star of a distance from the eye of ♉. The page prints the Greek word with the rho in its curled form. The number column is blank in the rows of the fore-foot, the middle star of the three in the knee, the lowest or southern star in the southern knee, and the lower belly. *repetita* and *repet.* stand before the figures, the label space blank, and are given as "repeated". *Boreal.* is given as *Borealem*, "the northern [star]"; it can also expand to *Borealiorem*, "the more northern [star]". *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

2753 These rows continue the 3 January table of p. 362, distances between the eye of ♉ and the stars named; this page prints no heads over them, and the heads of p. 362 are repeated here in English. The number column carries only 18 and 19 here; it is blank in the rows of the uppermost arm and of the lowest star toward the south. *repet.* and *repetita* stand before the figures, the label space blank, and are given as "repeated". Each two-line label is given whole on its first row; the second figure, printed on the label's second line, is given on a row of its own. The labels stand in the accusative, as the second star of each distance. The values, printed without unit marks, are given as degrees and minutes.

Number	Star	Instrument	Value
	Of the northern [star] in the right knee [Borealis in genu dextro]		25° 28′
	Of the middle [star] in the knee [Mediæ in genu]		21° 7⅓′
	Of the lowest [star] in the southern knee [Infimæ in genu auſtrali]		17° 13⅓′
	Of the lower belly [Venſtris inferioris] [recte: Ventris inferioris]		22° 41½′
	Of the uppermost arm [Brachij ſupremi]		34° 22⅓′
18	Of the upper back [Dorſi ſuperioris]		28° 33′
19	Of the [star] which is in the right shoulder [Eius quæ eſt in humero] [dextro]		27° 45′
20	Of the lowest [star] in the left elbow toward the south [Infimæ in cubito ſiniſtro] [verſus auſtrum]		25° 19⅔′

2754

On 9 January, in the evening [DIE 9 JANUARIJ, VESPERI.]

Reading	Instrument	Value
The heel of the foot of ☊ had in the meridian an altitude [Calx pedis ☊ in Meridie habuit Altit.]	by the revolving [quadrant] [per Volub.]	56° 44⅓′
	by the steel [quadrant] [per Chalyb.]	56° 44′

2755

On 11 January, in the evening [DIE 11 JANUARIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of Propus [Alt. merid. Propodis]	by the revolving [quadrant] [per Vol.]	57° 17¼′
	by the steel [quadrant] [per Chalyb.]	57° 17⅔′
Declination of the same Propus [Declin. eiusdem Propodis]		23° 12½′
		23° 13′

2754 No heads are printed over this table; "Number", "Star", "Instrument" and "Value" are this edition's heads. The first line, *Declin. propodis*, carries no figures; its figures stand on the next line with *per Armillas*, which is given in the instrument column; the page names no instrument on the later rows. The later labels stand in the genitive, depending on *Declin.* and on *Declinationes* of the line above, and are given with "Of". The number column carries only 18, 19 and 20. The word given as "belly" is printed *Venſtris*, for *Ventris*. *verſus auſtrum* is given with "the left elbow", in the order printed; it can also be taken with "the lowest [star]" ("the lowest [star] toward the south, in the left elbow"). Labels printed over two lines are given whole on their first row, with the figures printed on the second line. The values, printed without unit marks, are given as degrees and minutes.

2755 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The opening line is a full sentence and carries no figures; the figures stand on the instrument lines below it. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of the toe of the foot of ♊ [Altit. digiti pedis ♊ Merid.]	by the steel [quadrant] [per Chalyb.]	56° 38⅙′
	by the revolving [quadrant] [per Volub.]	56° 37½′
	by the mural [quadrant] [per Mural.]	56° 38′
	with the other pinnule [alt. pin.]	56° 37½′
Declination of the toe of the foot [Declin. digiti pedis]		22° 33½′
		22° 33′
Meridian altitude of the heel of ♊ [Altit. Calcis ♊ Merid.]	by the steel [quadrant] [per Chalyb.]	56° 44′
	by the revolving [quadrant] [per Volub.]	56° 43⅓′
	by the mural [quadrant] [per Mural.]	56° 44′
Declination of the heel of ♊ [Declin. Calcis ♊]		22° 40½′
		22° 40⅙′
Altitude of 4 of the foot of ♊, a little above the bright foot [Alt. 4 ♊ pedis paulo ſupra lucid.] [pedem]	by the steel [quadrant] [per Chalyb.]	54° 28⅔′
Meridian altitude of the bright [star] in the foot of ♊ [Alt. lucidæ in pede ♊ Merid.]	by the steel [quadrant] [per Chalyb.]	50° 46⅙′
	by the revolving [quadrant] [per Volub.]	50° 45⅓′
	by the sextant [per Sext.]	50° 45½′
Altitude of the southern foot of ♊ [Alt. auſtralis pedis ♊]	by the steel [quadrant] [per Chalyb.]	47° 21⅓′
	by the revolving [quadrant] [per Volub.]	47° 21′

2756

On 29 January, in the evening [DIE 29 JANUARIJ, VESPERI.]

2756 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The rows from the declination of the heel on stand at the head of the right-hand column, under no new date, and are given here in the same table. *per Vol.* stands on the line of the meridian altitude of Propus; the other instruments stand on lines of their own, indented, and *alt. pin.* stands right-aligned before its figures. *Merid.* after a star in an altitude line is given as "meridian" (meridian altitude); at the bright star in the foot it can also be taken with the foot, "the bright [star] in the southern foot of ♊". In the line of the altitude of 4, the figure 4 stands bare before the sign of Gemini, and the page does not say what it numbers; *lucid.* is given as agreeing with *pedem* ("the bright foot"); it can also expand to *lucidam*, "the bright [star]", with *pedem* then standing apart. The line of the altitude of 4 runs over two lines, *pedem* standing alone on the second, and is given whole on its first row with its figures. The declinations given here differ from those printed under 3 January on this page: Propus 23° 12½′ and 23° 13′ here, 23° 12¾′ there; the heel 22° 40½′ and 22° 40⅙′ here, 22° 39¾′ (the heel of the foot) there; given as printed. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Altitude of the heel of the foot of ♊ [Altit. Calcis pedis ♊]	by the steel [quadrant] [per Chal.]	56° 43⅔′
	by the mural [quadrant] [per Mural.]	56° 44′

2757

Number of the figure [Num.] [Schema-] [tis]	Mag-ni-tude [Mag.]	Declinations [Declinationes]	Instrument	Value
7	5	Of the very small [star] near the southern foot of ♊ [Paruulæ apud Auſtralem] [pedem ♊]		13° 37½′
			with the other [alt.]	13° 38′
10	6			22° 10½′
				22° 11⅙′
11	6			24° 45′
		Repeated and certain [Repetita & certa]		24° 46′
16	4		with both [vtr.]	30° 51′
		Altitude of the upper head of ♊ in the meridian [Altit. ſuperioris] [capitis ♊ in Meridie]	by the steel [quadrant] [per Chalyb.]	66° 46⅝′
19	4			27° 45′
				27° 44¾′
21	4	Of the little star nearest the upper head [Stellulæ proximæ] [ſuperiori capiti]	with both [vtr.]	32° 31′
		Meridian altitude of the lower head of ♊ [Alt. merid. infer. capitis ♊]	by the revolving and the steel [quadrants] [per Volub. & Chal.]	63° 1½′
			by the mural [quadrant] [per Mural.]	63° 2¼′
				doubt-ful [du-bia]
23	5	Of the very small [star] between the upper and lower head of ♊ [Paruulæ inter] [ſuperius & inferius] [caput ♊]		29° 47′
				29° 48′
25	6			27° 45′
				27° 45⅔′

[2757] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none over these two lines. The values, printed without unit marks, are given as degrees and minutes.

2758

By the old sextant [Per Sextantem Veterem]
Distance between the eye of ♉ and [Diſt. inter oculum ♉ &]

Number	Magnitude	Value
7	6	33° 39′ twice [bis]
10	6 min.	32° 24′
		32° 24½′
11	6 min.	35° 4⅔′
		35° 5⅓′
16	4	37° 58′
		37° 58¾′

2759

Number	Magnitude	Value
17	5	39° 56′
		39° 56⅓′
19	4	42° 52′
		42° 51⅚′
21	4	42° 1½′
		42° 1′
23	5	44° 39⅚′
		44° 39′

2758 The heads *Num.* / *Schema-* / *tis* (three lines) and *Mag.*, in smaller type, and *Declinationes*, in text type over the labels, are the page's; *Num.* stands level with the mural line of the altitude above. "Instrument" and "Value" are this edition's heads. *Num. Schematis* is given as "Number of the figure" and *Mag.* as "Magnitude". The labels of the stars stand in the genitive, depending on *Declinationes*, and are given with "Of"; the rows numbered 10, 16, 19 and 25 carry no label. *alt.* stands right-aligned before the figures of its line and is given as "with the other"; *vtr.*, in smaller type after the figures, is given as "with both". The two altitude entries, of the upper head and of the lower head, stand among the declination rows with nothing in the number and magnitude columns. *dubia*, "doubtful", stands alone at the right of the line under the figures of the mural quadrant; the page does not tie it to one figure. *infer.* is given as "lower". *Paruulæ* is given as "the very small [star]" and *Stellulæ* as "the little star". Labels printed over several lines are given whole on their first row with the figures of their last line. The values, printed without unit marks, are given as degrees and minutes.

2759 The two lines above the table are centred in the column, in text type. Over the rows the page prints no heads; "Number", "Magnitude" and "Value" are this edition's heads, the figures standing in the number and magnitude columns of the declinations above. No star is named in these rows; each is identified only by its number. *bis* is given as "twice". *min.* after the magnitude is kept abbreviated as printed; it can stand for *minor* or *minoris*, "lesser". The star numbered 7 has magnitude 6 here and 5 in the declinations above; given as printed. The values, printed without unit marks, are given as degrees and minutes. The page ends at the second figure of the star numbered 16.

2760

On 9 February [DIE 9 FEBRUARIJ.]

Reading	Instrument	Value
Meridian altitude of the sole of the foot of ☿ [*Alt. merid. plantæ pedis* ☿]	*by the steel [quadrant] [per Chal.]*	*56° 37′ 35″*
	by the revolving [quadrant] [per Vol.]	*56° 38′*
	by the mural [quadrant] [per Mural.]	*56° 38′ 0″*
Declination of the same [*Declin. eiusdem,*]	*with both* [*vtroque*]	*22° 32½′*
Meridian altitude of the heel of the foot [*Alt. mer. Calcis pedis*]	*by the steel [quadrant] [per Chal.]*	*56° 43′ 45″*
	by the revolving [quadrant] [per Vol.]	*56° 43′ 10″*
	by the mural [quadrant] [per Mural.]	*56° 43′ 45″*
Declination [*Declinatio*]		*22° 39′*
		22° 39⅙′
Set the altitude of the heel of ☿ [*Pone altit. calcis* ☿]		*56° 43′ 45″*
And therefore [put] the declination [*Ideoque declinationem*]		*22° 38′ 30″*
Meridian altitude of the upper head of ☿ [Alt. merid. ſuperioris capitis ☿]	by the steel [quadrant] [per Chalyb.]	66° 46′ 45″
	by the revolving [quadrant] [per Volub.]	66° 47′
	by the mural [quadrant] [per Mural.]	66° 47¾′
Meridian altitude of the lower head of ☿ [Alt. merid. inferioris capitis ☿]	by the steel [quadrant] [per Chalyb.]	63° 1′ 40″
	by the revolving [quadrant] [per Volub.]	63° 1′ 30″
	by the mural [quadrant] [per Mural.]	63° 2′ 0″

2760 These rows continue the 29 January distances between the eye of ♉ and the numbered stars, by the old sextant, from the foot of p. 363; this page prints no heads over them, and the English heads used there are repeated here. No star is named in these rows. The magnitudes of the stars numbered 19, 21 and 23 agree with those printed for them in the 29 January declinations of p. 363. The values, printed without unit marks, are given as degrees and minutes.

2761

Distances on the same evening by the sextant. [Diſtantiæ eodem Veſperi] [per Sextantem.]

Number	Magnitude	Star	Value
1		Between the lower head and Propus of the foot of ♊ [Inter infer. caput &] [propum pedis ♊]	23° 20′ twice [bis]
2		Between the lower head of ♊ and the sole of the foot [Inter infer. caput ♊ &] [plantam pedis]	21° 12′ twice [bis]
3		Between the heart of ♌ and the heel of the foot [Inter cor ♌ & calc. ped.]	54° 35′ twice [bis]
4		Between the heart of ♌ and the lower foot of the upper ♊ [Inter cor ♌ &] [inf. pedem ſuperioris ♊]	53° 9½′ 53° 9¾′
5		Between the heart of ♌ and the bright [star] of the foot of ♊ [Inter cor ♌ & luc. ped. ♊]	51° 11′ twice [bis]
6		Between the heart of ♌ and the preceding [star] of the two in the lower foot of the southern ♊ [Inter cor ♌ & præced. duarum] [in inf. pede auſtr. ♊]	49° 31′ twice [bis]
7		Between the heart of ♌ and the following [star] in the same foot [Inter cor ♌ & ſequent.] [in eodem pede]	47° 13½′ 47° 14′
10		Between the heart of ♌ and the knee of the upper ♊ [Inter cor ♌ &] [genu ſuper. ♊]	49° 55½′ twice [bis]
12		Between the heart of ♌ and the thigh of the southern ♊ [Inter cor ♌ &] [femur merid. ♊]	44° 46′ 44° 46½′

2761 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The rows from the meridian altitude of the sole of the foot to the declination put at 22° 38′ 30″ are set in italic, figures included, and are given in italic; the altitudes of the two heads are in roman. Where three figures stand on a line, the third in a column of its own, they are given as degrees, minutes and seconds; two figures as degrees and minutes; the page prints no unit marks. *vtroque*, "with both", stands on the line of the declination of the sole, after a comma, and is given in the instrument column. *Pone* is given as the imperative "Put"; *Ideoque declinationem* depends on it ("and therefore [put] the declination"). The altitude put for the heel, 56° 43′ 45″, is the figure printed for the steel and the mural quadrants. Values on this page that share no value with those printed for the same star on p. 363: the declination of the sole of the foot, 22° 32½′ here, 22° 33¾′ under 3 January; the meridian altitude of the heel, 56° 43′ 45″, 56° 43′ 10″, 56° 43′ 45″ here, 56° 44⅓′ and 56° 44′ (9 January), 56° 44′, 56° 43⅓′ and 56° 44′ (11 January), 56° 43⅔′ and 56° 44′ (29 January) there; the declination of the heel, 22° 39′, 22° 39⅙′ and 22° 38′ 30″ here, 22° 39¾′ (3 January) and 22° 40½′, 22° 40⅙′ (11 January) there; the meridian altitude of the upper head, 66° 46′ 45″, 66° 47′, 66° 47¾′ here, 66° 46⅚′ (29 January) there. All given as printed.

Number	Magnitude	Star	Value
13		Between the heart of ♌ and the haunch of the lower ♊ [Inter cor ♌ &] [clun. infer. ♊]	41° 27′ twice [bis]
14		Between the heart of ♌ and the [star] which is in the belly of the lower ♊ [Inter cor ♌ & eam quæ] [eſt in ventre infer. ♊]	41° 21½′ twice [bis]
15		Between the bright [star] of the neck of ♌ and the uppermost hand of the northern ♊ [Inter lucidam ceruicis ♌ & ſupre-] [mam manum Bor. ♊]	47° 44′ twice [bis]
16		Between the bright [star] of the neck of ♌ and the northern shoulder blade of the upper ♊ [Inter lucid. ceruicis ♌ &] [borealem ſcapulam] [ſuperior. ♊]	43° 40½′ twice [bis]
21		Between the bright [star] of the neck of ♌ and the neck of the upper ♊, near the ear, 6 mag. [Inter luc. ceru. ♌ &] [collum ſuperioris ♊] [circa aurem 6 mag.]	39° 59½′
22		Between the bright [star] of the neck of ♌ and the upper head [Inter luc. ceru. ♌ &] [ſuperius caput]	38° 47¼′
			38° 47⅔′
18		Between the heart of ♌ and the lower shoulder blade of the northern ♊ [Inter cor ♌ & inferiorem] [ſcapulam Borealis ♊]	41° 9′
			41° 9¼′
19		Between the heart of ♌ and the shoulder of the lower ♊ [Inter cor ♌ &] [humerum inferioris ♊]	38° 45½′
			38° 45′
20		Between the heart of ♌ and the arm of the lower ♊ [Inter cor ♌ &] [brachium inferioris ♊]	36° 15½′
			36° 15¾′
25		Between the heart of ♌ and the hand of the lower ♊ [Inter cor ♌ &] [manum inferioris ♊]	34° 56′
			34° 56¼′
23		Between the heart of ♌ and the very small [star] near the lower head of ♊, around the temples [Inter cor ♌ & paruulam] [apud inf. caput ♊] [circa tempora]	37° 44′
			37° 44¼′
17	6	Between the heart of ♌ and the elbow of the upper ♊, 6 mag. [Inter cor ♌ & cubi-] [tum ſuper. ♊, 6 mag.]	41° 2½′
			41° 2⅔′
10	6	Between cor ♊ and the knee of the lower ♊ [Inter cor ♊ &] [genu infer. ♊]	47° 55½′
			47° 56′
11	6	Between the heart of ♌ and the thigh or haunch of the upper ♊ [Inter cor ♌ & femur] [vel clun. ſup. ♊]	45° 40¼′
			45° 41′
24		Between the heart of ♌ and the lower head of ♊ [Inter cor ♌ &] [inf. cap. ♊]	37° 1′ twice [bis]

2762

Declinations of the same by the armillae. [Declinationes earundem] [per Armillas.]

Number	Magnitude	Star	Instrument	Value
	4	Of Propus of ♊ [Propodis ♊]	with one [vno]	23° 12½′
		Its altitude 30° [Alt. eius 30°]	with the other [alt.]	23° 13′
4	5	Of the [star] which is in the southern foot of the upper ♊ [Eius quæ eſt in pede] [auſtr. ſuperioris ♊]	with both [vtr.]	20° 23′
5	3 mai.	Of the bright [star] in the upper foot of the southern ♊ [Lucidæ in ſuper.] [pede Merid. ♊]		16° 39′
				16° 40′
6	5	Of the preceding [star] in the southern foot of the lower ♊ [Præced. in auſtr.] [pede infer. ♊]		13° 14′
				13° 15½′
7	6	Of the following [star] in the southern foot of the lower ♊ [Sequentis in auſtr.] [pede infer. ♊]		13° 37′
				13° 38′
9	5	Of the [star] which is in the upper knee of the northern ♊ [Eius quæ eſt in] [ſuper. genu bor. ♊]		25° 28′
				25° 27′
12	5 min.	Of the thigh of the lower ♊ [Femoris] [inferioris ♊]		21° 6′
				21° 6⅓′

2762 "Number", "Magnitude", "Star" and "Value" are this edition's heads; the page prints none. The rows from the star numbered 14 on stand in the right-hand column and are given here in the same table; a magnitude column is printed only from the star numbered 17 on, and is blank at the star numbered 24. *cor* ♌ is given as "the heart of ♌". In the row of the second star numbered 10 the page prints the sign of Gemini after *cor*, where every other row prints the sign of Leo; given as printed. The number 10 is printed twice, at the knee of the upper ♊ and at the knee of the lower ♊. Where *ſuperioris*, *inferioris* or a direction word (*ſuper.*, *ſup.*, *ſuperior.*, *infer.*, *auſtr.*, *merid.*, *Bor.*) stands between a noun and the sign of Gemini, it is given as qualifying the sign ("of the upper ♊", "of the northern ♊"), as in the rows where the page prints *ſuperioris* ♊, *inferioris* ♊ and *Borealis* ♊ in full; each can also be taken with the noun ("the upper knee of ♊", "the southern thigh of ♊", "the uppermost northern hand of ♊"). *infer.*, *inf.* before a noun is given as "lower"; *luc. ped.* as "the bright [star] of the foot" (it can also expand to *lucidum pedem*, "the bright foot"); *præced.* as "preceding", *ſequent.* as "following"; *calc. ped.* as "the heel of the foot"; *clun.* as "haunch"; *luc. ceru.* and *lucid. ceruicis* as "the bright [star] of the neck"; *paruulam* as "the very small [star]". *mag.* is kept as printed. The star numbered 17 has magnitude 6 here (in the column and in the label) and 5 in the 29 January distances at the head of this page; the star numbered 21 is called *6 mag.* here and has magnitude 4 in the 29 January declinations of p. 363 and the distances at the head of this page; given as printed. Labels printed over two or three lines are given whole on their first row; where a second figure stands on a later line, it is given on a row of its own. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

Number	Magnitude	Star	Instrument	Value
13	5	In the haunch of the lower ♊ [In clune inferior. ♊]	with both [vtr.]	17° 13′
14	5	In the belly of the lower ♊ [In ventre] [inferioris ♊]		22° 41¾′ 22° 41⅝′

2763

Number	Magnitude	Star	Instrument	Value
15	5	In the hand of the upper ♊ [In manu] [ſuperioris ♊]		34° 23′ 34° 23½′
16	6	In the upper shoulder of the northern ♊ [In humero] [ſuperiori borealis ♊]		30° 51′ 30° 51¼′
18	5 min.	In the lower shoulder of the northern ♊ [In humero] [inferiori borealis ♊]	with both [vtr.]	28° 32′
19	6	In the shoulder of the southern ♊ [In humero] [meridionalis ♊]		27° 45′ 27° 45½′
20	5	In the elbow of the lower ♊ [In cubito] [inferioris ♊]		25° 20′ 25° 19¾′
21	6	Near the ear of the upper ♊ [Apud aurem] [ſuperioris ♊]		32° 29′ 32° 29½′
23	6	Near the temples of the lower ♊ [Apud tempora] [inferioris ♊]		29° 47′ 29° 46¾′
25	6	In the hand of the lower ♊ [In manu] [inferioris ♊]		27° 45′ 27° 46′
17	6	In the lower elbow of the upper ♊ [In cubito inferiori] [ſuperioris ♊]		25° 47′

2763 "Number", "Magnitude", "Star", "Instrument" and "Value" are this edition's heads; the page prints none. In the row of Propus the number column is blank and the figure 4 stands in the magnitude column, aligned with the magnitudes below; it is given there as printed. *vno* and *alt.* stand before the figures of their lines and are given as "with one" and "with the other"; *vtr.*, in smaller type after the figures, as "with both". *Alt. eius 30°* ("Its altitude 30°") stands on the second line of the row of Propus, with a degree mark. At the stars numbered 5 and 12 the magnitude is printed over two lines, *3* with *mai.* and *5* with *min.* below it, and a brace joins them to the two lines of the label; each is given once on the first row of its star. *mai.* and *min.* are kept abbreviated; they can stand for *maior/maioris*, "greater", and *minor/minoris*, "lesser". *ſuper.*, *auſtr.*, *infer.*, *inferior.* and *bor.* are taken as on the distances above: before a noun, or after it in agreement with it (*pede auſtr.*), as qualifying the noun; a genitive after the noun (*ſuperioris*, *inferioris*, *Borealis*) or an abbreviation standing directly before the sign, as qualifying the sign; each can also be taken the other way. *Præced.* is given as "preceding" and *Sequentis* as "following". The labels stand in the genitive, depending on *Declinationes*, and are given with "Of", except the last two, which begin with *In.* The star numbered 7 has magnitude 6 here and 5 in the 29 January declinations of p. 363. The values, printed without unit marks, are given as degrees and minutes. The page ends at the second figure of the star numbered 14.

Number	Magnitude	Star	Instrument	Value
				25° 48′
10	6	Of the very small [star] in the knee of the southern ♊ [Paruulæ in genu] [merid. ♊]		22° 10′
				22° 10½′
12		N.B.[1] [N. B.[1]]		21° 5′

2764

On 10 February [DIE 10 FEBRUARIJ.]

Reading	Instrument	Value
Propus ♊ had in the meridian an altitude [Propus ♊ in Merid. habuit Alt.]	by the steel [quadrant] [per Chalyb.]	57° 17′
	by the mural [quadrant] [per Mural.]	57° 17⅔′
The sole of the foot had in the meridian an altitude [Planta pedis in Merid. habuit Alt.]	by the steel [quadrant] [per Chalyb.]	56° 37⅔′
	by the revolving [quadrant] [per Volub.]	56° 37½′
	by the mural [quadrant] [per Mural.]	56° 37¾′
The heel of the foot had in the meridian an altitude [Calx pedis in Merid. habuit Alt.]	by the revolving [quadrant] [per Volub.]	56° 43′
	by the steel [quadrant] [per Chalyb.]	56° 43⅔′

2764 These rows continue the 9 February declinations by the armillae from the foot of p. 364, under no new heading; this page prints no heads over them, and the English heads used there are repeated here. At the star numbered 18 the magnitude is printed over two lines, *5* with *min.* below it, and a brace joins them to the two lines of the label; it is given once, on the first row. *min.* is kept abbreviated; it can stand for *minor* or *minoris*, "lesser". *vtr.*, in smaller type after the figures, is given as "with both". The labels are taken as on p. 364: an adjective after the noun and agreeing with it (*humero ſuperiori*, *humero inferiori*, *cubito inferiori*) qualifies the noun ("the upper shoulder", "the lower elbow"); a genitive before the sign (*ſuperioris*, *inferioris*, *borealis*, *meridionalis*) and the abbreviation *merid.* standing directly before the sign qualify the sign ("of the upper ♊", "of the southern ♊"). Each can also be taken the other way: "the upper northern shoulder of ♊", "the southern knee of ♊", and so on. *Paruulæ*, in the genitive, depends on *Declinationes* of p. 364 and is given as "Of the very small [star]". In the row numbered 12 the page prints only *N. B.*, with a footnote, in place of a label; the number 12 is also printed on p. 364 in this same series, at the thigh of the lower ♊, with 21° 6′ and 21° 6⅓′ against 21° 5′ here; given as printed. Values in these rows that differ from those printed for the same numbers in the 29 January declinations of p. 363: the star numbered 21 has 32° 29′ and 32° 29½′ here and 32° 31′ there; magnitudes — 16: 6 here, 4 on p. 363; 19: 6 here, 4 on p. 363 and in the 29 January distances at the head of p. 364; 21: 6 here, 4 on p. 363 and at the head of p. 364 (*6 mag.* in the 9 February distances of p. 364); 23: 6 here, 5 on p. 363 and at the head of p. 364; 17: 6 here, 5 at the head of p. 364 (6 in the 9 February distances there). All given as printed. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the mural [quadrant] [per Mural.]	56° 43⅝′
The lower head in the meridian [Inferius caput in Merid.]	by the steel [quadrant] [per Chalyb.]	63° 1½′
	by the revolving [quadrant] [per Volub.]	63° 1½′

2765

On 12 February, in the evening [DIE 12 FEBRUARIJ, VESPERI.]

Reading	Instrument	Remark	Value
Meridian altitude of the foot of ♊ [Alt. merid. pedis ♊]	by the lesser portable [quadrant] [per min. Portat.]		56° 36¼′
	by the revolving [quadrant] [per Volub.]		56° 37½′
	by the steel [quadrant] [per Chalyb.]		56° 38⅙′
		or [vel]	38′
	by the mural [quadrant] [per Mural.]		56° 38⅙′
	with the old pinnule [vet. pinn.]		56° 37¾′
Meridian altitude of the heel of the foot [Alt. merid. calcis pedis]	by the revolving [quadrant] [per Volub.]		56° 43¼′
	by the lesser portable quadrant [per Q. min. Port.]		56° 42½′
	by the steel [quadrant] [per Chalyb.]		56° 44′
		or [vel.]	44⅙′
	by the mural [quadrant] [per Mural..] with the new [nouo]		56° 43⅝′
	with the old [vet.]		56° 43½′
Meridian altitude of the bright [star] of the foot [Luc. Pedis Alt. merid.]	by the revolving [quadrant] [per Volub.]	doubtful [dubia]	50° 46⅔′
	by the lesser portable [quadrant] [per Port. min.]		50° 46½′
			50° 46′
		doubtful [dubia]	

2765 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each opening line stands on a line of its own and carries no figures; the figures stand on the instrument lines below it, and each opening line is given here on the row of its first instrument. The line of the lower head has no verb. The meridian altitude of the sole of the foot, 56° 37⅔′, 56° 37½′ and 56° 37¾′ here, shares no value with the 9 February figures of p. 364 (56° 37′ 35″, 56° 38′, 56° 38′ 0″); given as printed. The values, printed without unit marks, are given as degrees and minutes.

2766

On 7 March [DIE 7 MARTIJ.] Repeated declinations of the stars in ♊, as follows. [Repetitæ Declinationes ſtellarum] [in ♊ vt ſequitur.]

Number	Star	Value
25	Propus	23° 12½′
14	The sole of the foot [Planta pedis]	22° 32½′
15	The heel of the foot [Calx pedis]	22° 38½′
16	[The star] which is between the heel and the bright foot [Quæ eſt inter calcem &] [lucid. pedem]	20° 23½′
17	The bright foot [Lucidus pes]	16° 41′
18	The southern foot [Auſtralis pes]	13° 16′
19	The following [star] in the southern foot [Sequens in auſtrali pede]	13° 37½′
10	The northern [star] in the right knee [Borealis in genu dextro]	25° 27½′
20		22° 10′
21		24° 45⅓′
11		21° 5½′
13	[The star] which [is] in the lowest buttocks [Quæ in imis natibus]	17° 13′
12		22° 40′
3		34° 22½′
4		30° 51′
8		25° 47⅓′
5		28° 32½′
6		27° 44′
7		25° 19⅓′
24		32° 30′
2	The upper head of ♊ [Superius caput ♊]	32° 41½′
1		29° 47′
	The lower head of ♊ [Inferius caput ♊]	28° 56⅓′
22		27° 45½′

2766 "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. The rows from the steel quadrant's 56° 44′ on stand at the head of the right-hand column, under no new date, and are given here in the same table. The opening lines carry no figures and are given on the row of their first instrument. *min.* is given as "lesser" (*minorem*), following the letters printed; it can also stand for *minimum*, "least". In the two lines with *vel* / *vel.* ("or") the page prints only a minutes figure, 38 and 44⅙, in the minutes column, the degrees column blank; given as minutes. *vet. pinn.* ("with the old pinnule") and *vet.* ("with the old") stand right-aligned before the figures of their lines, with no instrument named on them; *nouo* ("with the new") stands before the figures on the line of the mural quadrant. *per Mural.*. is printed with two points. *Luc.* is given as "the bright [star]" (*Lucidæ*); it can also expand to *Lucidi*, agreeing with *Pedis* ("of the bright foot"). The first *dubia*, "doubtful", stands before the figures of the revolving quadrant's line; the second, in smaller type, stands alone at the right of the column below the figures 50° 46′, and the page does not tie it to one figure. The values, printed without unit marks, are given as degrees and minutes.

2767

On 3 December, at night [DIE 3 DECEMBRIS, NOCTU.]

Star	Value
Between the eye of ♉ and 24 ♊ [Inter oculum ♉ & 24 ♊]	42° 0′ twice [bis]
Between Aldebaran and 4 ♊ [Inter Aldeb. & 4 ♊]	37° 58¼′
	37° 56⅝′
Between Aldebaran and 22 ♊ [Inter Aldeb. & 22 ♊]	46° 45¼′
	46° 46′
Between Aldebaran and 9 ♊ [Inter Aldeb. & 9 ♊]	39° 55′
	39° 56′
Between Aldebaran and the uppermost arm of ♊, 4 [Inter Aldeb. & ſupremum] [brachium ♊, 4]	35° 16′
	35° 15½′
Between the lower head of ♊ and 17, namely the bright foot of ♊ [Inter infer. cap. ♊ & 17,] [ſcilicet lucid. ped. ♊]	19° 30′ twice [bis]

2768

[1] Thus in codex D. [Sic in codice D.]

The constellation of Cancer, according to our designation [ASTERISMUS CANCRI.] [SECUNDUM NOSTRAM DESIGNATIONEM.]

Diagram. Below the title, over most of the page, a pen drawing of a long-bodied creature lying lengthwise, head at the left and a segmented tail at the right ending in a rounded fan. Two long feelers run out to the left from the head, each ending in a star; two ring-shaped eyes stand on short stalks at the front of the head. A large pincer on a jointed limb is raised above the head at the upper left, and a second large pincer on a jointed limb hangs below the

2767 "Number", "Star" and "Value" are this edition's heads; the page prints none. The labels stand in the nominative. The rows numbered 20, 21, 11, 12, 3, 4, 8, 5, 6, 7, 24, 1 and 22 carry no label; the row of the lower head of ♊ carries no number. The numbers in this list are printed as they stand; the page does not say that they follow the numbering of the 9 February rows above, and the same number here and there is not taken to name the same star. *lucid.* is given as agreeing with *pedem* (*lucidum*, "the bright foot"). Propus, the sole of the foot and the heel of the foot have here the values printed for them on p. 364 (23° 12½′; 22° 32½′; 22° 38′ 30″). The values, printed without unit marks, are given as degrees and minutes.

2768 "Star" and "Value" are this edition's heads; the page prints none. The figures 24, 4, 22 and 9 stand bare in the labels; 17 is glossed on the line as the bright foot. The page does not say which list these numbers follow. The *4* after the sign of Gemini and a comma in the row of the uppermost arm is given as printed, and may be a number or a magnitude. *lucid. ped.* is given as "the bright foot" (*lucidum pedem*); it can also expand to *lucidam pedis*, "the bright [star] of the foot". *bis* is given as "twice". The heading falls after 7 March; the page gives no year in it. The values, printed without unit marks, are given as degrees and minutes. The page ends at the figures of the lower head of ♊ and 17.

body at the lower left; four further jointed legs rise above the body and four hang below it, as far as the scan shows; the back is hatched. Six-pointed star marks stand on the drawing, most with a handwritten numeral beside them.

- Below the star in the raised pincer at the upper left, touching the star's lower ray: 7
- Above and to the right of the star at the tip of the upper feeler: 14
- Below the star at the tip of the lower feeler: 15
- Set diagonally, below and to the right of a star on the hatched back, right of the head: 2
- Right of a star where the head meets the body: 4
- Right of a cluster of ten small dots and rings on the front of the body, the lower-left mark of the cluster a double ring: 1
- Right of a star on the lower edge of the front of the body: 5
- Right of a star in the lower middle of the body: 3
- Right of a star on the body toward the tail: 11
- Right of a star on the body just before the segmented tail: 10
- Right of a star on the rightmost of the four upper legs: 8
- Right of a star on the rightmost of the four lower legs: 9
- Right of a star at the joint above the hanging pincer, its second digit touching the outline of the limb: 12
- Left of a star in the hanging pincer: 6
- Right of a star near the tip of the hanging pincer: 13
- Right of the upper eye ring, a hooked stroke open to the left with a foot at its lower left: [?][2769]

On 29 January, in the evening [DIE 29 JANUARIJ,] [VESPERI.]

Number of the figure [Num.] [figura-] [tionis]	Magni-tude [Magn.]	Distance between the heart of ♌ and [Diſtantia inter cor ♌ &]	Value
10	5	the tail of ♋ [Caudam ♋]	28° 39′ twice [bis]
11	6 min.	the following [star] in the tail of ♋ [Sequentem in] [cauda ♋]	26° 7′
			26° 7½′
3	6	the more southern of the two preceding [stars] in the □ of ♋ [Auſtraliorem duarum] [præced. in □ ♋]	24° 10¾′ twice [bis]

[2769] The numerals on the drawing are handwritten, the 1 drawn as a serifed upright and the 3 flat-topped. Besides the labels listed, the drawing carries a curved stroke and a short oblique stroke below the star at the tip of the lower feeler; a short upright stroke with a foot hanging below the outline of the body at the base of the tail; and short strokes and points of hatching on the head and in the raised pincer. None of these is read as a numeral. The title names the constellation; the drawing itself carries no caption.

Number of the figure [Num.] [figura-] [tionis]	Magni-tude [Magn.]	Distance between the heart of ♌ and [Diſtantia inter cor ♌ &]	Value
2	6	the more northern of the two preceding [stars] in the □ of ♋ [Borealior. duarum] [præcedent. in □ ♋]	24° 29¼′
			24° 29¾′
1	neb.	Praesepe of ♋ [Præſepe ♋]	22° 31¼′
			22° 32′
4	5	the northern Asellus [Aſellum bor.]	22° 30′
			22° 29½′
5	4	the southern Asellus [Aſellum auſtral.]	21° 7¼′ twice [bis]
7	4	the [star] which is in the northern claw [Eam quæ eſt in] [branca boreali]	25° 24′
			25° 24¾′
12	5	the upper of the three in the southern claw or pincer [Superiorem trium] [in auſtr. branca] [ſiue forfice]	17° 38′
			17° 38¾′
6	4	the middle of the three in the southern claw [Mediam trium in] [auſtrali branca]	17° 8′
			17° 8¼′
13	5	the lowest of the three in the southern claw [Infimam trium in] [auſtrali branca]	14° 54¼′
			14° 54⅔′
14	6	the upper [star] in the beak of ♋ [Superiorem in] [roſtro ♋]	19° 58½′
			19° 58′
15		the lower [star] in the beak of ♋ [Inferiorem in] [roſtro ♋]	17° 21½′
			17° 21¼′
8	5	the northern foot of ♋ [Borealem] [pedem ♋]	30° 21′
			30° 22′

2770

Number of the figure	Magnitude	Distance between the heart of ♌ and	Value
9	5	the southern foot of ♋ [Auſtralem] [pedem ♋]	30° 6′ 30° 6¾′

2771

Declinations of the stars of the constellation of ♋ [Declinationes ſtellarum] [Aſterismi ♋]

Number	Magnitude	Star	Value
8	5	Of the northern foot of ♋ [Borealis pedis ♋]	22° 40′
		with the other pinnule [altero pin.]	22° 39′
9	5	Of the southern foot [Auſtralis pedis]	14° 14′
			14° 15′
10	4	Of that [star] which is the brighter in the tail [Eius quæ eſt in] [cauda lucidior]	18° 49′
			18° 49⅚′
11	6 min.	Of the other in the tail, or rather in the back [Alterius in cauda] [ſeu potius in dorſo]	19° 33′
			19° 34½′
2	6	Of the northern of the two preceding [stars] in the □ of ♋ [Borealis duarum] [præced. in □ ♋]	21° 46½′

2770 The heads *Num. / figura- / tionis* (three lines) and *Magn.*, in smaller type, and *Diſtantia inter cor* ♌ &, in text type over the labels, are the page's; "Value" is this edition's head. *Num. figurationis* is given as "Number of the figure" and *Magn.* as "Magnitude". The date heading stands over two lines above the label column, *Num.* level with its second line. The rows from the star numbered 7 on stand in the right-hand column, under no heads, and are given here in the same table; the right-hand column begins level with the first line of the date heading. The labels stand in the accusative, depending on *inter cor* ♌ &, and are given in lower case to continue the head. *cor* ♌ is given as "the heart of ♌". At the star numbered 11 the magnitude is printed over two lines, *6* with *min.* below it, and a brace joins them to the two lines of the label; it is given once, on the first row. *min.* is kept abbreviated; it can stand for *minor* or *minoris*, "lesser". *neb.*, in the magnitude column at Praesepe, is kept abbreviated; it can stand for *nebulosa*, "nebulous". The magnitude column is blank at the star numbered 15. *præced.* and *præcedent.* are given as "preceding" (*præcedentium*); *Borealior.* as "the more northern" (*Borealiorem*); *bor.* and *auſtral.* as "northern" and "southern" (*borealem*, *auſtralem*); *auſtr.* as "southern" (*auſtrali*). *branca* is given as "claw" and *forfice* as "pincer". Labels printed over several lines are given whole on their first row; where a second figure stands on a later line, it is given on a row of its own. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes. The page ends at the second figure of the northern foot of ♋.

2771 This row continues the 29 January distances from the heart of ♌ at the foot of p. 366, under no new heading; this page prints no heads over it, and the English heads used there are repeated here ("Value" being this edition's head there). The label stands in the accusative, depending on *inter cor* ♌ & of the head on p. 366, and is given in lower case to continue it. The values, printed without unit marks, are given as degrees and minutes.

Number	Magnitude	Star	Value
			21° 47′
3	6	Of the southern preceding [star] in the □ of ♋ [Auſtralis præce-] [dentis in □ ♋]	19° 26′
			19° 27′
1	neb.	Of Praesepe of ♋ [Præſepis ♋]	21° 4′
			21° 4½′
4	5	Of the northern Asellus [Aſelli borealis]	22° 54′ with both [vtr.]
5	4 mai.	Of the southern Asellus [Aſelli auſtralis]	19° 37′
7	4	Of the northern claw [Branchæ Borealis]	30° 13½′
			30° 13′
12	5	Of the northern of the three in the southern claw [Borealis trium in] [Brancha auſtr.]	16° 50½′
			16° 50′
6	4 mai.	Of the middle and brighter of the three in the southern claw [Mediæ trium &] [lucidioris in auſtr.] [branca.]	13° 24½′
			13° 23½′
13	5 mai.	Of the lowest of the three of the southern claw or pincer [Infimæ trium] [Branch. ſiue for-] [ficis auſtr.]	12° 17′
			12° 16′
14	6	Of the northern of the two in the beak [Borealis duarum] [in roſtro]	26° 1′
			26° 1½′
15	6	Of the southern of the two in the beak [Auſtralis duarum] [in roſtro]	23° 37′
			23° 37½′

2772

On 10 February [DIE 10 FEBRUARIJ.] Repeated declinations of the stars of ♋, as many as could be seen while ☾ was shining. [Repetitæ Declinationes ſtellarum] [♋ quotquot videri poterant ☾ ſplen-] [dente.]

Number [Num.]	Star	Value
10	Of that [star] which is the brighter in the tail [Eius quæ eſt in cauda] [lucidior]	18° 50′
		18° 50⅓′
5	Of the southern Asellus [Aſelli auſtralis]	19° 37½′
		19° 38′
4	Of the northern Asellus [Aſelli Borealis]	22° 54½′
		22° 54⅙′
1	Of Praesepe (doubtful because of ☾) [Præſepis (dubiæ] [propter ☾)]	21° 3½′
		21° 5′
7	Of the northern claw [Branchæ borealis]	30° 13½′
		30° 14′
6	Of the middle and brighter of the three in the southern claw [Mediæ & lucidioris] [trium in brancha auſtrali]	13° 24¼′
		13° 24½′
13	Of the lowest of the three in the southern claw [Infimæ trium in] [brancha auſtrali]	12° 17⅓′
		12° 18′

2772 The page prints no heads over this table, and no date stands over its lead line; "Number", "Magnitude", "Star" and "Value" are this edition's heads. The labels stand in the genitive, depending on *Declinationes ſtellarum*, and are given as "Of …". Under the northern foot of ♋ the words *altero pin.* are set to the right in the label column, on the line of the second figure; they are given on that row as "with the other pinnule". At the stars numbered 11, 5, 6 and 13 the magnitude is printed with *min.* or *mai.* on the line below it, and a brace joins the two to the label lines (two lines at 11 and 5, three at 6 and 13); each is given once, on the first row. *min.* and *mai.* are kept abbreviated; they can stand for *minor*/*minoris*, "lesser", and *maior*/*maioris*, "greater". At the star numbered 5 the line below *4* carries only *mai.*, and a single figure is printed. *neb.*, in the magnitude column at Praesepe, is kept abbreviated; it can stand for *nebuloſa*, "nebulous". *vtr.*, in smaller type after the single figure at the northern Asellus, is given as "with both". *Eius quæ eſt in cauda lucidior* is given as "that [star] which is the brighter in the tail"; it can also be read "that [star] in the tail which is the brighter". *Borealis duarum* and *Auſtralis duarum* are given as "the northern of the two" and "the southern of the two" (positive forms, where p. 366 has the comparative *Borealior.*); *præced.* is given as "preceding" (*præcedentium*); *Auſtralis præcedentis* as "the southern preceding [star]". *Branchæ*, *Brancha*, *branca* and *Branch.* are all given as "claw", *Branch.* expanded as *Branchæ*; *auſtr.* as "southern" (*auſtrali* at the stars numbered 12 and 6, *auſtralis* at 13). At the star numbered 13 *auſtr.* stands after *forficis* and is given with both nouns, "the southern claw or pincer"; it can also qualify the pincer alone. The magnitude of the star numbered 10 is printed 4 here and 5 among the 29 January distances on p. 366; given as printed. The values, printed without unit marks, are given as degrees and minutes.

2773

More stars in ♋ could not be observed this evening as regards declinations, because of the new ☾, which with its light was obscuring the other stars, faint in themselves. These declinations can therefore be repeated at some time when ☾ is hidden, although in themselves they are moderate. [Plures ſtellæ in ♋ quoad declinatio-] [nes hoc veſperi obſeruari non pote-] [rant, ob ☾ nouam ſuo lumine ſtellas] [alias per ſe tenues offuſcantem. Pos-] [ſunt itaque hæ declinationes aliquan-] [do ☾ latente repeti, quamuis per ſe ſint] [mediocres.][2774]

The other way round, from the bright [star] of the foot of ♊, by the new sextant. [Vice verſa a lucida pedis ♊ per] [Sextantem nouum.]

Num-ber	Star	Value
10	Between the bright [star] of the foot of ♊ and the bright [star] of the tail of ♋, Repeated [Inter luc. ped. ♊ &] [lucid. caudæ ♋ repet.]	22° 37¼′
		22° 37½′
5	the southern Asellus [Aſellum auſtralem]	30° 18½′
		30° 19′
4	the northern Asellus [Aſellum borealem]	30° 5′ twice [bis]
7	the northern claw [Brancham borealem]	32° 5½′
		32° 5⅔′
6	the southern claw [Brancham auſtralem]	34° 22½′ twice [bis]
13	the lowest of the three in the southern claw [Infimam trium in] [brancha auſtrali]	36° 52′
		36° 51⅚′

2773 The head *Num.*, in smaller bold type over the number column, is the page's; "Star" and "Value" are this edition's heads. No magnitude column is printed. The rows from the star numbered 1 on stand at the head of the right-hand column, under no heads, and are given here in the same table. The labels stand in the genitive, depending on *Declinationes*, and are given as "Of …". *dubiæ* does not agree with *Præſepis*; it is taken as feminine plural, with the declinations, and given as "doubtful"; it can also be read as genitive singular with a star understood, "of Praesepe, a doubtful [star]". Rows that share no value with the declinations printed for the same numbers in the table above, under *Declinationes ſtellarum Aſterismi* ♋: the star numbered 10, 18° 50′ and 18° 50⅓′ here against 18° 49′ and 18° 49⅚′ there; 5, 19° 37½′ and 19° 38′ against 19° 37′; 4, 22° 54½′ and 22° 54⅙′ against 22° 54′; 1, 21° 3½′ and 21° 5′ against 21° 4′ and 21° 4½′; 13, 12° 17⅓′ and 12° 18′ against 12° 17′ and 12° 16′. All given as printed. The values, printed without unit marks, are given as degrees and minutes.

2774 *Plures* is given as "More"; it can also be read "Several". *ſtellas alias per ſe tenues* is given as "the other stars, faint in themselves"; *alias* can also be taken as an adverb, "stars otherwise faint in themselves". The subject of *ſint mediocres* is taken as *hæ declinationes*; *mediocres* is given as "moderate" and can also be read "passable".

2775

On 3 December [DIE 3 DECEMBRIS.]

Number	Star	Value
7	Between the bright [star] of the foot of ♊ and the uppermost claw [Inter lucidam pedis ♊ &] [Supremam brancham]	32° 5′
		32° 6′
14	Between the bright [star] of the foot of ♊ and 14 ♋ [Inter luc. ped. ♊ & 14 ♋]	34° 49′
		34° 50′
15	Between the bright [star] of the foot of ♊ and 15 ♋ [Inter luc. ped. ♊ & 15 ♋]	29° 8¼′ twice [bis]
1	Between Praesepe of ♋ and the bright [star] of the foot of ♊ [Inter Præſepe ♋ &] [luc. ped. ♊]	29° 16¼′
		29° 18¼′
		29° 18′
5	Between the bright [star] of the foot of ♊ and the southern Asellus [Inter luc. ped. ♊ &] [aſellum auſtr.]	30° 18¾′
		30° 19′
12		33° 30′
		33° 31′
2		27° 31′
		27° 32′
3		27° 14′
		27° 15¼′
8		21° 53¾′
		21° 55′
9		22° 35⅓′ twice [bis]

2776

[2775] The page prints no heads over this table; "Number", "Star" and "Value" are this edition's heads. *luc. ped.* ♊ and *lucid.* are expanded after the full form *a lucida pedis* ♊ of the lead line: "the bright [star] of the foot of ♊". *repet.*, at the end of the second label line before the figures, is given as "Repeated" (*repetita* or *repetitum*). The labels after the first stand in the accusative, depending on *Inter luc. ped.* ♊ &, and are given in lower case to continue it. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

[2776] The page prints no heads over this table; "Number", "Star" and "Value" are this edition's heads. *luc. ped.* ♊ is expanded after the full form *lucidam pedis* ♊ printed in the first row. *aſellum auſtr.*, printed with a lower-case *a*, is given as "the southern Asellus" (*auſtralem*). The rows numbered 12, 2, 3, 8 and 9 carry a number and figures only; the label column is blank in them. The distance between the bright star of the foot of ♊ and the star numbered 7 is printed on 10 February above as 32° 5½′ and 32° 5⅔′ (label *Brancham borealem*) and here as 32° 5′ and 32° 6′ (label *Supremam brancham*); no value is shared; given as printed. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

The constellation of Leo, according to our marking [ASTERISMUS LEONIS] [IUXTA NOSTRAM DENOTATIONEM.]

Diagram. Below the title, across the full width of the upper part of the page, a drawing of star marks only, with no outline of a figure. The marks are six-pointed stars of different sizes, some with an open centre and some solid; most have a handwritten numeral beside them.

- Right half, right of a star near the top: 3
- Right half, right of a star to the left of it: 5
- Right half, right of a small star at the far right: 1
- Right half, right of a star below the 3: 4
- Right half, right of a star at the left of the right half: 6
- Right half, right of a star at the right, the numeral Z-shaped: 2
- Right half, right of a star below the 6: 7
- Right half, right of a large solid star in the lower part: 8
- Right half, below its star, right of the 8: 10
- Right half, right of a star with an open centre, right of the 10: 11
- Right half, right of a star further right: 12
- Right half, right of a star below the 8, the 9 with a long tail curving down to the left: 9
- Right half, right of a star right of the 9: 13
- Right half, above and to the right of a star below the 12, its first sort a wavy horizontal stroke: 28
- Right half, right of a star at the lower right, the 9 with a long tail curving down to the left, a point after it: 29.
- Right half, right of a star at the bottom, a point after it: 14.
- Left half, right of a star at the far left, a point after it: 27.
- Left half, right of a star, a point after it: 20.
- Left half, above and to the right of a star just right of the 20, its first sort a short stroke no longer than a point: 19
- Left half, right of a star below the 20, its second sort a short comma-like stroke: 21
- Left half, right of a star further right, a point after it: 30.
- Left half, right of a star below the 21: 22
- Left half, above and to the right of a star toward the middle of the page: 17
- Left half, right of a star below and to the right of the 17: 16
- Left half, right of a star at the left: 23
- Left half, right of a solid star: 18
- Left half, below and to the right of a solid star: 15
- Left half, right of a solid star in the lower left, the 4 drawn open: 24
- Left half, right of a small solid star right of the 24: 31
- Left half, right of a solid star below the 24: 25
- Left half, right of a star below the 25: 26

- Left half, above and to the left of a small star right of the 25, its second sort a wavy stroke: 32
- Handwritten note in two lines, right of the point where the two strokes described below meet: [they] are not in the figure [non sūt in] [figura.][2777]

On 29 January, in the evening [DIE 29 JANUARIJ, VESPERI.]

Reading	Instrument	Value
[At] 12^h 30^m according to the clock, the maximum altitude of the heart of ♌ [H.12 30′ pro Horologio. Altitudo ma-] [xima cordis ♌]	by the revolving [quadrant] [per Volub.]	48° 2½′
	by the steel [quadrant] [per Chalyb.]	48° 2¼′

[2778]

On 10 February [DIE 10 FEBRUARIJ.] Distances by the new trigonal sextant. [Diſtantiæ per Sextantem] [Trigonicum nouum.]

Number [Num.]	Magnitude [Mag.]	Between the lower head of ♊ and [Inter inferius caput ♊ &]	Value
1	4	1 ♌ in the nostrils [1 ♌ in naribus]	22° 3′
			22° 2¾′
2	4	2 in the mouth [2 in ore]	24° 23′
			24° 23½′
4	3	4, the southern [star] in the head [4 in cap. auſt.]	27° 16⅚′
			27° 17′
3	4	3, the northern [star] in the head [3 in cap. boreal.]	28° 18½′
			28° 18¾′
5	3	5 in the neck, the northern of three [5 in collo, trium] [boream]	34° 11′ twice [bis]
6	2	6, the middle bright [star] of the neck [6 med. colli] [lucid.]	35° 59′
			35° 58⅚′
		Between Canis Minor and [Inter canem minorem &]	

[2777] From the right of the 31 a stroke runs down to the right to a point; from that point a second stroke runs down to the left and ends at the star below the 32. The note stands right of that point; *sūt* is written with a stroke over the *u*, standing for *sunt*, with a small mark below it, and a point follows *figura*. One small star mark with no numeral beside it stands between the stars numbered 5 and 4. The numerals are handwritten; the 1 is a short upright stroke and the 2 a Z-shaped or wavy stroke. The title names the constellation; the drawing itself carries no caption.

[2778] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. *H.12 30′* is given as 12^h 30^m, the hour fixed by *H.* and the minutes by the printed mark. *pro Horologio* is given as "according to the clock"; it can also be read "for the clock". The values, printed without unit marks, are given as degrees and minutes.

Number [Num.]	Magnitude [Mag.]	Between the lower head of ♊ and [Inter inferius caput ♊ &]	Value
7	3	7, the lowest of the three in the neck [7 infimam trium] [in collo]	37° 58′ twice [bis]
8	1	8, the heart of ♌ [8 cor ♌]	37° 20′ twice [bis]
13	4	13 in the foot of ♌ [13 in pede ♌]	30° 25′
			30° 25⅙′
15	4	15 in the left armpit [15 in ſiniſtra] [axilla]	43° 5′
			43° 5⅙′
23	3	23 in the hind thigh [23 in femore] [poſteriori]	55° 41′
			55° 41⅓′
22	3	22 in the southern haunch [22 in clune auſt.]	53° 34′
			53° 34½′
20	2	20, the bright [star] in the loins [20 in lumbis] [lucidam]	54° 5¾′
			54° 6′
19	4	19, the preceding [star] in the loins [19 præced. in] [lumbis]	51° 20¼′
			51° 20½′
9	5	9 below cor, above the breast [9 infra cor ſupra] [pectus]	37° 0′ twice [bis]
27	2	Between cor and the tail of ♌, 8 and 27 [Inter cor &] [caudam ♌, 8 & 27]	24° 37′
			24° 37½′

2779

Declinations by the armillae [Declinationes per Armillas]

Num-ber	Star	Instrument	Value
1	Of that [star] which is in the nostrils, north [Eius quæ eſt in naribus B.]		27° 54½′

2779 The heads *Num.* and *Mag.*, in smaller bold type, and *Inter inferius caput* ♊ *&*, in text type over the labels, are the page's; "Value" is this edition's head. *Num.* is given as "Number" and *Mag.* as "Magnitude". Each label but that of row 27 begins with the number printed in the number column. The labels stand in the accusative, depending on *Inter … &*. The line *Inter canem minorem &* stands in the label column with no number, between the rows of the stars numbered 6 and 7, and is given as a row of its own. The rows from the star numbered 8 on stand at the head of the right-hand column, under no heads, and are given here in the same table, in the order of the page; the row of the star numbered 27 carries its own *Inter cor & caudam* ♌. *cor* ♌ is given as "the heart of ♌"; *cor* alone, in the row of the star numbered 27, is kept as printed. *cap.* is given as "head" (*capite*). *auſt.* and *boreal.* after *cap.* are given as "the southern [star]" and "the northern [star]" (*auſtralem*, *borealem*); they can also be read with *capite*, "in the southern head", "in the northern head". *auſt.* after *clune* is given as "southern" with the haunch (*auſtrali*); it can also be read "the southern [star] in the haunch" (*auſtralem*). *med. colli lucid.* is given as "the middle bright [star] of the neck" (*mediam … lucidam*); it can also be read "the bright [star] of the middle of the neck" (*medii colli lucidam*). *præced.* is given as "preceding" (*præcedentem*). *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

Number	Star	Instrument	Value
		with both [vtroq.]	
2	Of the mouth [Oris]		24° 45′
			24° 45¼′
4	Of the more southern [star] in the head [Auſtralioris in] [capite]		25° 38′
			25° 38¼′

2780

Number	Magnitude	Star	Instrument	Value
3		Of the northern [star] in the head [Borealis in capite]		27° 55½′
				27° 55′
13		In the fore foot [In pede anteriori]		11° 43½′
				11° 43¾′
9		Below the heart of ♌ [Infra cor ♌]		12° 0½′
			with both [vtroq.]	
19	5	Of the preceding [star] in the loins [Præcedentis in] [lumbis]		22° 22⅓′
				22° 23′
15		In the left armpit [In ſiniſtra axilla]		11° 24′
				11° 23¾′
7		Of the lowest of the three in the neck [Infimæ trium in] [collo]		18° 44¾′
				18° 44⅚′
6		Of the bright [star] of the neck, or of the middle [star] of the neck [Lucidæ ceruicis] [vel mediæ colli]		21° 53½′
				21° 54′
5		Of the uppermost [star] in the neck [Supremæ in collo]		25° 26′
				25° 26⅓′
20		Of the bright [star] of the hip or in the loins [Coxendicis vel in] [lumbis lucidæ]		22° 47′
			with both [vtroq.]	
22	3	In the southern haunch [In clune auſtrali]		17° 41′
				17° 41¼′
23	3	In the hind thigh [In poſteriori] [femore]		12° 48′
				12° 48½′
27		Of the far end of the tail [Extremæ caudæ]		16° 53′
				16° 52½′

2780 The page prints no heads over this table; "Number", "Star", "Instrument" and "Value" are this edition's heads. No magnitude column is printed. The labels stand in the genitive, depending on *Declinationes*, and are given as "Of …". *B.*, at the end of the first label line, is given as "north" (*Borealis*); it can also qualify the star, "the northern [star]". The figure of the star numbered 1 stands on the line below its label; *vtroq.*, on the line below the figure, is given as "with both". The values, printed without unit marks, are given as degrees and minutes.

2781

On 12 February, in the morning [DIE 12 FEBRUARIJ, MANE.]

Number	Magnitude	Star	Value
		Between the tail of ♌ and [Inter caudam ♌ &]	
13	3	13 in the left knee [13 in genu ſiniſtro]	32° 22′
		repeated [repetita]	32° 22½′
9	4	9 above the breast, below the heart of ♌ [9 ſuper pectus] [infra cor ♌]	26° 50⅙′ twice [bis]
10	4		28° 55′
			28° 55⅔′
12	4		34° 24½′
			34° 25′
14	4	14, or [the star] which is in the left fore drace [14 ſiue quæ eſt in] [drace ſin. priori]	28° 32′
			28° 32¼′
1	4	the first in the nostrils [Primam in] [naribus]	36° 19½′
			36° 20′
2	4	2 in the mouth [2 in ore]	34° 28¾′
			34° 28⅚′
4	3	4, the more southern [star] in the head of ♌ [4 auſtraliorem] [in capite ♌]	30° 31′
			30° 31½′
3	4	3, the northern [star] in the head [3 in capite] [boream]	29° 30¼′ twice [bis]
15	4	Between Spica and 15 ♌ [Inter Spicam &] [15 ♌]	47° 31½′
			47° 31⅚′
18		Between Spica and 18 ♌ [Inter Spicam &] [18 ♌]	44° 25′

[2781] These rows stand at the head of the left-hand column under no heading, and continue the declinations by the armillae at the foot of p. 368; the English heads used there are repeated ("Number", "Star", "Instrument" and "Value" being this edition's heads), with a "Magnitude" column, also this edition's, because this page prints a magnitude at the stars numbered 19, 22 and 23. Labels in the genitive, depending on *Declinationes* on p. 368, are given as "Of …"; *In pede anteriori*, *Infra cor* ♌, *In ſiniſtra axilla*, *In clune auſtrali* and *In poſteriori femore* are given as printed, without "Of". *Borealis* is given as a genitive; it can also be read as a nominative, "the northern [star]". *vtroq.*, alone in the figure column on the line below the single figures of the stars numbered 9 and 20, is given as "with both". *Lucidæ ceruicis vel mediæ colli* is given as "Of the bright [star] of the neck, or of the middle [star] of the neck"; it can also be read with *lucidæ* shared, "or of the middle bright [star] of the neck". *Coxendicis vel in lumbis lucidæ* is given with *lucidæ* governing both, "Of the bright [star] of the hip or in the loins"; it can also be read "Of [the star] of the hip, or of the bright [star] in the loins". *Extremæ caudæ* is given as "Of the far end of the tail" (*extremæ* agreeing with *caudæ*); it can also be read "Of the extreme [star] of the tail". The magnitude of the star numbered 19 is printed 5 here and 4 among the 10 February distances on p. 368; given as printed. The values, printed without unit marks, are given as degrees and minutes.

Number	Magnitude	Star	Value
			44° 25¾′
17		Between Spica and 17 ♍ [Inter Spicam &] [17 ♍]	46° 47′
			46° 48′
16		Between Spica and 16 ♍ [Inter Spicam &] [16 ♍]	49° 46′
			49° 46¾′
32	5	Between Spica and the [star] which is under the belly of ♍, number 32 for us, and is the more southern of the two [Inter Spicam & eam] [quæ eſt ſub ventre] [♍, nobis num. 32 &] [eſt duarum] [auſtralior]	39° 49¼′
			39° 50′
31	4	Between Spica and the northern [star] under the belly of ♍, number 31 [Inter Spicam & eam] [ſub ventre ♍ bor.,] [num. 31]	39° 27′
			39° 26′

N.B. The ancients do not count these two stars, although they could conveniently be included in the figure. [N. B. Has duas ſtellas veteres non] [numerant, etſi commode poßent in-] [cludi in figura.]

Number	Magnitude	Star	Value
24	4	Between Spica and 24 ♍ in the foot of ♍ [Inter Spicam &] [24 ♍ in pede ♍]	35° 20′
			35° 20¼′
23	4	Between Spica and 23 in the thigh of ♍ [Inter Spicam &] [23 in femore ♍]	37° 8′
			37° 8¾′
8	1 min.	Between Spica and the heart of ♍ [Inter Spicam &] [cor ♍]	54° 2′
7	3	Between Vindemiator and 7 ♍ [Inter Vindemiator.] [& 7 ♍]	42° 47¼′ twice [bis]
6	2	Between Vindemiator and 6 ♍ [Inter Vindemiato-] [rem & 6 ♍]	40° 2⅝′
			40° 3¼′
5	3	Between Vindemiator and the uppermost [star] of the neck [Inter Vindemiato-] [rem & ſupremam] [ceruicis]	41° 19½′
			41° 19′

2782

Declinations by the armillae [Declinationes per Armillas.]

Number	Star	Instrument	Value
13	Of that [star] which is the brighter in the fore feet [Eius quæ eſt in pedibus] [anterioribus lucidior]		11° 43½′
		with the other [alt.]	11° 43¾′
1	[That] which [is] in the nostrils [Quæ in naribus]		27° 54′
			27° 55′
2	Of that [star] which is in the mouth of ♌ [Eius quæ eſt in ore ♌]		24° 45′
			24° 44½′
4	Of the lower [star] in the head [Inferioris in capite]		25° 37½′
			25° 38′
3	Of the upper [star] in the head [Superioris in capite]		27° 54′
			27° 54⅔′
20	Of the following [star] in the loins [Sequentis in lumbis]		22° 46′
			22° 46⅓′
6	Of the bright [star] of the neck of ♌ [Lucidæ ceruicis ♌]		21° 53′
			21° 53½′

2782 The page prints no heads over these two tables; "Number", "Magnitude", "Star" and "Value" are this edition's heads, repeated over the rows that follow the note. The rows from the star numbered 17 on stand in the right-hand column, in the order of the page. The line *Inter caudam* ♌ *&* stands in the label column with no number, above the row of the star numbered 13, and is given as a row of its own; the labels after it depend on *Inter … &* (*Primam*, *auſtraliorem* and *boream* in the accusative) until the star numbered 15, where *Inter Spicam &* begins a new pair; *Inter Vindemiator.* (with a point) and *Inter Vindemiatorem* begin the pairs of the stars numbered 7, 6 and 5. The rows of the stars numbered 10 and 12 carry no label. *repetita*, set to the right on the line of the second figure of the star numbered 13, is given as "repeated". *pectus* is given as "breast"; *ſuper* and *infra* as prepositions, "above" and "below". *drace* is kept as printed, untranslated; *ſin. priori* is given as "left fore" (*ſiniſtro* or *ſiniſtra*). *ſiue* is given as "or". *nobis* is given as "for us"; it can also be read "by us". *num.* is given as "number" (*numero*). *bor.*, after the sign at the star numbered 31, is given with *eam*, "the northern [star]" (*borealem*). *auſtraliorem* and *auſtralior* are given as "the more southern". At the star numbered 8 the magnitude is printed 1 with *min.* on the line below it, a brace joining the two to the label lines; it is given once, on its row; *min.* is kept abbreviated, and can stand for *minor* or *minoris*, "lesser". *Vindemiator.* and *Vindemiatorem* are both given as "Vindemiator". *bis* is given as "twice". The magnitude of the star numbered 13 is printed 3 here and 4 among the 10 February distances on p. 368; that of 9, 4 here and 5 there; that of 23, 4 here, against 3 there and 3 among the declinations at the head of this page; all given as printed. The values, printed without unit marks, are given as degrees and minutes.

2783

Again there follows an observation in distances [Sequitur iterum obſeruatio] [in diſtantijs]

Star	Value
Between Vindemiator and the unformed [star] above the back of ♌ [Inter Vindemiatorem &] [Informem ſupra] [dorſum ♌]	35° 16′
	35° 16⅙′

2784

Number	Magnitude	Value
19		30° 18½′
		30° 19′
20	2	27° 43½′ twice [bis]
22		26° 38′ twice [bis]
27	2 mai.	18° 10′
		18° 10⅙′

2785

On 13 February [DIE 13 FEBRUARIJ.] In the morning. [Mane.] Among clouds. [Inter nubes.]

2783 The page prints no heads over this table, and no date stands over its lead line; "Number", "Star", "Instrument" and "Value" are this edition's heads. No magnitude column is printed. The labels in the genitive, depending on *Declinationes*, are given as "Of …"; *Quæ in naribus* stands in the nominative and is given as "[That] which [is] in the nostrils". *Eius quæ eſt in pedibus anterioribus lucidior* is given as "Of that [star] which is the brighter in the fore feet"; it can also be read "Of that [star] in the fore feet which is the brighter". *alt.*, set to the right on the line of the second figure of the star numbered 13, is given as "with the other" (*altero*). The declinations of the star numbered 1 (27° 54′, 27° 55′) share no value with its declination of 10 February on p. 368 (27° 54½′); those of 3 (27° 54′, 27° 54⅔′) none with its declinations at the head of this page (27° 55½′, 27° 55′); those of 20 (22° 46′, 22° 46⅓′) none with its declination there (22° 47′); all given as printed. The values, printed without unit marks, are given as degrees and minutes.

2784 The page prints no heads over this table; "Star" and "Value" are this edition's heads. No number or magnitude is printed with this row. The values, printed without unit marks, are given as degrees and minutes. The page ends at *dorſum* ♌ and its second figure.

2785 These rows stand at the head of the left-hand column under no heading, following the line *Inter Vindemiatorem & Informem ſupra dorſum* ♌ and its two figures at the foot of p. 369. The page prints no heads over them and no label on any of these lines; "Number", "Magnitude" and "Value" are this edition's heads. A magnitude is printed only at the stars numbered 20 and 27; at 27 it is printed *2 mai.* on one line, and *mai.* is kept abbreviated; it can stand for *maior* or *maioris*, "greater". *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

Number of the figure [Num. Fig.]	Declination [Declinatio]	Instrument	Value
13	of that [star] which is the brighter in the fore feet [Eius quæ eſt in pedibus] [anterior. lucidior]		11° 44′
			11° 44½′
4			25° 39′
		with the other pinnule [alt. pin.]	25° 38⅔′
6	of the bright [star] of the neck [Lucidæ ceruicis]		21° 53½′
			21° 53¾′
5	of the uppermost [star] in the neck [Supremæ in collo]		25° 26¾′
			25° 26¼′
20	of the bright [star] in the upper loins [Lucidæ] [in ſup. lumbis]		22° 47¼′
			22° 47½′
7	of the lowest of the three in the neck [Infimæ trium in collo]		18° 45′
			18° 44¾′
22	of the southern [star] in the vertebrae [Auſtralis in verteb.]	with both [vtr.]	17° 41′
15	of that [star] in the left armpit [Eius in axilla ſiniſtra]		11° 23½′
			11° 24′
23	of that [star] which is in the hind legs [Eius quæ eſt in] [poſterior. cruribus]		12° 48′
		with both [vtroq.]	
27	of the bright [star] in the tail of ♌ [Lucidæ in cauda ♌]		16° 52½′
			16° 53′
19	of the preceding of the two in the loins [Præcedentis duarum] [in lumbis]		22° 22′
			22° 21¾′

2786

[2786] The heads *Num. Fig.*, in smaller bold type, and *Declinatio*, in text type over the labels, are the page's; "Instrument" and "Value" are this edition's heads. *Num. Fig.* is given as "Number of the figure"; *Fig.* can stand for *figuræ* or *figurationis*. No magnitude column is printed. The labels stand in the genitive, depending on *Declinatio*, and are given in lower case to continue the head. The row of the star numbered 4 carries no label. *alt. pin.*, set to the right on the line of its second figure, is given as "with the other pinnule". *vtr.*, in smaller type after the single figure of the star numbered 22, and *vtroq.*, alone in the figure column below the single figure of 23, are given as "with both". *anterior.* and *poſterior.* are given as "fore" and "hind" (*anterioribus*, *poſterioribus*); *ſup.* as "upper" (*ſuperioribus*); *verteb.* as "vertebrae" (*vertebris*), and it can also stand for *vertebra*, "the vertebra". *Eius quæ eſt in pedibus anterior. lucidior* is given as "of that [star] which is the brighter in the fore feet"; it can also be read "of that [star] in the fore feet which is the brighter". The declinations of the stars numbered 13 (11° 44′, 11° 44½′), 4 (25° 39′, 25° 38⅔′), 5 (25° 26¾′, 25° 26¼′), 20 (22° 47¼′, 22° 47½′) and 19 (22° 22′, 22° 21¾′) share no value with their declinations on p. 368 or p. 369; given as printed. The values, printed without unit marks, are given as degrees and minutes.

On 10 March, in the evening [DIE 10 MARTIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the heart of ♌ [Alt. Cordis ♌ Merid.]	by the steel [quadrant] [per Chalyb.]	48° 2½′
	by the revolving [quadrant] [per Volub.]	48° 2¾′
	by the sextant [per Sext.]	48° 1½′

[It] was not sufficiently clear. [Non erat ſatis ſerenum.][2787]

On 13 March, in the evening [DIE 13 MARTIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the preceding bright [star] in the foot of ♌ [Alt. Merid.] [præcedentis lucidæ in pede ♌]	by the steel [quadrant] [per Chalyb.]	45° 49′
	by the sextant [per Sext.]	45° 48⅚′
Meridian altitude of the bright [star] of the head of ♌ [Alt. Merid. lucid. cap. ♌]	by the steel [quadrant] [per Chal.]	59° 43⅙′
Meridian altitude of the heart of ♌ [Alt. Merid. Cordis ♌]	by the steel [quadrant] [per Chal.]	48° 2′ 5″
	by the sextant [per Sext.]	48° 2′ 0″
	by the revolving [quadrant] [per Volub.]	48° 2′ 20″

2788

On 15 March, in the evening [DIE 15 MARTIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the heart of ♌ [Alt. Merid. Cordis ♌]	by the steel [quadrant] [per Chalyb.]	48° 2′ 25″

[2787] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. *Merid.*, printed after the sign, is given with the altitude, "Meridian altitude" (*Meridiana*); it can also be read "of the heart of ♌ in the meridian". *Cordis* ♌ is given as "of the heart of ♌". The value by the sextant, 48° 1½′, shares no value with the other meridian altitudes of the heart of ♌ on this page or on p. 368; given as printed. The values, printed without unit marks, are given as degrees and minutes.

[2788] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. *Alt. Merid.* stands on a line of its own, and *præcedentis lucidæ in pede* ♌ on the line below it, indented; the two are given together on the first row. *præcedentis lucidæ* is given as "the preceding bright [star]"; it can also be read "[the star] preceding the bright [star]". *lucid. cap.* is given as "the bright [star] of the head" (*lucidæ capitis*). The meridian altitudes of the heart of ♌ are printed in three figures; a seconds mark is printed after the first of them, *5*, and they are given as degrees, minutes and seconds. The other values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the revolving [quadrant] [per Volub.]	48° 2′ 0″
	by the lesser azimuthal quadrant [per Q. min. azim.]	48° 0½′
	by the mural [quadrant] [per Mural.]	48° 2½′
		48° 2¾′
Meridian altitude of the bright [star] of the neck [Alt. Merid. Luc. Ceruicis]	by the mural [quadrant] [per Muralem], with the old [veteri]	55° 59⅔′
	with the new [nouo]	56° 0′

2789

On 22 March, in the evening [DIE 22 MARTIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the heart of ♌ [Alt. Merid. Cordis ♌]	by the steel and revolving [quadrants] [per Chalyb. & Volub.]	48° 2′
Meridian altitude of the bright [star] in the neck of ♌ [Alt. Merid. lucid. in collo ♌]	by the steel [quadrant] [per Chal.]	55° 59′
	by the revolving [quadrant] [per Vol.]	55° 58¾′

2790

On 24 March [DIE 24 MARTIJ.]

Reading	Instrument	Value
Meridian altitude of the heart of ♌ [Alt. Merid. Cordis ♌]	by the steel [quadrant] [per Chalyb.]	48° 2′
	by the revolving [quadrant] [per Volub.]	48° 2′
Meridian altitude of the bright [star] in the neck of ♌ [Alt. Mer. Luc. in collo ♌]	by the steel [quadrant] [per Chalyb.]	55° 58⅚′

2789 These lines stand at the head of the right-hand column; the page prints no heads over them; ”Reading”, ”Instrument” and ”Value” are this edition's heads. The first two values are printed in three figures with no marks; they are given as degrees, minutes and seconds, as the meridian altitudes of the heart of ♌ of 13 March on this page, which carry a seconds mark. *per Q. min. azim.* is given as ”by the lesser azimuthal quadrant”; *min.* can also stand for *minimum*, ”least”. The second figure by the mural quadrant stands alone on the line below the first. *veteri* and *nouo*, set before the figures, are given as ”with the old” and ”with the new”; the noun they qualify is not printed. The value 48° 0½′ by the lesser azimuthal quadrant shares no value with the other meridian altitudes of the heart of ♌ on this page or on p. 368; given as printed. The other values, printed without unit marks, are given as degrees and minutes.

2790 The page prints no heads over this table; ”Reading”, ”Instrument” and ”Value” are this edition's heads. *per Chalyb. & Volub.* stands on one line with a single figure. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the revolving [quadrant] [per Volub.]	55° 59′

2791

On 8 April, in the evening [DIE 8 APRILIS, VESPERI.]

Number [Num.]	Magnitude [Mag.]	Declination [Declinatio]	Instrument	Value
12	5	of the upper of the three in the preceding foot of ♌ [Superioris trium in] [præced. pede ♌]		13° 5′
28	6	of the middle [star] in the fore foot [Mediæ in pede] [anteriori]		11° 23½′
29	6	of the lowest of the same foot[1] [Infimæ eiusdem] [pedis[1]]		10° 33½′
10	6	of [the star] slightly preceding the heart of ♌ [Parum ante-] [cedentis cor ♌]	with one [vno]	14° 22½′
			with the other [alt.]	14° 22′
14	5	of that [star] in the left knee [Eius in genu] [ſiniſtro]		9° 59′
				10° 0′
9	4	of that [star] which is below the heart of ♌ [Eius quæ eſt infra] [cor ♌]		12° 1′
				12° 0½′
16	6 min.			16° 12½′
				16° 12′
17	6			16° 22′
				16° 21¼′
18	6			12° 44′
				12° 43½′
30	6			21° 2′
				21° 1½′

[2791] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. *Mer. Luc.* is given as "Meridian … bright [star]" (*Meridiana*, *Lucidæ*), as the full forms printed on 22 March. The values, printed without unit marks, are given as degrees and minutes.

2792

[1] The declination is false. It should be about 10° 48′. [Decl. falſa eſt. Debet eße circiter 10° 48′.]

Num-ber	Magni-tude	Declination	Value
19	5		22° 22′
			22° 22½′
31	6		8° 16½′
			8° 17′
32	6		5° 49′
			5° 50′
24	3		8° 15′
			8° 15½′
20	1	of the upper [star] in the back [Superioris in] [dorſo]	22° 47′ twice [bis]
22	2		17° 40½′
			17° 40¾′
23	3	of that [star] which is in the thigh [Eius quæ eſt in] [femore]	12° 48′
			12° 47½′
27	1	of the tail of ♌ [Caudæ ♌]	16° 53′
			16° 53¼′

[2792] The heads *Num.* and *Mag.*, in smaller bold type, and *Declinatio*, in text type over the labels, are the page's; "Instrument" and "Value" are this edition's heads. *Num.* is given as "Number" and *Mag.* as "Magnitude". The labels stand in the genitive, depending on *Declinatio*, and are given in lower case to continue the head. At the stars numbered 12, 28 and 29 the single figure stands on the second line of the label. *præced.* is given as "preceding" (*præcedenti*). *Parum antecedentis* is given as "slightly preceding". *vno* and *alt.*, set before the figures of the star numbered 10, are given as "with one" and "with the other" (*altero*). *infra* is given as a preposition, "below". *6 min.*, at the star numbered 16, is printed on one line; *min.* is kept abbreviated, and can stand for *minor* or *minoris*, "lesser". The rows of the stars numbered 16, 17, 18 and 30 carry no label. The footnote cue stands after *pedis*. On p. 369 the label *in genu ſiniſtro* stands with the star numbered 13, and the star numbered 14 is *in drace ſin. priori*; given as printed. The magnitudes of the stars numbered 12, 10 and 14 are printed 5, 6 and 5 here and 4 among the 12 February distances on p. 369; given as printed. The values, printed without unit marks, are given as degrees and minutes.

2793

The constellation of Virgo, according to our marking [ASTERISMUS VIRGINIS] [IUXTA NOSTRAM DENOTATIONEM.]

Diagram. Below the title, across the full width of the middle of the page, a drawing of star marks only, with no outline of a figure. There are 34 rayed star marks of different sizes, most dark with a small open centre, each with a hand-written numeral beside it; no mark without a numeral was found. The marks numbered 11 and 26 are drawn as open rings with rays; the mark numbered 14 is the largest, a ring with a point at its centre and rays.

- Upper middle, above and to the left of its mark, a point after it: 30
- Upper middle, right of a mark right of the 30, its 1 a short raised stroke: 13
- Upper middle, right of a mark further right, both sorts short strokes: 11
- Upper middle, right of a mark below the 13: 12
- Upper middle, right of a mark below the 12: 28
- Upper middle, right of a mark below and left of the 28: 10
- Upper middle, right of a mark left of the 10, its second sort a short raised stroke: 31
- Upper middle, right of a mark further left, its second sort a small raised hook: 32
- Upper middle, right of a mark below the 32: 15
- Left part, left of its mark: 34
- Left part, right of a mark further left, at the same height: 21
- Left part, right of a mark below and left of the 21: 24
- Left part, left of a mark below the 34: 27
- Left part, below its mark, at the far left: 26
- Left part, right of a mark right of the 26: 22
- Left part, above and to the right of a mark below the 22: 23

[2793] The page opens with no heading and prints no column heads over these rows. They stand in the columns of the 8 April table at the foot of p. 370 (number, magnitude, label, figures), and the heads printed there, *Num.*, *Mag.* and *Declinatio*, are repeated over them as "Number", "Magnitude" and "Declination"; "Value" is this edition's head. The rows of the stars numbered 19, 31, 32 and 24 stand in the left-hand column and those of 20, 22, 23 and 27 in the right-hand column, in the order of the page. The rows of the stars numbered 19, 31, 32, 24 and 22 carry no label. The labels stand in the genitive and are given in lower case to continue the head. At the star numbered 20 the single figure stands on the second line of the label. *bis* is given as "twice". The declination of the star numbered 22 (17° 40½′, 17° 40¾′) shares no value with its declinations on p. 369 (17° 41′, 17° 41¼′) and p. 370 (17° 41′); given as printed. The magnitudes are printed 5 at the star numbered 19 (4 on p. 368), 1 at the star numbered 20 (2 on pp. 368 and 370), 2 at 22 (3 on pp. 368 and 369), 1 at 27 (2 on p. 368, *2 mai.* on p. 370), 6 at 31 (4 on p. 369), 6 at 32 (5 on p. 369) and 3 at 24 (4 on p. 369); given as printed. The values, printed without unit marks, are given as degrees and minutes.

- Left part, left of a mark below and right of the 23, a stroke joining the 0 to the mark: 20
- Left part, below and to the left of a mark right of the 20, its second sort with a closed upper loop and an open lower loop, without the long tail of the 9s on this drawing: 18
- Left part, below and to the left of a mark below the 18, its 1 a point-like stroke, its 9 with a long tail curving down to the left: 19
- Left part, right of a mark right of the 18: 16
- Left part, right of a mark below the 16: 17
- Left part, right of the large mark below the 17: 14
- Left part, right of a mark at the lower left: 25
- Lower middle, right of a mark right of the 16: 9
- Lower middle, right of a mark above and right of the 9: 8
- Lower middle, right of a mark right of the 8: 7
- Lower middle, right of a mark further right: 6
- Right part, right of a mark right of the 28: 3
- Right part, right of a mark below and right of the 3: 1
- Right part, right of a mark below and left of the 3, the 9 with a long tail curving down to the left: 29
- Right part, right of a mark right of the 29: 4
- Right part, right of a mark at the far right, a point before the mark: 2
- Right part, right of a mark below the 4, its first 3 flat-topped: 33
- Right part, right of a mark below the 33: 5

On 7 January, in the morning [DIE 7 JANUARIJ, MANE.]

Reading	Instrument	Value
Meridian altitude of Spica ♍, *good* [Alt. Merid. Spicæ ♍ *bonæ*]	by the steel [quadrant] [per Chalyb.]	25° 8′ 0″
	by the revolving [quadrant] [per Volub.]	25° 7′ 50″
	by the sextant [per Sext.]	25° 7′ 55″
	by the mural [quadrant] [per Mural.,], with both [vtroq.]	25° 7′ 50″
Declination of Spica [Declin. Spicæ]	with one [vno]	8° 57′ 30″
	by the armillae [per Armillas], with the other [alt.]	8° 57′ 20″
Between Spica and the more northern [star] in the head of ♍ [Inter Spicam &] [borealiorem in capite ♍]		31° 31½′ twice [bis]
Between Spica and the more southern [star] in the head of ♍ [Inter Spicam &] [auſtraliorem in capite ♍]		30° 24¼′
		30° 24⅓′
Between Spica and the more southern [star] in the face of ♍ [Inter Spicam &] [auſtraliorem in vultu ♍]		27° 29⅔′
		27° 29½′
Declination of the more southern [star] in the face of ♍, north [Declin. auſtralioris in] [vultu ♍ B.]		8° 53½′

Reading	Instrument	Value
		8° 54′
Declination of the cheek, or of the northern [star] in the face [Decl. genæ ſeu Bor. in vultu]		11° 5′ north, twice [B.bis]
Between Spica and the northern cheek of ♍ [Inter Spicam &] [Genam ♍ Bor.]		28° 5⅙′
		28° 5½′
Between 1 of the southern wing and Spica [Inter 1 alæ auſtr. &] [Spicam]		26° 53⅙′
		26° 53⅓′
Declination of the more southern [star] in the head of ♍ [Declin. auſtralioris] [in capite ♍]		8° 48½′
	with the other [alt.]	8° 48′
Distance between 2 of the southern wing of ♍ and Spica [Diſt. inter 2 auſtralis alæ] [♍ & Spicam]		19° 18½′
		19° 18⅓′
Declination of the northern [star] in the head, doubtful [Decl. Boreal. in capite, dubia]		10° 40′
Distance between 3 of the southern wing, number 7, and Spica [Diſt. inter 3 Auſtralis alæ] [num. 7 & Spicam]		14° 29¼′
Meridian altitude of Vindemiator [Alt. Merid. Vindemiat.]	by the revolving and steel [quadrants] [per Volub. & Chalyb.]	47° 17⅓′

2794

On 12 February, in the morning [DIE 12 FEBRUARIJ, MANE.]

[2794] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. The rows from *Declin. auſtralioris / in capite* ♍ on stand at the head of the right-hand column, in the order of the page; no date is printed above them. Labels printed over two lines are given whole on their first row. *bonæ*, in italic, is given as "good", a remark on the altitudes (plural, *bonæ*); it can also be read as a genitive with *Spicæ*. *per Armillas* stands indented on the line of the second declination of Spica, with *alt.* after it. *vtroq.* is given as "with both", *vno* as "with one" and *alt.* as "with the other" (*altero*). *B.*, after the sign on the second line of the declination of the more southern star in the face, and *B.* before *bis* are given as "north" (*Borealis*), of the declination. *Bor.* in *genæ ſeu Bor. in vultu* is given as "the northern [star]" (*Borealis*); in *Genam* ♍ *Bor.* it is given with *Genam*, "the northern cheek" (*Borealem*); it can also be read as a separate word, "north". *auſtr.* is given as "southern" (*auſtralis*). *num.* is given as "number" (*numero*). *Vindemiat.* is given as "Vindemiator". *Diſt.* is given as "Distance". The values of the meridian altitude and of the declination of Spica are printed in three figures with no marks and are given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes. *per Armillas* is printed on the line of *alt.* only; it may govern both readings.

Reading	Instrument	Value
Meridian altitude of Spica ♍ by the steel [quadrant] [Spicæ ♍ Alt. Mer. per Chal.]		25° 8¼′
	by the revolving [quadrant] [per Volub.]	25° 7½′
	by the sextant [per Sext.]	25° 7⅔′
	by the mural [quadrant] [per Mural.], with the old [vet.]	25° 7⅚′
	with the other [altero]	25° 8′

2795

On 13 February, in the morning [DIE 13 FEBRUARIJ, MANE.]

Reading	Instrument	Value
Meridian altitude of Spica ♍ by the steel [quadrant] [Spicæ ♍ Alt. Mer. per Chal.]		25° 8⅛′
	by the least portable quadrant [per Q. minim. portatilem]	25° 8′
	by the old sextant [per Sextantem veterem]	25° 8′

[It] was not sufficiently clear. [Non erat ſatis ſerenum.][2796]

On 11 March [DIE 11 MARTIJ.] At night, before noon. [Noctu ante meridiem.]

Reading	Instrument	Value
Meridian altitude of Spica by the steel [quadrant] [Alt. Merid. Spicæ per Chal.]		25° 8′
	by the sextant [per Sext.]	25° 7¾′

2797

[2795] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. *Spicæ ♍ Alt. Mer. per Chal.* is printed on one line and is given whole in the first cell. *vet.* is given as "with the old" (*veteri*), *altero* as "with the other"; *altero* stands alone on its line, before the figures. The values, printed without unit marks, are given as degrees and minutes.

[2796] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. *Spicæ ♍ Alt. Mer. per Chal.* is printed on one line and is given whole in the first cell. *Q. minim.* is given as "least quadrant" (*Quadrantem minimum*). The values, printed without unit marks, are given as degrees and minutes.

[2797] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. *Alt. Merid. Spicæ per Chal.* is printed on one line and is given whole in the first cell; *per Sext.* stands indented below *per Chal.* The values, printed without unit marks, are given as degrees and minutes.

Number of the image, from Aratus [Num.] [imaginis] [ex Arato]	Star	Value
	Between the heart of ♌ and [Inter cor ♌ &]	
1	the northern of the two preceding [stars] in the □ of the head of ♍ [Borealem duarum præceden-] [tium in □ capitis ♍]	24° 4¼′ twice [bis]
2	the following southern [star] in the □ of the head of ♍ [Sequentem meridio-] [nalem in □ capitis ♍]	24° 35¼′
		24° 35⅔′
4	the southern [star] of the lower [stars] in the □ of the head [Meridional. inferiorum] [in □ capitis]	28° 11′
		28° 11⅙′
3	the uppermost of the following [stars] in the □ of the head [Supremam ſequen-] [tium in □ cap.]	28° 52¾′
		28° 53′
5	that [star] which is in the southern wing [Eam quæ eſt in auſtrali] [ala]	27° 13′
		27° 13½′
33	the little star of magnitude 5 (it is situated between the 4th and the 5th of ♍) [Stellulam 5 magnitudi-] [nis (ſita eſt inter 4am &] [5am ♍)]	28° 47½′
		28° 48′
28[1]		23° 46′
		23° 46¾′
6	the second in the southern wing, of the three brighter [stars] (magnitude 4) [Secundam in auſtr. ala] [trium lucidiorum] [(4 mag.)]	34° 59′
		34° 59½′
7	the third in the southern wing of ♍ [Tertiam in auſtrali] [ala ♍]	40° 21¾′
		40° 22′
10	the girdle of ♍ [Cingulum ♍]	42° 16¼′
		42° 16½′
13	Vindemiator [Vindemiatorem]	42° 32′ twice [bis]
11		37° 36′
		37° 36½′
12		38° 56½′
		38° 57′
28		38° 10′
		38° 10¾′
	Between the tail of ♌ and [Inter caudam ♌ &]	
30		22° 0′
31	magnitude 6 [6 magn.]	23° 33′
		23° 33⅔′
32		28° 1′
		28° 1¾′
15	that [star] which is in the right thigh of ♍ [Eam quæ eſt in dextro] [femore ♍]	30° 11′
		30° 11½′

Number of the image, from Aratus [Num.] [imaginis] [ex Arato]	Star	Value
16		32° 51¼′
		32° 51⅔′
9		28° 20¾′
		28° 21′
25	that [star] which is in the southern foot of ♍ [Eam quæ eſt in auſtrali] [pede ♍]	46° 25′
		46° 26′
23	that [star] which is in the hem of ♍, a little above the southern foot [Illam quæ eſt in fimbria] [♍ paulo ſupra auſtr.] [pedem]	43° 22¾′
		43° 23′
22	that [star] which is in the hem, more toward the north [Eam quæ eſt in fimbria] [magis ad boream]	41° 42½′ twice [bis]
26	the northern foot of ♍ [Borealem pedem ♍]	47° 31½′
		47° 32′

2798

On 12 March, in the morning [DIE 12 MARTIJ, MANE.]

Reading	Value
Between Vindemiator and the bright [star] of the neck of ♌ [Inter Vindemiatorem & lucidam] [ceruicis ♌]	40° 15⅚′ twice [bis]

[2798] The head *Num. / imaginis / ex Arato*, three lines in smaller bold type, stands over the number column, its first line level with the line *per Sext.* of the table above; it is given as "Number of the image, from Aratus", and *ex Arato* can also be read "after Aratus". "Star" and "Value" are this edition's heads. The lines *Inter cor* ♌ *&* and *Inter caudam* ♌ *&* stand in the label column with no number and are given as rows of their own; the labels after each stand in the accusative and depend on it, and are given in lower case to continue it. The rows from the star numbered 23 on stand at the head of the right-hand column, under no heading, in the order of the page. The rows of the stars numbered 28 (both), 11, 12, 30, 32, 16 and 9 carry no label. The number 28 is printed twice in this table, with 23° 46′ and 23° 46¾′ and with 38° 10′ and 38° 10¾′; the footnote cue stands on the first; given as printed. *Meridional.* is given as "southern" (*meridionalem*); *cap.* as "head" (*capitis*); *auſtr.* in the label of the star numbered 6 as "southern" (*auſtrali*), and in the label of 23 as "southern" (*auſtralem*). *4am* and *5am* are given as "the 4th" and "the 5th" (*quartam*, *quintam*). *Secundam in auſtr. ala trium lucidiorum* is given as "the second in the southern wing, of the three brighter [stars]"; it can also be read "the second of the three brighter [stars] in the southern wing". *(4 mag.)* and *6 magn.* stand in the label column and are given as "magnitude 4" and "magnitude 6". The magnitude of the star numbered 6 is printed 4 here and 3 in the 14 March table on this page; given as printed. *Vindemiatorem* is given as "Vindemiator". *fimbria* is given as "hem". *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

2799

On 14 March, in the morning [DIE 14 MARTIJ, MANE.]

Number [Num.]	Magnitude [Mag.]	Between the northern scale-pan of ♎ and [Inter borealem lancem ♎ &]	Value
1		the upper [star] in the head of ♍ [Superiorem in] [cap. ♍]	55° 36½′
			55° 36¾′
2		the more southern [star] in the head of ♍ [Auſtraliorem in] [capite ♍]	55° 0′
			54° 59½′
4		the more southern [star] in the face of ♍ [Auſtraliorem in] [facie ♍]	51° 25′
			51° 25⅓′
3		the more northern [star] in the face of ♍ [Borealiorem in] [facie ♍]	51° 2¼′
			51° 2¾′
5	3	that [star] which is at the tip of the southern wing of ♍ [Eam quæ eſt in ex-] [tremitate auſtralis] [alæ ♍]	52° 40½′ twice [bis]
6	3	the preceding [one] of the four which are in the wing itself [Præcedentem de] [quatuor quæ ſunt] [in ipſa ala]	44° 55′
			44° 55⅙′
7	3 mai.	that [star] which follows it in the wing [Eam quæ ipſam] [ſequitur in ala]	39° 23¾′
			39° 23½′
9	5	the third in the wing itself [Tertiam in ipſa ala]	31° 43½′
			31° 43¾′
16	4	the last of those four which are in the southern wing of ♍, or the outermost of all of this wing [Vltimam de quatuor] [illis quæ ſunt in ala] [♍ auſtrali ſiue ex-] [tremam omnium] [alæ iſtius]	26° 13′
			26° 13¾′
33	5	that [star] which is in the neck of ♍ [Eam quæ eſt in] [collo ♍]	50° 49′
			50° 49¼′
10	3	the girdle [Cingulum]	37° 26′
			37° 26½′
29	6		48° 57′
			48° 57¾′
28	6		45° 47½′
			45° 47¼′
11			43° 18⅓′
			43° 18½′
12			41° 21½′
			41° 22′

2799 The page prints no heads over this table; "Reading" and "Value" are this edition's heads. The label stands over two lines, the figures on the second. The value, printed without unit marks, is given as degrees and minutes.

2800

[1] This is not the star that Tycho calls 28, but the little star ω of Virgo. [Non eſt ſtella, quam Tycho 28 vocat, ſed ſtellula ω Virginis.]

Num-ber	Mag-nitude	Between the northern scale-pan of ♎ and	Value
29[1]			41° 51½′
			41° 52¼′
13		Vindemiator [Vindemiatorem]	39° 9′
			39° 9⅙′
30			35° 17½′
			35° 17¾′
31			33° 16′
			33° 15½′
32			28° 45′ twice [bis]
8	6 min.		34° 35′
			34° 36′
19			25° 39′
			25° 40′
18			23° 34′
			23° 33′
15	3	that [star] which is near the vertebra, the navel [Eam quæ eſt iuxta] [vertebram, vmbili-] [cum]	26° 57′
			26° 56¾′
21[2]			21° 54′
			21° 54¾′
34	5		21° 43¾′ twice [bis]
…			15° 51′
			15° 51¾′

[2800] The heads *Num.* and *Mag.*, in smaller bold type, and *Inter borealem lancem* ♎ *&*, in text type over the labels, are the page's; "Value" is this edition's head. *Num.* is given as "Number" and *Mag.* as "Magnitude". The labels stand in the accusative, depending on *Inter … &*, and are given in lower case to continue the head. No magnitude is printed at the stars numbered 1, 2, 4, 3, 11 and 12, and the rows of 29, 28, 11 and 12 carry no label. At the star numbered 7 the magnitude is printed 3 with *mai.* on the line below it, a brace joining the two to both lines of the label; it is given once, on its row; *mai.* is kept abbreviated, and can stand for *maior* or *maioris*, "greater". *cap.* is given as "head" (*capite*). In the label of the star numbered 16, *auſtrali*, printed after the sign, agrees with *ala* and is given with it, "the southern wing of ♍"; *ſiue* is given as "or" and *iſtius* as "this". The values, printed without unit marks, are given as degrees and minutes.

2801

Declinations of the stars in ♍ [Declinationes ſtellarum in ♍]

Number	Star	Instrument	Value
1	Of the northern preceding [star] in the □ of the head of ♍ [Borealis præcedent.] [in □ cap. ♍]		10° 32½′ north [B.]
		with the other [alt.]	10° 33′
2	Of the lower preceding [star] in the □, north [Inferioris præced. in □ B.]		8° 51′ twice [bis]
4	Of the more southern following [star] in the □ [Auſtralioris ſequent.] [in □]		8° 56′ north [B.]
			8° 55¼′
3	Of the upper following [star] in the □ [Superioris ſequent.] [in □]		11° 2½′ north [B.]
			11° 2¾′
5	Of the upper, or first, [star] in the southern wing [Superioris vel primæ] [in auſtrali ala]		4° 6′ north [B.]
			4° 5½′

2802

[2801] These rows stand at the head of the left-hand column with no heading and no heads; they continue the 14 March distances of p. 372, and the heads printed there, *Num.*, *Mag.* and *Inter borealem lancem* ♎ &, are repeated over them as "Number", "Magnitude" and "Between the northern scale-pan of ♎ and"; "Value" is this edition's head. The labels stand in the accusative, depending on *Inter … &*, and are given in lower case to continue the head. The number 29 is printed here, with the footnote cue, and in the same table on p. 372 (magnitude 6, 48° 57′ and 48° 57¾′); given as printed. At the star numbered 8 the magnitude is printed 6 with *min.* on the line below it, a brace joining the two to both lines of the figures; it is given once, on its row; *min.* is kept abbreviated, and can stand for *minor* or *minoris*, "lesser". The label of the star numbered 15 runs over three lines, the figures on the second and third; *iuxta* is given as "near", and *vertebram, vmbilicum*, with the comma as printed, as "the vertebra, the navel"; it can also be read as two places, "near the vertebra [and] the navel". In the last row the number column prints three points in place of a number; given as printed. The rows of the stars numbered 29, 30, 31, 32, 8, 19, 18, 21 and 34 and the last row carry no label; no magnitude is printed at 29, 13, 30, 31, 32, 19, 18, 21 or the last row. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

[2802] The line *Declinationes ſtellarum in* ♍ stands centred above these rows; "Number", "Star", "Instrument" and "Value" are this edition's heads. The labels stand in the genitive. Labels printed over two lines are given whole on their first row. *alt.* stands directly before the second figure of the star numbered 1 and is given as "with the other". At the star numbered 2 *B.* follows the square and stands before the figures, *bis* after them; it is given as "north", with the label; it can also be read with the figures, "8° 51′ north". *præcedent.*, *præced.* and *ſequent.* are given as "preceding" and "following" (*præcedentis*, *ſequentis*); *cap.*, standing directly before the sign, as "the head of ♍" (*capitis*). *vel* is given as "or". □ is kept as printed. *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

On 15 March, A. M. [DIE 15 MARTIJ, A. M.]

Reading	Instrument	Value
At 0^h 50^m 5^s Spica ♍ was passing through the meridian, having altitude [H. 0 50′ 5″ Tranſibat Spica ♍] [per Merid. habens Alt.]		
	by the steel [quadrant] [per Chal.]	25° 7⅝′
	by the revolving [quadrant] [per Volub.]	25° 8′
	by the azimuthal quadrant [per Q. azim.]	25° 7′

2803

Declinations [Declinationes]

Number	Star	Value
6	Of the following[3] brighter [star] in the southern wing [Sequentis[3] lucidioris in] [ala auſtrali]	1° 39½′
		1° 40′ north [B.]
7	Of the third in the southern wing, of magnitude 3, which is the brighter [Tertiæ in auſtrali ala] [3 mag.] [quæ eſt lucidior]	0° 50′
		0° 49′ north [B.]
10	Of the girdle of ♍ [Cinguli ♍]	5° 40½′ north [B.]
		5° 40¾′
13	Of Vindemiator [Vindemiatoris]	13° 13′ north [B.]
		13° 12½′
9	Of the last in the southern wing [Vltimæ in auſtrali] [ala]	3° 20′ south [M.]
		3° 21′
15	Of the navel [Vmbilici]	1° 32′ north [B.]
		1° 32⅙′

2803 The page prints no heads over this table; ”Reading”, ”Instrument” and ”Value” are this edition's heads. The time, printed *H. 0 50′ 5″*, is given as hours, minutes and seconds. *Tranſibat* is given as ”was passing”. The instrument lines stand indented below the reading, each with its figures. The values, printed without unit marks, are given as degrees and minutes.

2804

Distance between the northern scale-pan and [Diſtantia inter borealem lancem &]

Number	Star	Value
25	the southern foot of Virgo [Auſtralem pedem Vir-] [ginis]	14° 45½′
		14° 45¾′
23	the lowest [star] in the train of ♍ [Infimam in Sirmate ♍]	15° 51′
	repeated [Repet.]	15° 51¾′
22	the middle [star] in the hem [Mediam in fimbria]	15° 30½′
		15° 31′
24	the uppermost [star] in the train [Supremam in Sirmate]	14° 12′
		14° 13′
26	the northern foot of ♍ [Borealem pedem ♍]	9° 13′ twice [bis]

2805

Declination [Declinatio]

Number	Star	Value
25	Of the southern foot [Auſtralis pedis]	11° 26½′ south [M.]
		11° 26¼′
23	Of the southern [star] in the hem [Auſtralis in fimbria]	8° 17½′ south [M.]
		8° 17′
22	Of the upper [star] in the hem [Superioris in fimbria]	3° 58′ south [M.]
		3° 57¾′
26	Of the northern foot [Borealis pedis]	3° 45′ south [M.]
		3° 45½′

2804 The line *Declinationes* stands centred above these rows; "Number", "Star" and "Value" are this edition's heads. The rows from the star numbered 10 on stand at the head of the right-hand column, under no heading, in the order of the page. The labels stand in the genitive and are given whole on their first row; the label of the star numbered 7 runs over three lines, *3 mag.* on the second, and its figures stand on the second and third lines. At the stars numbered 6 and 7, *B.* stands before the second figure, on the second line, and is given with it; the first figure carries none. *3 mag.* is given as "of magnitude 3"; *lucidioris* and *lucidior* as "brighter" (comparative kept); *ala auſtrali*, with the adjective after the noun, as "the southern wing". The values, printed without unit marks, are given as degrees and minutes.

2805 The line *Diſtantia inter borealem lancem &* stands above these rows, the width of the column; it names no constellation for the scale-pan. "Number", "Star" and "Value" are this edition's heads. The labels stand in the accusative, depending on *inter … &*, and are given in lower case to continue the line. The label of the star numbered 25 runs over two lines, the figures on the second. *Repet.*, set to the right on the line of the second figure of the star numbered 23, is given as "repeated". *Sirmate* (*syrma*, a trailing robe) is given as "train", and *fimbria* as "hem". *bis* is given as "twice". The values, printed without unit marks, are given as degrees and minutes.

2806

On 8 April, in the evening [DIE 8 APRILIS, VESPERI.]

Number [Num.]	Magnitude [Mag.]	Declination [Declinatio]	Value
29	6	of that [star] which is in the neck of ♍ [Eius quæ eſt in] [collo ♍]	8° 5¾′ north [B.]
			8° 6′
33	6	of that [star] which is in the neck of ♍ [Eius quæ eſt in] [ceruice ♍]	5° 59′ north [B.]
			5° 58′
11	6 mai.	of the uppermost [star] in the northern wing [Supremæ in Bor.] [ala]	12° 34′ north [B.]
			12° 34½′
12	6 min.		9° 58½′ north [B.]
			9° 58′
28	6 min.		9° 4¾′ north [B.]
			9° 5¼′
8	6		2°[4] 28′ south [M.]
30	6		11° 37′ north [B.]
			11° 38′
31	6		7° 40½′ north [B.]
			7° 41′

2807

[1] In codex D the number 2 has been struck through with lines. [In codice D numerus 2 lineis inductus eſt.]

[2] Added later: "[It] is believed [to be] 20." [Poſtea adſcriptum eſt: »Creditur 20«.]

2806 The line *Declinatio* stands centred above these rows; "Number", "Star" and "Value" are this edition's heads. The labels stand in the genitive. The values, printed without unit marks, are given as degrees and minutes.

2807 The heads *Num.* and *Mag.*, in smaller bold type, and *Declinatio*, in text type over the labels, are the page's; "Value" is this edition's head. *Num.* is given as "Number" and *Mag.* as "Magnitude". The labels stand in the genitive and are given in lower case to continue the head. *collo* and *ceruice* are both given as "neck". *Bor.* before *ala* is given as "northern" with the wing (*Boreali*). At the stars numbered 11, 12 and 28 the magnitude is printed 6 with *mai.* or *min.* on the line below it, a brace joining the two to both lines of the row; each is given once, on its row; *mai.* and *min.* are kept abbreviated, and can stand for *maior*, *maioris* ("greater") and *minor*, *minoris* ("lesser"). The rows of the stars numbered 12, 28, 8, 30 and 31 carry no label. The star numbered 8 has a single figure, with the footnote cue after the degrees. The magnitude of the star numbered 33 is printed 6 here and 5 in both tables of p. 372; given as printed. The values, printed without unit marks, are given as degrees and minutes.

[3] [It] ought to be "of the preceding [one] of the four". [Debet eße »Quatuor præcedentis«.]

[4] [It] ought to be 1°. [Debet eße 1⁰.][2808]

Number	Magnitude	Declination	Value
32	6		5° 49′ north [B.]
			5° 50′
34	6		5° 39′ north [B.]
			5° 39½′
27	6		0° 34′ north [B.]
			0° 35′
25	4		11° 23½′ south [M.]
			11° 23′
23	4		8° 17′ south [M.]
			8° 16¾′
22	4		3° 56′ south [M.]
			3° 57′

[2809]

On 23 April [DIE 23 APRILIS.]

Reading	Instrument	Value
Meridian altitude of Spica ♍ [Altitudo Meridiana Spicæ ♍]		
	by the revolving [quadrant] [per Volub.]	25° 7⅔′
	by the steel [quadrant] [per Chalyb.]	25° 7⅚′
	by the new least quadrant [per Quadr. nouum mini-] [mum]	25° 10′

For examining the newly made quadrant, meridian altitude of the navel of ♍ [Pro examinando Quadrante nouiter] [facto, Altit. Merid. Vmbilici ♍]

[2808] In the first footnote *numerus 2 lineis inductus* is given as "the number 2 has been struck through with lines"; it can also be read "the number has been struck through with 2 lines". In the third, *Quatuor præcedentis* is given as "of the preceding [one] of the four".

[2809] These rows stand at the head of the left-hand column of the upper part of the page, with no heading and no heads; they continue the 8 April declinations of p. 373, and the heads printed there, *Num.*, *Mag.* and *Declinatio*, are repeated over them as "Number", "Magnitude" and "Declination"; "Value" is this edition's head. No row carries a label. The declination of the star numbered 25 (11° 23½′, 11° 23′) shares no value with its declination of 15 March on p. 373 (11° 26½′, 11° 26¼′); that of 22 (3° 56′, 3° 57′) shares no value with p. 373 (3° 58′, 3° 57¾′); given as printed. The magnitude of the star numbered 34 is printed 6 here and 5 in the 14 March distances on p. 373; given as printed. The values, printed without unit marks, are given as degrees and minutes.

Instrument	Value
by the revolving [quadrant] [per Volub.]	35° 36⅓′
by the new least [quadrant] [per nouum minimum]	35° 40′

2810

The constellation of Libra, according to our designation [ASTERISMUS LIBRÆ] [SECUNDUM NOSTRAM DESIGNATIONEM.]

Diagram. Below the title, in the middle of the page, a drawing of star marks only, with no outline of a figure. There are 10 rayed star marks, each with a handwritten numeral beside it; no mark without a numeral was found. The mark numbered 1 is a ring with a point at its centre and rays; the mark numbered 7 is a ring with a small stroke inside it.

- Top middle, right of its mark: 4
- Below and to the left of the 4, right of its mark: 3
- Below the 3, set below its mark: 10
- Right part, right of its mark, a z-shaped sort: 2
- Left part, lower, right of its mark: 7
- Middle, right of its mark, roughly level with 8: 5
- Right of a mark right of the 5, its top with a long rising hook: 6
- Right part, below the 2, right of the large ringed mark: 1
- Far left, lower, right of its mark: 8
- Below and to the right of the 8, right of its mark, with a tail turning down to the left: 9[2811]

On 21 March [DIE 21 MARTIJ.] After midnight. [Poſt mediam noctem.]

Reading	Instrument	Value
Between the bright star in the thigh of Ophiuchus and the very small [star] above the southern scale-pan of ♎ [Inter lucidam ſtellam in femore Ophi-] [uchi & paruulam ſupra auſtralem] [lancem ♎]		34° 5′
		34° 6½′
		34° 4′
Between the same [star] and 7 ♎ [Inter [eandem] & 7 ♎]		22° 55½′
		22° 56′
		22° 55′
Between the same [star] and 4 ♎ [Inter [eandem] & 4 ♎]		32° 23′
		32° 23½′

[2810] The page prints no heads over these tables; "Reading", "Instrument" and "Value" are this edition's heads. The instrument lines stand indented below the line they belong to, each with its figures; *per Quadr. nouum minimum* runs over two lines, its figures on the second. The values, printed without unit marks, are given as degrees and minutes.

[2811] The label below the mark under the 3 is a short upright stroke followed by a single open curve that does not close; it is not settled whether it is a 10.

Reading	Instrument	Value
Declination of the northern scale-pan of ♎ [Decl. Bor. lancis ♎]		7° 47⅔′ south [M.]
	with the other pinnule [alt. pin.]	7° 47¾′
Declination of 10 ♎ [Decl. 10 ♎]		8° 47⅓′ south [M.]
		8° 46⅚′
Declination of 4 ♎ [Decl. 4 ♎]		6° 48½′
		6° 49′

2812

On 30 March, in the morning [DIE 30 MARTIJ, MANE.]

Magnitude [Mag.]	Between the left knee of Ophiuchus and [Inter ſiniſtr. genu Ophiuchi &]	Value
5 min.	the very small [star] above the southern scale-pan of ♎ [Paruulam ſupra auſtra-] [lem lancem ♎]	26° 33⅔′
	repeated [repet.]	26° 33′
5 min.	6 ♎	22° 40′
		22° 39⅚′
6 min.	9 ♎	16° 45⅔′
		16° 46′
5	7 ♎	15° 35½′
		15° 36′
6	8 ♎	13° 51½′
		13° 52′
	5 ♎	19° 10′

[2812] The page prints no heads over this table; ”Reading”, ”Instrument” and ”Value” are this edition's heads. The first label runs over three lines, the first figure on the third. In the second and third labels *eandem*, ”the same”, is printed within square brackets by the edition. *M.* stands to the right, before the first figure of the declinations of the northern scale-pan and of 10 ♎, and is given with that figure as ”south”; *alt. pin.* stands before the second figure of the northern scale-pan and is given as ”with the other pinnule”. No direction is printed at the declination of 4 ♎. *paruulam* is given as ”the very small [star]”. The values, printed without unit marks, are given as degrees and minutes.

2813

[It] is faint; therefore, observed four or five times, it could not be observed better. [Obſcura eſt, igitur quater vel quin-] [quies obſeruata, melius obſeruari non] [potuit.]

Reading	Value
Meridian altitude of 7 ♎ by the revolving [quadrant] [Alt. Merid. 7 ♎ per Volub.]	20° 45⅔′

2814

These stars were at this time about the meridian. [Hæ ſtellæ erant hoc tempore circa] [Meridianum.]

Reading	Value
Declination of 2 ♎ [Declin. 2 ♎]	12° 34⅓′
	12° 35′
Declination of 6 ♎ [Declin. 6 ♎]	14° 38⅓′
	14° 38′
Declination of 5 ♎ [Declin. 5 ♎]	13° 55′
	13° 50′

2815

[It] was too faint, and therefore could not be observed better. [Erat nimis obſcura & propterea] [melius obſeruari non poterat.]

Reading	Value
Declination of 7 ♎ [Declin. 7 ♎]	13° 20⅓′
	13° 19½′

2813 The head *Mag.*, in smaller type, and *Inter ſiniſtr. genu Ophiuchi &*, in text type over the labels, are the page's; "Value" is this edition's head. *Mag.* is given as "Magnitude", and *ſiniſtr.* as "left" (*ſiniſtrum*). The labels stand in the accusative, depending on *Inter … &*; the labels 6 ♎, 9 ♎, 7 ♎, 8 ♎ and 5 ♎ are printed as a number and the sign, and are given as printed. At the first three rows the magnitude is printed with *min.* on the line below it, a brace joining the two to both lines of the row; each is given once, on its row; *min.* is kept abbreviated, and can stand for *minor* or *minoris*, "lesser". *repet.*, set to the right on the line of the second figure of the first row, is given as "repeated". No magnitude is printed at 5 ♎. The values, printed without unit marks, are given as degrees and minutes.

2814 *Obſcura* is given as "faint"; it can also be rendered "dim". The page does not say which star the remark concerns; it stands below the row of 5 ♎. "Reading" and "Value" are this edition's heads. The value, printed without unit marks, is given as degrees and minutes.

2815 The page prints no heads over this table; "Reading" and "Value" are this edition's heads. No direction is printed at any of these declinations. The two figures of 5 ♎ (13° 55′, 13° 50′) differ by 5′; given as printed. The values, printed without unit marks, are given as degrees and minutes.

2816

On 6 May, at night [DIE 6 MAIJ, NOCTU.]

Reading	Value
Between Spica and the southern scale-pan of ♎ [Inter Spicam & auſtralem] [lancem ♎]	21° 23′
The same distance repeated [Eadem diſtantia repetita]	21° 22½′
	21° 22′
Between Spica and the northern scale-pan of ♎ [Inter Spicam & Borealem] [lancem ♎]	27° 31′ 50″ twice [bis]
The same distance repeated [Eadem diſt. repetita]	27° 32′ 30″

2817

The constellation of Scorpius, namely of those stars which are seen above our horizon [ASTERISMUS SCORPIJ,] [EARUM VIDELICET STELLARUM, QUÆ SUPRA NOSTRUM] [FINITOREM CONSPICIUNTUR.]

Diagram. Below the title, in the middle of the page, a drawing of star marks only, with no outline of a figure and no other writing. There are 12 rayed star marks, each with a handwritten numeral to its right. The highest mark (22), the largest mark (1) and the mark numbered 8 are each a ring with a point at its centre; the mark numbered 5 has a small hooked stroke inside its ring; the mark numbered 7 is small, with a stroke inside, and the mark numbered 10 is a ring with a stroke inside; the mark numbered 11 is a small six-rayed star with no ring.

- Top, left of the middle of the drawing, the highest mark: 22
- Below the 22, slightly to the right: 5
- Below and to the right of the 5, the largest mark: 1
- Below the 1: 6
- Below and to the right of the 6, a single flattened z-shaped sort: 2
- Below the 2, slightly to the right: 3
- Lower left, a small mark: 7
- Below and to the left of the 7: 8
- Right part, roughly level with the 8: 4
- Far left, below the 8, with a point to the right of the numeral: 9

2816 The page does not say which star the remark concerns; it stands below the row of 5 ♎. *Obſcura* is given as "faint", as on p. 374; it can also be rendered "dim". "Reading" and "Value" are this edition's heads. No direction is printed. The values, printed without unit marks, are given as degrees and minutes.

2817 The page prints no heads over this table; "Reading" and "Value" are this edition's heads. Each of the two first labels runs over two lines, its figures on the second. The values of the first three rows, printed without unit marks, are given as degrees and minutes; those of the last two rows are printed as three figure groups without unit marks and are given as degrees, minutes and seconds.

- Middle, roughly level with the 9: 10
- Below and between the 9 and the 10, the lowest mark: 11[2818]

On 31 March [DIE 31 MARTIJ.]

Reading	Instrument	Value
Declination of 4 ♏ [Declinatio 4 ♏]		27° 49½′
	with the other pinnule [altero pinnacidio]	27° 48⅔′
Meridian altitude of Cor ♏ by the revolving quadrant [Altitudo meridiana Cordis ♏ per Q. Volub.]		8° 45′
Declination of 10 ♏ [Declinatio 10 ♏]		26° 43′
	with the other pinnule [altero pinnacidio]	26° 42⅔′

2819

The constellation of Sagittarius [ASTERISMUS SAGITTARIJ.]

On 25 July, in the evening [DIE 25 JULIJ, VESPERI.] When [they] were first observed, the altitude of the 4th [star] was about 6¼°. [Cum obſeruarentur primum, fuit 4tæ] [Altitudo circiter 6¼ Grad.]

Number of the image [Num.] [Imag.]	Magnitude [Mag.]	Is distant from the lower [star] in the following horn of ♉ [Diſtat ab inferiori in] [ſequenti cornu ♉]	Value
4	5	[The star] which is in the bow of ♐ [Quæ eſt in arcu ♐]	28° 30¾′
			28° 31′
7	5 min.	The following [star] in the arrow [Sequens in ſagitta]	25° 19¼′
			25° 19′
6	4	[The star] which is in the left shoulder [Quæ eſt in humero] [ſiniſtro]	23° 1½′
			23° 1⅔′
21	6	[The star] which is in the shoulder-blade [Quæ eſt in ſcapula]	21° 22′
			21° 22⅙′
8	6	[The star] which is in the forehead of ♐ [Quæ eſt in fronte ♐]	22° 1′
			22° 1⅔′
9	4	The prior [star] in the head of ♐ [Prior in capite ♐]	20° 44′
			20° 44¾′

[2818] The label of the mark below and to the right of the 6 is a single flattened z-shaped sort of the same shape as the second sort of the label 22; it is given as 2.

[2819] The page prints no heads over this table; "Reading", "Instrument" and "Value" are this edition's heads. Each declination is printed on one line: the label, the first figures followed by a comma, then *altero pinnacidio* and the second figures. No direction is printed at either declination. *Cordis* ♏ is given as "of Cor ♏", the Latin "heart of ♏". The values, printed without unit marks, are given as degrees and minutes.

Number of the image [Num.] [Imag.]	Magnitude [Mag.]	Is distant from the lower [star] in the following horn of ♉ [Diſtat ab inferiori in] [ſequenti cornu ♉]	Value
10	5	The middle [star] in the head of ♐ [Media in capite ♐]	19° 23¼′
			19° 23½′
11	4	The third and last [star] in the head of ♐ [Tertia & vltima in] [capite ♐]	18° 2′ twice [bis]
12	6	In the northern contact, the more southern of the three [In Boreo contactu] [trium auſtralior]	16° 44′
			16° 45′
13	4	The middle [star] in the contact [Media in contactu]	14° 34′
			14° 34¾′
14	5	The following [star] in the contact [Sequens in con-] [tactu]	14° 20½′
			14° 21′

2820

On 27 July, in the evening [DIE 27 JULIJ, VESPERI.]

Number [Num.]	Magnitude [Mag.]	South declination [Declinatio merid.]	Value	Add for refract. [Adde] [pro] [Refract.]
4	5 mai.	number 4 in ♐ [4 num. in ♐]	25° 25⅔′	
			25° 26½′	
6	4	Of its bright [star] in the shoulder [Lucidæ eius] [in humero]	26° 35½′	
			26° 35⅙′	
7	5 min.	Of the following [star] in the arrow [Sequentis in] [Sagitta]	27° 8′ 9′	
9	4	Of the first [star] in the head [Primæ in] [capite]	21° 30′ 8¼′	
			21° 29½′	
10	5	Of the middle [star] in the head [Mediæ in] [capite]	22° 10⅛′	
			22° 10¾′	
11	4	Of the last [star] in the head [Vltimæ in] [capite]	21° 32⅔′	

[2820] The heads *Num. / Imag.* (over two lines), *Mag.* and *Diſtat ab inferiori in ſequenti cornu* ♉ (over two lines, over the labels) are the page's; "Value" is this edition's head. *Num. Imag.* is given as "Number of the image" (*imaginis*); it can also stand for *numerus in imagine*, "number in the image". *Diſtat*, "is distant", is singular: each label is its subject. The label of the star numbered 11 runs over two lines, its one figure on the second, with *bis*. The last row (the star numbered 14) stands at the head of the right-hand column, before the next date. At the star numbered 7 the magnitude is printed with *min.* on the line below it, a brace joining the two to both lines of the row; it is given once, on its row; *min.* is kept abbreviated, and can stand for *minor* or *minoris*, "lesser". *contactus* is given literally as "contact"; the page does not say what it is. *auſtralior* is a comparative, "more southern". The values, printed without unit marks, are given as degrees and minutes.

Number [Num.]	Magnitude [Mag.]	South declination [Declinatio merid.]	Value	Add for refract. [Adde] [pro] [Refract.]
			21° 32¾′	
13	4	Of the middle [star] in the contact [Mediæ in] [contactu]	18° 30′ 8′	
			18° 29½′	

2821

N. B. When these declinations were being observed, the stars were very low, so much so that the one which was then nearest the horizon had an altitude of about 4°. [N. B. Cum hæ declinationes obſer-] [uarentur, erant ſtellæ admodum de-] [cliues, adeo vt quæ tum Horizonti] [proxima erat, haberet Altitudinem] [circiter 4 graduum.]

The constellation of Capricornus [ASTERISMUS CAPRICORNI.]

On 1 August, in the evening [DIE 1 AUGUSTI, VESPERI.]

Number of the diagram [Num.] [Schem.]	Magnitude [Mag.]	Between the first [star] of the wing of Pegasus and [Inter primam alæ Pegaſi &]	Value
2	5 min.	the middle [star] in the horn of ♑ [Mediam in] [cornu ♑]	49° 16′
			49° 16¼′
7	6	the more eastern of the three in the head of ♑ [Orientaliorem] [trium in capite ♑]	50° 40′
			50° 40¾′
19	5	the more forward of the two in the back of ♑ [Anteriorem dua-] [rum in dorſo ♑]	43° 38⅓′
			43° 38⅚′
20	5	the following [star] in the back of ♑ [Sequentem in] [dorſo ♑]	40° 48⅔′
			40° 48′
23[1]	4	the preceding [one] of the two in the lead-out of the tail [Duarum in educti-] [one caudæ præce-] [dentem]	38° 3′
			38° 3¾′

[2821] The heads *Num.*, *Mag.*, *Declinatio merid.* (over the labels) and *Adde / pro / Refract.* (over three lines, over the last column) are the page's; "Value" is this edition's head. *merid.* after *Declinatio* is given as "south". A vertical rule divides the figures from the last column. In the last column the first figure is printed *9′*, with a minute mark; the others are printed bare and are given as minutes by that mark. At the stars numbered 4 and 7 the magnitude is printed with *mai.* / *min.* on the line below it, a brace joining the two to both lines of the row; each is given once, on its row; *mai.* and *min.* are kept abbreviated (*maior* / *minor*, "greater" / "lesser", or their genitives). The labels stand in the genitive, depending on *Declinatio*; *4 num.* can stand for *numeri*, "of number 4", or *numero*, "by number 4", and is given as "number 4". *eius*, "its", is given as printed; the page does not name its referent. *Sagitta* is printed here with a capital S and in the 25 July table with a small ſ; both are given as "the arrow". The label of the star numbered 7 runs over two lines; its one figure and its last-column figure stand on the second. The values of the fourth column, printed without unit marks, are given as degrees and minutes.

2822

Declinations of the same [stars], south [Declinationes earundem Auſtr.]

Num-ber	Magni-tude	Star	Value
2	5	Of the middle [star] in the horn of ♉ [Mediæ in cornu ♉]	13° 45½′
		with the other [alt.]	13° 45′
7	6	Of the southern [star] of the three in the head [Trium in capite] [Auſtralis]	19° 4′
			19° 5′
19	6	Of the preceding [one] of the two in the back [Præced. duarum] [in dorſo]	18° 45¼′
			18° 46′
20	6	Of the following [one] of the same in the back [Sequentis earun-] [dem in dorſo]	18° 29½′
			18° 28⅚′
23	4	Of the preceding [one] of the two in the tail [Præcedentis dua-] [rum in cauda]	18° 24′
			18° 23¼′
24	4	Of the following [one] of the same [Sequentis earun-] [dem]	17° 50½′
			17° 51¼′

2823

On 18 September, in the evening [DIE 18 SEPTEMBRIS, VESPERI.]

Reading	Value
Between the bright [star] in the right shoulder of Ophiuchus and the second [star] of ♉ [Inter lucidam in dextro] [humero Ophiuchi & ſe-] [cundam ♉]	42° 41′

2822 The heads *Num. / Schem.* (over two lines), *Mag.* and *Inter primam alæ Pegaſi &* (over the labels) are the page's; "Value" is this edition's head. *Num. Schem.* is given as "Number of the diagram" (*ſchematis*); it can also stand for *numerus in ſchemate*, "number in the diagram". The labels stand in the accusative, depending on *Inter … &*. At the star numbered 2 the magnitude is printed with *min.* on the line below it, a brace joining the two to both lines of the row; it is given once, on its row. The label of the star numbered 23 runs over three lines, its figures on the second and third; the number carries the edition's footnote cue 1. *Anteriorem* and *Orientaliorem* are comparatives, "more forward" and "more eastern". *eductione caudæ* is given as "lead-out of the tail". The values, printed without unit marks, are given as degrees and minutes.

2823 The page prints no heads over these rows; they stand in the columns of the 1 August table, and "Number", "Magnitude", "Star" and "Value" are this edition's heads. The rows of the stars numbered 2 and 7 stand at the foot of the left-hand column; those of 19, 20, 23 and 24 at the head of the right-hand column. *alt.* stands to the right, before the second figure of the star numbered 2, and is given as "with the other". *Auſtralis* stands on the second line of the label of the star numbered 7 and is given with the label, "the southern of the three"; it can also be read as the direction of that declination, "south", which the line above already gives for all these rows. *Præced.* is expanded as *Præcedentis*, the form the page prints two rows below. The magnitudes of the stars numbered 19 and 20 are printed 6 here and 5 in the 1 August distances above; given as printed. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
	42° 42′
Between the bright [star] in the right shoulder of Ophiuchus and the nineteenth [star] of ♑ [Inter luc. in dext. hum. Oph.] [& decimam nonam ♑]	54° 37⅝′
	54° 37¾′
Between the upper [star] in the horn of ♑ and its twentieth [star] [Inter ſuperiorem in cornu ♑] [& viceſimam eius]	16° 6′
	16° 6¾′

2824

[1] This number has been struck through with lines. [Hic numerus lineis inductus eſt.]

Reading	Value
Between the upper [star] in the horn of ♑ and its 23 [Inter ſuper. in cornu ♑] [& 23 eius]	20° 15½′
	20° 16′
Between the upper [star] in the horn of ♑ and the bright [star] of its tail [Inter ſuperiorem in] [cornu ♑ & lucidam] [caudæ eius]	21° 50′
	21° 50⅓′
	21° 49¾′

2825

On 19 September, in the evening [DIE 19 SEPTEMBRIS, VESPERI.]

Reading	Value
Between the first [star] of the wing of Pegasus and 7 of ♑ [Inter primam alæ Pegaſi] [& 7 ♑]	50° 41′

2824 The page prints no heads over this table; "Reading" and "Value" are this edition's heads. The first label runs over three lines, its figures on the second and third; the second and third labels run over two lines, each line with its own figures. *luc. in dext. hum. Oph.* is expanded after the full form the page prints in the first label. *ſecundam*, *decimam nonam* and *viceſimam* are ordinals, given as "the second", "the nineteenth" and "the twentieth", the noun star understood; *eius*, "its", is given as printed. The values, printed without unit marks, are given as degrees and minutes.

2825 These rows stand at the head of the left-hand column of p. 377; the page prints no date heading before them, and the last date heading, on p. 376, is 18 September. The heads "Reading" and "Value" are repeated from the 18 September table of p. 376; they are this edition's heads, not the page's. The first label runs over two lines and the second over three, each line with its own figures. *ſuper.* is expanded as *ſuperiorem*, the form the page prints in the next label. *eius*, "its", is given as printed; the page does not name its referent. The values, printed without unit marks, are given as degrees and minutes.

2826

On 27 September, in the evening [DIE 27 SEPTEMBRIS, VESPERI.]

Reading	Value
Between the lower [star] in the left horn of ♉ and number 14 of the same [Inter inferiorem in ſiniſtro] [cornu ♉ & 14 num. eiusd.]	17° 20′
	17° 19⅓′
The altitude of 14 was then [Erat tunc Altit. 14]	9⅔°
The altitude of number 15 was [Num. 15 erat altit.]	10½°

2827

On 28 September, in the evening [DIE 28 SEPTEMBRIS, VESPERI.]

Number	Between 1 of the wing of Pegasus and [Inter 1 alæ Pegaſi &]	Between 1 of the wing of Pegasus and [Inter 1 alæ Pegaſi &]	Altitude [Altit.]
11 ♉	52° 34⅚′	52° 35¼′	12° 0′
14	44° 34¾′	44° 35′	13° 0′
15	43° 48′	43° 49′	15⅙°
21	40° 47′	40° 47¾′	15⅚°
22	39° 35¾′	39° 36′	
19	43° 40¾′	43° 41¼′	
18	45° 47′	45° 48′	
20	40° 46′	40° 46½′	

2828

[2826] The page prints no heads over this table; "Reading" and "Value" are this edition's heads. The label runs over two lines, its one figure group on the second. The value, printed without unit marks, is given as degrees and minutes. On p. 376, on 1 August, the distance between the first [star] of the wing of Pegasus and the star numbered 7 is printed 50 40 and 50 40¾; the value here, 50 41, agrees with neither; given as printed.

[2827] The page prints no heads over this table; "Reading" and "Value" are this edition's heads. The first label runs over two lines, each with its own figures. *14 num.* is given as "number 14" and *eiusd.* (*eiusdem*) as "of the same". The figure of the altitude of 14 is printed with a degree mark; that of number 15, printed bare, is given as degrees on the strength of that mark. The first two values, printed without unit marks, are given as degrees and minutes.

[2828] The head *Inter 1 alæ Pegaſi &* is printed once, beginning above the sign in the first row and running over the first value column to the start of the second; it is repeated here over both value columns. *Altit.*, in smaller type over the last column, is the page's head; "Number" is this edition's head. The sign ♉ is printed in the first row only, after the number 11. In the Altitude column the figures of the rows numbered 11 and 14 are pairs, given as degrees and minutes; those of 15 and 21 are single figures with fractions, given as degrees. The other values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page. On p. 376, on 1 August, the distances between the first [star] of the wing of Pegasus (*primam alæ Pegaſi*) and the stars numbered 19 and 20 are printed 43 38⅓ and 43 38⅚, and 40 48⅔ and 40 48; the values here for 19 (43 40¾, 43 41¼) and for 20 (40 46, 40 46½) share no value with them; given as printed.

On 30 October, in the evening [DIE 30 OCTOBRIS, VESPERI.]

Number [Num.]	Magnitude [Mag.]	Declination [Declinatio]	Value
21	5		21° 10¼′
		with the other [altero]	21° 10′
		The preceding [star] of the three in the right hand of ♒ was then in the meridian. [Erat tunc præcedens trium in dex-] [tra manu ♒ in Meridiano.]	
15	6		23° 27′
			23° 28′
14	5		24° 2½′
			24° 3′
18	5		21° 25′
			21° 24¾′
		Its altitude, when it was observed, was 11°. [Erat altit. eius cum obſeruaretur 11 g.]	
22	5		20° 38′
			20° 39′
28	6	Of the uppermost [star] in the tail of ♍ [Supremæ in] [cauda ♍]	10° 51½′
			10° 51¾′
25	neb.	Of the next lower [star] [Proximæ inferioris]	13° 11½′
			13° 10′
27	neb.	27 in the tail of ♍ [27 in cauda ♍]	17° 12½′
		Either the numbering or the declination is wrong. [Aut numeratio aut declinatio falſa] [eſt.]	
26		Declination of 26 in the tail [Declin. 26 in cauda]	15° 32¼′
			15° 31′
28		Between the upper [star] of the horn of ♍ and 28 of ♍ [Inter ſuper. cornu ♍] [& 28 ♍]	21° 38½′
		repeated [Repet.]	21° 39⅓′
26		Between the upper [star] of the horn of ♍ and 26 of ♍ [Inter ſuper. cornu ♍] [& 26 ♍]	23° 15′
			23° 15¼′

2829

On 20 November, in the evening [DIE 20 NOUEMBRIS, VESPERI.]

Number	Magnitude	Reading	Value
27	6 min.	Between 2 of ♓, southern, and 27 of ♍ [Inter 2 ♓ auſt.] [& 27 ♍]	26° 41¾′ 26° 42½′
28	6 min.	Between 2 of ♓, southern, and 28 of ♍ [Inter 2 ♓ auſt.] [& 28 ♍]	25° 58′ 25° 58⅔′

2830

The remaining two are dim and therefore cannot be observed. [Reliquæ duæ obſcuræ ſunt ideoque] [inobſeruabiles.]

The constellation of Aquarius, according to our designation [ASTERISMUS AQUARIJ] [SECUNDUM NOSTRAM DENOTATIONEM.]

On 3 January, in the evening [DIE 3 IANUARIJ, VESPERI.]

Reading	Value
Distance between the middle [star] of the right hand of ♒ and the back of the head of ♓ [Diſtantia inter mediam] [dextræ manus ♒] [& occiput ♓]	12° 24′

2829 The heads *Num.* and *Mag.* (in smaller type) and *Declinatio* (over the labels) are the page's; "Value" is this edition's head. The table begins at the foot of the left-hand column, with the star numbered 21, and runs on at the head of the right-hand column under no heads. At the star numbered 21, *altero* stands to the left of the second figure and is given as "with the other". Three remarks stand among the rows, set across the label space without number or magnitude: *Erat tunc præcedens …* (over two lines), *Erat altit. eius …*, whose *11 g.* stands at the line end over the figures and is given as "11°", and *Aut numeratio …* (over two lines); they are given where the page prints them. *eius*, "its", is given as printed; the page does not name its referent. *neb.*, in the magnitude column at the stars numbered 25 and 27, is kept abbreviated; it can stand for *nebuloſa*, "nebulous". The labels of the rows numbered 28 (*Supremæ*) and 25 stand in the genitive, depending on *Declinatio*; the last two rows are labelled *Inter …*, "between …", and have no magnitude. *ſuper.* is expanded as *ſuperiorem*, printed in full in the second label of this page; *ſuper. cornu*, without *in*, is given as "of the horn". *Repet.* stands on the second line of the row of *Inter ſuper. cornu* ♍ *& 28* ♍, before its second figure. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2830 The page prints no heads over this table; "Number", "Magnitude", "Reading" and "Value" are this edition's heads. At each row the magnitude 6 is printed with *min.* on the line below it, a brace joining the two to both lines of the row; each is given once, on its row; *min.* is kept abbreviated, and can stand for *minor* or *minoris*, "lesser". *auſt.* stands after the sign ♓ and is given in its printed place, as "southern"; it can qualify the star numbered 2 ("the southern 2 of ♓") or the sign ("2 of the southern ♓"). Each label runs over two lines, each line with its own figures. The values, printed without unit marks, are given as degrees and minutes. The star numbered 27 has the magnitude 6 *min.* here and *neb.* in the 30 October table above; given as printed.

Reading	Value
	12° 24½′

2831

On 8 January, in the evening [DIE 8 JANUARIJ, VESPERI.]

Reading	Value
Between the far end of the wing of Pegasus and the preceding [star] of the three in the urn of ♒ [Inter extremam alæ Pegaſi &] [præced. trium in vrna ♒]	32° 8¾′
	32° 8′
Between the far end of the wing of Pegasus and the middle [star] in the urn of ♒ [Inter extr. alæ Peg. & me-] [diam in vrna ♒]	29° 53′
	29° 53½′
Between the far end of the wing of Pegasus and 3 of ♒ [Inter extr. alæ Pegaſi &] [3 ♒]	28° 33¼′
	28° 33′
Declination of the preceding [star] of the three in the urn of ♒ [Declin. præced. trium in] [vrna ♒]	3° 21′
	with the other [altero] 3° 20½′
Declination of the middle [star] in the urn of ♒ [Declin. mediæ in vrna ♒]	2° 2′
	2° 1⅔′

2832

N. B. These stars in the hand of ♒ were taken when they were lower toward the horizon (at an altitude of about 5 or 4°)[1]. [N. B. Hæ ſtellæ in manu ♒ accipie-] [bantur cum erant decliuiores verſus] [horizontem(in altitudine circiter 5 vel] [4 grad.)[1].]

[1] The words enclosed here in brackets have been struck through with lines. [Verba hic uncis inclusa lineis inducta ſunt.]

Diagram. Across the upper part of the page, a drawing of 42 rayed star marks, each with a handwritten numeral beside it, and no outline of a figure, no caption and no other writing. Most marks are rayed stars with a pale centre; the lowest mark, numbered 42, is larger than the others and is drawn as a ring with

2831 The page prints no heads over this table; "Reading" and "Value" are this edition's heads. The label runs over three lines, its figures on the second and third. The values, printed without unit marks, are given as degrees and minutes.

2832 The page prints no heads over this table; "Reading" and "Value" are this edition's heads. The first two rows stand in the left-hand column of the lower block; the rest at the head of the right-hand column, under no date heading. Each label of two lines carries figures on each line; the last label stands on one line, its second figures on the line below. *præced.* is expanded as *præcedentem/præcedentis* (the page prints *præcedens* in full above); *extr.* and *Peg.* are expanded as *extremam* and *Pegaſi*, printed in full in the first label. *altero* stands on the second line of the first declination, to the left of the second figure, and is given as "with the other". The values, printed without unit marks, are given as degrees and minutes; the page gives the declinations no direction.

rays. Four small points stand in the drawing: below and left of the numeral 30, after the numeral 18, after the numeral 38, and left of the lowest mark of the cluster described below. Three numerals in that cluster are drawn turned; on a native-resolution crop they read 33, 34 and 35, the 33 beside the upper mark of the cluster; which of the two lower marks carries the 34 and which the 35 is not settled.

- Top, right of the middle, the highest mark: 1
- Upper group, left part, numeral to the left of the mark: 12
- Right of the 12 and slightly higher: 10
- Above and right of the 10, numeral upper right: 2
- Just below and right of the 2: 3
- Below the 10, numeral below the mark: 11
- Right of the 11, level with it, its numeral to the right and low: 9
- Right of the middle, one above the other: 4 (upper), 5 (lower)
- Far right, a pair of marks close together: 8 (upper right, numeral raised), 7 (lower left, numeral below right)
- Below the 7: 6
- Below the 12: 23
- Left of the 23 and lower: 24
- Left of the 24 and lower, numeral above right: 26
- A pair of marks side by side, right of the 23, numeral 14 left of the pair and 13 right of it: 14, 13
- Right of the 13 and lower: 17
- Lower left, below the 26, numeral below left: 27
- Right of the 27, level with it: 25
- Below the 14: 15
- Right of the 15, level with it, below the 17: 16
- Three marks close together in a short row rising to the right, below the 27: 28 (right, numeral below right), 29 (middle, numeral below), 30 (left, numeral below left)
- Below the 15: 19
- Right of the 19, numeral above right: 20
- Below the 19, a point after the numeral: 18
- Right of the 18, slightly lower: 22
- Below the 22: 21
- A pair of marks side by side below the row 28–30, numeral 32 left of the pair and 31 right of it: 32, 31
- A cluster of three marks below that pair, numerals turned: above left, beside the upper mark, 33; right 34; below 35
- Right of the cluster, one above the other: 36, 37; below left of them, its numeral below the mark with a point after it: 38
- Three marks in a line descending to the right, right of the 38, numerals above right: 39, 40, 41

- Lowest, right of and below the 41, the larger ringed mark, numeral above right: 42

Reading	Value
Declination of the third [star] in the hand of ♒ [Declin. tertiæ in manu ♒]	2° 9⅔′ 2° 9¾′

2833

I think that these stars were very low when they were observed. [*Puto quod fuerint admodum decli-*] [*ues hæ ſtellæ cum obſeruarentur.*]

On 4 September, in the evening [DIE 4 SEPTEMBRIS, VESPERI.]

Number [Num.]	Magnitude [Mag.]	Reading	Value
10	5	Declination of the uppermost [star] in the urn of ♒, which is number 10 [Declin. ſupremæ in vrna ♒] [quæ eſt num. 10]	
		south [Auſt.]	0° 39′
		with both [vtroq.]	
	6	Meridian altitude of the head of ♒ by the steel [quadrant] [Alt. mer. capitis ♒] [per Chal.]	34° 31¼′
		Declination of the same by the armillae [Decl. eiusdem] [per Armill.]	0° 27⅙′
		with the other [altero]	0° 28′
9	5 mai.	Declination of the preceding [star] in the urn of ♒, or in the right elbow, [Declin. præcedentis] [in vrna ♒ ſiue in dex-] [tro cubito,]	south [A.] 3° 23½′ with both [vtr.]
11	5	Of the following and the middle [star] in the urn [Sequentis &] [mediæ in vrna]	2° 4⅔′ south [A.]
			2° 4⅚′
12	5	Of the last [star] of the three toward the east [Vltimæ trium ad] [ortum]	2° 11⅓′ south [A.]
		better [melior]	2° 12′
19		Between the bright [star] of the Vulture and the right elbow of ♒ [Inter lucidam Vultu-] [ris & dext. cubitum] [♒]	38° 59¾′
			39° 0⅙′
11		Between the bright [star] of the Vulture and the middle [star] in the urn of ♒ [Inter luc. Vult. &] [mediam in vrna ♒]	40° 21½′ twice [bis]
12		Between the bright [star] of the Vulture and the last [star] of the three in the urn [Inter luc. Vult. &] [vltimam trium in] [vrna]	41° 59¾′
			42° 0′

2833 This row stands at the head of the left-hand column, below the drawing, under no date heading; the last date heading, on p. 377, is 8 January. The page prints no heads over it; "Reading" and "Value" are this edition's heads. The values, printed without unit marks, are given as degrees and minutes; the page gives the declination no direction.

2834

N. B. When these stars were observed, they were around the meridian, at the greatest altitude, so that refraction brings in no hindrance. Afterwards, clouds. [N. B. Cum obſeruarentur hæ ſtellæ,] [fuerunt circa Merid. in maxima alt.,] [ita vt refractio nihil ingerat obſtaculi.] [Poſtea nubes.]

On 15 September [DIE 15 SEPTEMBRIS.]

Num-ber	Between the first [star] of the wing of Pegasus and [Inter primam alæ Pegaſi &]	Value
8	the bright [star] in the preceding hand of ♒ [Lucidam in manu præ-] [cedenti ♒]	41° 59½′ twice [bis]
4	the left shoulder of ♒ [Siniſtrum humerum ♒]	31° 3′ 31° 3½′

2835

2834 The heads *Num.* and *Mag.* (in smaller type) are the page's; "Reading" and "Value" are this edition's heads; the page prints no head over the labels or the figures. The table begins in the left-hand column and runs on at the head of the right-hand column, from the row of the star numbered 12 (*Vltimæ trium ad ortum*), under no heads. In the first row, the label runs over two lines with no figures; *Auſt.*, "south", stands on the line below, to the right, before the figures, and *vtroq.*, "with both", stands on a line of its own under those figures; each is given on its own line. In the row of *Alt. mer. capitis* ♒ the figure 6 stands in the magnitude column, the number column being empty; given where it is printed. *A.*, given as "south", stands before the figures of the star numbered 9 and after the first figures of the stars numbered 11 and 12; *vtr.* after the figures of the star numbered 9 is given as "with both", and *altero* and *melior* stand to the left of their figures. At the star numbered 9 the magnitude 5 is printed with *mai.* below it, a brace joining them to the three lines of the label; it is given once, on its row; *mai.* is kept abbreviated (*maior* or *maioris*, "greater"). *Sequentis & mediæ in vrna* can name two stars, the following one and the middle one, each with the figures on its own line, or one star; the page prints the one number 11. *dext.* is expanded as *dextro/dextrum*, printed in full in the label of the star numbered 9; *luc. Vult.* as *lucidam Vulturis*, printed in full in the row of the star numbered 19. *Alt. mer.* is given as "Meridian altitude" and *per Chal.* as "by the steel [quadrant]". In the row of the star numbered 19 the label runs over three lines, the sign ♒ standing alone at the start of the third, before the second figures. On p. 377 the declination of the preceding [star] of the three in the urn of ♒ (8 January) is printed 3 21 and 3 20½, and that of the middle [star] in the urn of ♒ 2 2 and 2 1⅔; the declination of the preceding [star] in the urn here (3 23½) and the figures of the row of the star numbered 11 (2 4⅔, 2 4⅚) share no value with them; the page does not say whether the same stars are meant; given as printed. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2835 The line *Inter primam alæ Pegaſi &* is printed once, indented, over the labels of both rows, and is given as the head of the label column; "Number" and "Value" are this edition's heads. The date heading names no time of day. The label of the star numbered 8 runs over two lines, its figures on the second, with *bis*, "twice". *præcedenti*, after *manu* and agreeing with it, qualifies the hand: "the preceding hand". The values, printed without unit marks, are given as degrees and minutes.

Num-ber	Between the far end of the wing of Pegasus and [Inter extremam alæ Pegaſi &]	Value
2	the right shoulder of ♒ [Dextrum humerum ♒]	35° 5′
		35° 5½′
9	the preceding [star] in the urn of ♒ [Præcedentem in vrna ♒]	32° 10½′
		32° 11⅓′
	Set [Pone]	32° 10⅚′
11	the middle [star] in the urn of ♒ [Mediam in vrna ♒]	29° 52′
		29° 52⅙′
	Set [Pone]	29° 52⅔′[1]
12	the last [star] of the three in the urn of ♒ [Vltimam trium] [in vrna ♒]	28° 37′
		28° 36¾′
	Set [Pone]	28° 36′[1]
10	the tenth [star] of ♒ [Decimam ♒]	30° 0′
		30° 0½′

2836

On 3 October, in the evening [DIE 3 OCTOBRIS, VESPERI.]

Number [Num.]	Magni-tude [Mag.]	Between the lower horn of ♉ and [Inter inferius cornu ♉ &]	Value
6	6	6 in the left hand of ♒ [6 in ſiniſtra] [manu ♒]	12° 18′
			12° 19′
5	5 mai.	the star in the left armpit of ♒ [Stellam in ſiniſtra] [axilla ♒]	20° 3¾′
			20° 4⅙′
3	5	that [star] in the right shoulder blade of ♒ [Illam in dextra] [ſcapula ♒]	28° 13½′
			28° 14′
16	4 min.	that [star] above the anus [Illam ſupra anum]	25° 33½′
			25° 34′

[2836] This table stands at the head of the left-hand column under no date heading; the last date heading, on p. 378, is 15 September, with no time of day. The line *Inter extremam alæ Pegaſi &* is printed once, indented, over the labels of all the rows, and is given as the head of the label column; "Number" and "Value" are this edition's heads. The page prints no magnitudes here. *Pone*, "Put", stands to the right in the label column, before the third figures of the stars numbered 9, 11 and 12. The label of the star numbered 12 runs over two lines and is given whole on its first row. The footnote cue 1 stands after the third figures of the stars numbered 11 and 12. For those two stars the value after *Pone* lies outside both figures printed above it (29 52⅔ against 29 52 and 29 52⅙; 28 36 against 28 37 and 28 36¾); given as printed. On p. 377 (8 January) the distances from the far end of the wing of Pegasus to the preceding [star] of the three in the urn of ♒ are printed 32 8¾ and 32 8, and to the middle [star] in the urn of ♒ 29 53 and 29 53½; the figures here for the preceding [star] in the urn (32 10½, 32 11⅓, 32 10⅚) and for the middle [star] in the urn (29 52, 29 52⅙, 29 52⅔) share no value with them; the page does not say whether the same stars are meant; given as printed. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Number [Num.]	Magnitude [Mag.]	Between the lower horn of ♒ and [Inter inferius cornu ♒ &]	Value
13	5 mai.	the preceding or brighter [star] in the bottom of the urn [Præcedentem ſeu lu-] [cidiorem in fundo] [vrnæ]	29° 13′
			29° 13⅔′
		Between the left shoulder of ♒ and [Inter ſiniſtrum humerum ♒ &]	
24	5	the brighter of them in the first outpouring from the urn [Lucidiorem earum] [in prima effuſione] [ab vrna]	20° 15⅚′
			20° 16⅙′
15	5 min.	15 of ♒, namely in the right thigh [15 ♒ ſcilicet in] [dextro femore]	15° 29½′
			15° 30′
19	5	the right knee of ♒ [Genu dextrum ♒]	20° 49′
			20° 49¾′
18	4 mai.	that [star] which is in the right shin [Eam quæ eſt in] [tibia dextra]	22° 46⅚′
			22° 47′

2837

On 18 October, in the evening [DIE 18 OCTOBRIS, VESPERI.]

Number	Magnitude	Between the far end of the wing of Pegasus and [Inter extremam alæ Pegaſi &]	Value
6	6	the 6th in the convex of the left hand of ♒ [6^{tam} in conuexo] [ſiniſtræ manus ♒]	52° 37′
			52° 37½′
7	6 mai.	7 in the left hand of ♒ [7 in ſiniſtra] [manu ♒]	55° 16¾′ twice [bis]
5	5	5 under the left armpit [5 ſub ſiniſtra] [axilla]	44° 53½′
			44° 54′
3	5		36° 32′
			36° 32½′
13	5	13 in the urn of ♒ [13 in vrna ♒]	36° 52¾′ twice [bis]
15	5 min.		42° 43¾′
			42° 44⅓′
24	4 min.	the first brighter [star] in the outpouring [Primam lucidiorem] [in effuſione]	30° 16′ twice [bis]

[2837] The heads *Num.* and *Mag.* (in smaller type) and the line *Inter inferius cornu ♒ &*, printed on the same line, are the page's; "Value" is this edition's head. The line *Inter ſiniſtrum humerum ♒ &* is printed once, with no figures, over the labels of the stars numbered 24, 15, 19 and 18, and is given as a row of its own at that point. At the stars numbered 5, 16, 13, 15 and 18 the magnitude is printed with *mai.* or *min.* below it, a brace joining them to the label lines; each is given once, on its row; *mai.* and *min.* are kept abbreviated (*maior*/*minor* or *maioris*/*minoris*, "greater"/"lesser"). The star numbered 16 has a one-line label, its second figures on the line below. Labels printed over two or three lines are given whole on their first row, with their figures on the rows where the page prints them. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Number	Magnitude	Between the far end of the wing of Pegasus and [Inter extremam alæ Pegaſi &]	Value
19	5	19 above the right knee of ♒ [19 ſupra dextrum] [genu ♒]	35° 23¾′ twice [bis]
18	4		36° 32′
			36° 32¼′

2838

On 28 October, in the evening [DIE 28 OCTOBRIS, VESPERI.] Southern declinations of the stars in ♒. [Declinationes ſtellarum in ♒] [Meridionales.]

Number [Num.]	Magnitude [Mag.]	Star	Value
7	6 mai.	Of the one that is the middle [star] in the left hand [Eius quæ eſt media] [in ſiniſtra manu]	10° 27′
			10° 27¼′
6	6	Of the one in the convex of the left hand [Eius in ſiniſtræ] [manus conuexo]	12° 57½′
			12° 57′
5		Of the one that is under the left shoulder blade [Eius quæ eſt ſub] [ſiniſtra ſcapula]	9° 38′
			9° 37′
3	5	Of the one that is under the bright [star] in the right shoulder [Eius quæ eſt ſub] [lucida in humero] [dextro]	4° 5¾′
			4° 5½′
13	5	Of the other in the urn [Alterius in vrna]	9° 45½′
			9° 45′
14		[The one] in the urn has the same declination [in vrna habet ean-] [dem declin.]	
16		Of the one that is at the end of the back [Eius quæ eſt in] [fine dorſi]	15° 46¼′

2838 The line *Inter extremam alæ Pegaſi &* is printed once, indented, over the labels, and is given as the head of the label column; "Number", "Magnitude" and "Value" are this edition's heads, the page printing no heads over this table. The table begins at the foot of the left-hand column and runs on at the head of the right-hand column, from the row of the star numbered 13, under no heads. *6*^{tam} is printed as the figure 6 with *tam* raised (*sextam*, "the 6th"). The rows of the stars numbered 3, 15 and 18 carry no label. At the stars numbered 7, 15 and 24 the magnitude is printed with *mai.* or *min.* below it, a brace joining them to the label lines; each is given once, on its row. *bis*, "twice", stands after the figures of the stars numbered 7, 13, 24 and 19. Labels printed over two lines are given whole on their first row. *Primam lucidiorem* is given as "the first brighter [star]"; "the first, the brighter [star]" is the other construal. On p. 377 (8 January) the distance from the far end of the wing of Pegasus to *3* ♒ is printed 28 33¼ and 28 33; the figures of the row of the star numbered 3 here (36 32, 36 32½) share no value with them; given as printed. Magnitudes printed on this page for the same star numbers on different days: the star numbered 24 is 5 on 3 October and 4 *min.* on 18 October; the star numbered 19 is 5 on 3 and 18 October and 4 *min.* on 28 October; given as printed. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Number [Num.]	Magnitude [Mag.]	Star	Value
			15° 46½′
		Its altitude was then [Fuit tunc Altitudo] [eius]	18° 20′
15		Of the one that is at the bottom of the urn in the right thigh [Eius quæ eſt ad fun-] [dum vrnæ in dext.] [femore]	12° 42′
			12° 42¼′
24		Of the one that is the brighter at the beginning of the outpouring [Eius quæ eſt in prin-] [cipio effuſionis] [lucidior]	9° 41′
			9° 41¼′

2839

Number	Magnitude	Star	Declination [Decl.]	Altitude [Alt.]
19	4 min.	Of the one that is in the right knee [Eius quæ eſt in] [genu dextro]	15° 41¾′	17° 10′
			15° 42′	
18		Of the one that is in the shin of the right knee [Eius quæ eſt in] [tibia genu] [dextri]	17° 57½′	17° 40′
			17° 57′	
42	1	Fomahand	31° 29½′	2° 40′
			31° 30′	
39			23° 17′	10° 10′
			23° 16⅔′	
36		in the outpouring [in effuſione]	22° 18¼′	12° 0′
			22° 19′	

[2839] The heads *Num.* and *Mag.* (in smaller type) are the page's, printed on the line of *Meridionales.*; "Star" and "Value" are this edition's heads, the page printing no head over the labels or over these figures. The line *Declinationes ſtellarum in ♒ Meridionales.* stands over the table, in two lines, and applies to the whole of it. At the star numbered 7 the magnitude 6 is printed with *mai.* below it, a brace joining them to the two label lines; it is given once, on its row. The row of the star numbered 14 carries no figures; the page does not say with which star its declination is the same. In the row of the star numbered 16 the line *Fuit tunc Altitudo eius*, with the figures 18 20, stands in the label column below the declination figures; it is given as its own row, where it is printed, the figures standing in the column of the declinations. *dext.* is expanded as *dextro*, printed in full in the label of the star numbered 15 of 3 October (*dextro femore*). In the label of the star numbered 24, *lucidior* (nominative, with *quæ eſt*) can also be read "which is brighter at the beginning of the outpouring". The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2840

[1] Thus in codex D. [Sic in codice D.]

Number	Star	Declination	Altitude
38	in the outpouring [in effuſione]	23° 9¼′	11° 10′
	with the better pinnule twice [meliori pinna-] [cidio bis]	23° 9⅔′	
37		22° 46½′	
		22° 47¼′	
33		20° 2¼′	
		20° 3′	

2841

On 1 November [DIE 1 NOUEMBRIS.] Distances of the stars in ♒. [Diſtantiæ ſtellarum in ♒.]

Number	Between the brighter [star] in the tail of ♍ and [Inter lucidiorem in cauda ♍ &]	Value
41	the one that is in the outpouring of ♒ [Eam quæ eſt in] [effuſione ♒]	20° 11′
		20° 11¼′
40	in the outpouring [in effuſione]	20° 34⅓′
		20° 35′
39	in the outpouring [in effuſione]	20° 8′
		20° 8⅔′
36	in the outpouring [in effuſione]	23° 11⅔′
		23° 12′

[2840] Over these rows the page prints, in smaller type and after a blank space, only the heads *Decl.*, over the first figures, and *Alt.*, over the second; "Number", "Magnitude" and "Star" repeat bare the heads of the rows above (*Num.* and *Mag.* the page's, "Star" this edition's). These rows are of the same 28 October list, under the same line *Declinationes ſtellarum in ♒ Meridionales.*; the page ends at the second declination figure of the star numbered 36. The altitude figures stand on the first line of each star only. *Fomahand* is kept as printed. At the star numbered 19 the magnitude 4 is printed with *min.* below it, a brace joining them to the two label lines; it is given once, on its row. The row of the star numbered 39 carries no label. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

[2841] These rows open the left-hand column under no heading of their own and stand in the columns of the last rows on p. 379, the 28 October list of southern declinations of the stars in ♒, whose last row there is the star numbered 36; the page prints no heads over them here, and "Number", "Star", "Declination" and "Altitude" repeat bare the heads used for those rows (*Decl.* and *Alt.* the page's on p. 379, "Number" for *Num.*, "Star" this edition's). No magnitudes are printed in these rows. The altitude figures 11 10 stand on the first line of the star numbered 38 only. *meliori pinnacidio bis*, printed over two lines below *in effuſione*, with figures on the second, is given whole on the row of those figures; the page does not say whether *bis*, "twice", applies to the figures 23 9⅔ or to the whole entry. The rows of the stars numbered 37 and 33 carry no label. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Number	Between the brighter [star] in the tail of ♌ and [Inter lucidiorem in cauda ♌ &]	Value
37		23° 56′
		23° 56⅓′
38		25° 40′
		25° 40½′
33		27° 30′
		27° 30¾′
34		28° 25′
		28° 26′
35		29° 45⅚′
		29° 46′

2842

The other way round, in ♒ [Viceverſa in ♒]

Number	Between the bright [star] in the tail of Cetus and [Inter lucidam in cauda Ceti &]	Value
41		23° 20′ twice [bis]
40		22° 22½′
		22° 21¾′
39		22° 23′
		22° 23⅙′
36		19° 9′
		19° 9¼′
37		18° 30′ twice [bis]
38		16° 48⅙′
		16° 48½′
33		14° 40′
		14° 40⅓′
34		13° 40′
		13° 40⅔′
35		12° 24′
		12° 25′

2843

2842 The line *Inter lucidiorem in cauda* ♌ *&* is printed once, indented, over the rows, and is given as the head of the label column; "Number" and "Value" are this edition's heads, the page printing no heads over this table. The date heading names no time of day. The label of the star numbered 41 runs over two lines and is given whole on its first row. The rows of the stars numbered 37, 38, 33, 34 and 35 carry no label. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2843 The line *Viceverſa in* ♒, centred, and the line *Inter lucidam in cauda Ceti &*, indented, stand over these rows; the second is given as the head of the label column, which is otherwise empty, the page printing only numbers and figures in these rows. "Number" and "Value" are this edition's heads. *bis*, "twice", stands after the figures of the stars numbered 41 and 37. The values, printed without unit marks, are given as degrees and minutes.

Number	Between the bright [star] in the knot of ♓ and [Inter lucidam in nodo ♓ &]	Value
32		38° 35¾′
		38° 36′
31		39° 6⅝′
		39° 7′
30	Between the one that follows most closely after the twenty-ninth, counting from Fomahand, and the bright [star] in the knot of ♓; let it be number 30 [Inter eam quæ proxime] [viceſimam nonam ſub-] [ſequitur a Fomahand] [numerando, & lucid. in] [nodo ♓, ſit numero 30]	42° 27′
		42° 27¾′
29	in the outpouring [in effuſione]	42° 36′
		42° 36½′
28	in the outpouring [in effuſione]	43° 5½′ twice [bis]
27	in the outpouring [in effuſione]	42° 29⅙′ twice [bis]
26	in the outpouring [in effuſione]	42° 46′
		42° 46⅓′
25	in the outpouring [in effuſione]	45° 19¾′
		45° 20¼′

2844

Reading	Value
Between 7 and 4 of ♒ [Inter 7 & 4 ♒]	10° 17⅙′
	10° 17½′
Between 6 and 2 of ♒ [Inter 6 & 2 ♒]	17° 47⅓′
	17° 48⅙′
Between 8 and 5 of ♒ [Inter 8 & 5 ♒]	12° 31′
	12° 31½′
Between 8 and 3 of ♒ [Inter 8 & 3 ♒]	20° 12′ twice [bis]
Between 8 and 13 of ♒ [Inter 8 & 13 ♒]	22° 8½′

2844 This table stands at the head of the right-hand column under no date heading of its own; the last date heading, at the left, is 1 November. The line *Inter lucidam in nodo ♓ &* is printed once, indented, over the rows, and is given as the head of the label column; "Number" and "Value" are this edition's heads. The rows of the stars numbered 32 and 31 carry no label. At the star numbered 30 the page sets a label of its own beginning *Inter*, printed over five lines with figures on the last two; it is given whole on the row of its first figures. In that label *a Fomahand* is taken with *numerando*, "counting from Fomahand"; it can also be taken with *ſubſequitur*, "follows after the twenty-ninth from Fomahand". *proxime* is given as "most closely"; "next" is the other rendering. *ſit numero 30* is given as "let it be number 30"; "it is to be number 30" is the other reading. *lucid.* is expanded as *lucidam*, printed in full in the line *Inter lucidam in nodo ♓ &*. *Fomahand* is kept as printed. *bis*, "twice", stands after the figures of the stars numbered 28 and 27. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Value
	22° 8¾′
Between 8 and 14 of ♒ [Inter 8 & 14 ♒]	22° 54¾′
	22° 54⅝′
Between 8 and 15 of ♒ [Inter 8 & 15 ♒]	25° 23⅔′
	25° 24′
Declination of 15 in the outpouring of ♒ [Declin. 15 in effuſione ♒]	11° 10½′
	11° 11′
Between 8 and 16 of ♒ [Inter 8 & 16 ♒]	19° 46⅝′
	19° 47′
Between 8 and the brighter [star] in the outpouring of ♒ [Inter 8 & lucidiorem in] [effuſione ♒]	30° 56⅙′
	30° 56⅝′
Between 8 and 19 of ♒ [Inter 8 & 19 ♒]	30° 9⅙′
	30° 9¼′
Between 8 and 18 of ♒ [Inter 8 & 18 ♒]	31° 34½′
	31° 35′
Between 23 of ♍ and Fomahand [Inter 23 ♍ & Fomahand]	21° 53′
Between the bright [star] of the tail of Cetus and Fomahand [Inter lucidam caudæ] [Ceti & Fomahand]	26° 42⅔′
	26° 43′
Between 18 of ♒ and the bright [star] in the tail of Cetus [Inter 18 ♒ & lucidam in] [cauda Ceti]	26° 7′ twice [bis]
Between 23 in the outpouring and the bright [star] in the knot of ♓ [Inter 23 in effuſione] [& lucid. in nodo ♓]	51° 30′
	51° 30⅔′

2845

On 16 November [DIE 16 NOUEMBRIS.] Southern declinations of the stars of ♒. [Declinationes ſtellarum ♒ Auſtr.]

[2845] These rows follow in the right-hand column, each label set from the column's left edge, with no numbers; "Reading" and "Value" are this edition's heads, the page printing none. Labels printed over two lines are given whole on their first row; in the row of the 18 of ♒ the figures stand on the second line. *bis*, "twice", stands after the figures of the rows of 8 and 3 of ♒ and of 18 of ♒ and the tail of Cetus. *lucid.* is expanded as *lucidam*, printed in full in the line *Inter lucidam in nodo* ♓ *&* above. On p. 379 (28 October) the declination of the star numbered 15 (*Eius quæ eſt ad fundum vrnæ in dext. femore*) is printed 12 42 and 12 42¼; the declination of 15 in the outpouring here (11 10½, 11 11) shares no value with it; the page does not say whether the same star is meant; given as printed. On p. 255 (15 November, the year 1587 in the running head) the distance between *Fomahant* and the tail of Cetus (*caudam Ceti*) is printed 26 44, 26 45 and 26 44, and the declination of *Fomahant* 31 29 twice; the distance between the bright [star] of the tail of Cetus and Fomahand here (26 42⅔, 26 43) and the declination of Fomahand on p. 379 (31 29½, 31 30) share no value with them; the pages do not say whether the same stars are meant; given as printed. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

N.B. [They] were at the greatest altitude, around the meridian, when [they] were observed. [N. B. Fuerunt in maxima altitudine circa Meridianum cum obſeruarentur.]

Number [Num.]	Magnitude [Mag.]	Star	Value
41	6	Of the lowest [star] in the water of ♒, nearest Fomahand [Infimæ in aqua] [♒prox. Fomahand]	25° 1½′
			25° 2⅓′
		Its altitude was then [Altit. eius tunc erat]	7⅔°
40	6	Of the middle [star] of the three lowest [Mediæ trium] [infimarum]	24° 33′
			24° 33¾′
		Altitude [Altitudo]	8°
39	5 min.	Of the highest of the three [Supremæ trium]	23° 17¾′
			23° 18⅓′
		Its altitude [Altit. eius]	10½°
36	5 min.	Of the more western of the following three intermediate [stars] [Sequentium trium] [intermediarum] [occidentalioris]	22° 16½′
			22° 17¼′
		Altitude [Altitudo]	12½°
37	6	Of the middle [star] of the same [Earundem mediæ]	22° 46′
			22° 47′
		Altitude [Altitudo]	11⅙°
38	6 mai.	Of the lowest and more eastern of these [Harum infimæ] [& orientalioris]	23° 7′
			23° 7½′
		uncertain. [incertæ.] Altitude [Alt.]	10°
32	5 min.		16° 44¾′
			16° 45′
31	6 mai.		16° 26¼′
			16° 25½′
33	6 mai.	In the third stream of the water, the northern [star] of the three [In tertio aquæ] [fluxu trium Bor.]	20° 3′
			20° 3⅔′
29	5 min.	Of the northern and middle [star] of the following two [Sequentium duar.] [Borealis & mediæ]	11° 18½′
			11° 19′
30	6 mai.	Of the one that [is] more toward the south, Merid. [Eius quæ magis] [in Auſtrum Merid.]	11° 48½′
			11° 48′
26	6 mai.	Of the following [star] in the first bend of the water [Sequentis in primo] [flexu aquæ]	8° 12½′
			8° 12⅔′

2846

On 20 November, in the evening [DIE 20 NOUEMBRIS, VESPERI.]

Number	Magnitude	Reading	Value
33	6	Declination of 33 of ♒ [Declin. 33 ♒]	20° 5′
			20° 4′
34	6 min.	Of the middle [star] of the three in the northern stream [Mediæ trium in] [fluxu Bor.]	20° 29½′
			20° 30½′
35	6 min.	Of the following [star] of the three in the northern stream [Sequentis trium in] [Boreo fluxu]	21° 7′
			21° 7¾′
27	6	In the other, southern stream [In altero fluxu] [Auſtrali]	9° 55′
			9° 54¾′
25	6	Of the one that follows in the first stream of the water [Eius quæ ſequitur in] [primo fluxu aquæ]	9° 35′
			9° 35½′

2846 The heads *Num.* and *Mag.* (in smaller type) are the page's; "Star" and "Value" are this edition's heads, the page printing no head over the labels or over the figures. The line *Declinationes ſtellarum* ♒ *Auſtr.* and the remark *N. B.* … stand over the table. The lines *Altit. eius tunc erat*, *Altitudo*, *Altit. eius* and *Alt.* stand in the label column, each with a single figure set in the column of the first figures of the declinations; they are given as rows of their own, where they are printed, and their figures, printed without unit marks, are given as degrees. At the stars numbered 39, 36, 38, 32, 31, 33, 29, 30 and 26 the magnitude is printed with *min.* or *mai.* below it, a brace joining them to the lines of the row; each is given once, on its row. The rows of the stars numbered 32 and 31 carry no label. Labels printed over two or three lines are given whole on the row of their first figures. In the row of the star numbered 38, *incertæ.* stands in the label column before the altitude; the page does not say whether it refers to the declination figures above it. *Merid.* in the label of the star numbered 30 is kept as printed. *duar.* is taken as *duarum*. The label of the star numbered 33 sets *fluxu*, that of the star numbered 26 *flexu*; each is given as printed, "stream" and "bend". In the label of the star numbered 33, *trium Bor.* is taken as "the northern [star] of the three", as the page's 20 November labels group three stars in the northern stream; it can also be taken with *fluxu*, "of the three northern [streams]". *prox.* is given as "nearest". *Fomahand* is kept as printed. On pp. 379–380 (28 October) the declinations of the stars numbered 39 (23 17, 23 16⅔), 36 (22 18¼, 22 19), 37 (22 46½, 22 47¼) and 38 (23 9¼, 23 9⅔) are printed; the figures here for the same numbers share no value with them; the pages do not say whether the same stars are meant; given as printed. The declinations, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2847

Distances of the stars in the upper stream of the water, toward the west. [Diſtantiæ ſtellarum in ſuperiori fluxu aquæ ad occaſum.]

Reading	Value
Between 18 of ♒ and its 32 [Inter 18 ♒ & 32 eius]	11° 38′
	11° 38¾′
Between 18 of ♒ and its 31 [Inter 18 ♒ & 31 eius]	11° 0′
	11° 1′
Between the preceding shoulder of ♒ and its 28 [Inter præcedentem humerum] [♒ & 28 eius]	26° 4½′ twice [bis]
Between the preceding shoulder of ♒ and its 29 [Inter præced. humerum] [♒ & 29 eius]	26° 36′
	26° 35¾′
Between the preceding shoulder of ♒ and its 30 [Inter præced. humerum] [♒ & 30 eius]	26° 54′
	26° 55′
Between the following shoulder of ♒ and 27 [Inter ſequentem humerum] [♒ & 27]	19° 12′
	19° 12⅝′
Between the following shoulder of ♒ and 25, 6 mag. [Inter ſequent. humerum ♒] [& 25, 6 mag.]	16° 31′
	16° 32′
Between the following shoulder of ♒ and 23 of ♒ [Inter ſeq. hum. ♒ & 23 ♒]	8° 53′
a little greater [paulo maior]	8° 53¾′
Between the following shoulder of ♒ and 26, 5 mag. [Inter ſequentem humerum] [♒ & 26, 5 mag.]	18° 3′
	18° 3⅔′
Declination of 23 of ♒ [Declin. 23 ♒]	6° 19⅝′
	6° 19½′
Declination of 26 of ♒ [Declin. 26 ♒]	8° 12⅔′
	8° 13′
Declination of 11 of ♒ [Declin. 11 ♒]	2° 1′
	2° 1⅔′

2847 "Number", "Magnitude", "Reading" and "Value" are this edition's heads, the page printing none over these rows. Only the first row is labelled as a declination. At the stars numbered 34 and 35 the magnitude 6 is printed with *min.* below it, a brace joining them to the label lines; each is given once, on its row. Labels printed over two lines are given whole on their first row. The figures of the star numbered 33 here (20 5, 20 4) share no value with those printed for the star numbered 33 on 16 November, above (20 3, 20 3⅔), or on p. 380, 28 October (20 2¼, 20 3); the page does not say whether the same star is meant; given as printed. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2848

The constellation of Pisces, according to our designation [ASTERISMUS PISCIUM] [SECUNDUM NOSTRAM DESIGNATIONEM.]

On 5 January, in the evening [DIE 5 JANUARIJ, VESPERI.]

Reading	Value
Declination of the tail of the southern ♓, by the armillae [Declin. caudæ ♓ auſtralis] [per Armillas]	4° 36½′ north [B.]
Declination of the northern [star] in the belly of the northern fish [Declin. borealis in aluo] [piſcis Bor.]	25° 3¾′
Declination of the lower of the two in the belly of the northern ♓ [Declin. inferioris duarum in] [aluo ♓ borealis]	22° 23′
Declination of the following [star] in the spine of the northern ♓ [Declin. ſequentis in ſpina] [♓ borealis]	18° 50¼′
Declination of the preceding [star] in the southern spine of the northern fish [Declin. præcedentis in auſtrali] [ſpina piſcis borealis]	19° 15½′

2849

Diagram. Across the upper part of the page, above the two columns, a drawing of 37 rayed star marks, each with a handwritten number beside it; there is no caption, no outline of a figure and no other writing. The numbers are drawn by hand, not set in type. One group of marks runs down the right part of the drawing; the other spreads from the upper left down across the middle.

2848 These rows follow in the right-hand column under the line *Diſtantiæ ſtellarum in ſuperiori fluxu aquæ ad occaſum.*, with no numbers; "Reading" and "Value" are this edition's heads, the page printing none. Labels printed over two lines are given whole on their first row; in the row of the preceding shoulder and 28 the figures stand on the second line. *paulo maior*, "a little greater", stands on the continuation line of the label of the following shoulder and 23 of ♒, with the second figures, and is given on that line; the page does not say what is greater. *præced.*, *ſequent.*, *ſeq.* and *hum.* are expanded as *præcedentem*, *ſequentem* and *humerum*, printed in full in the rows above. *mag.* is kept abbreviated. *bis*, "twice", stands after the figures of the row of the preceding shoulder and 28. The three declinations at the foot of the column stand under the same line of distances, with no heading of their own. The magnitude of 26 is printed 5 here (*5 mag.*) and 6 *mai.* in the 16 November list above; the page does not say whether the same star is meant; given as printed. The declination of 11 here (2 1, 2 1⅔) shares no value with the declination of the star numbered 11 on p. 378, 4 September (2 4⅔, 2 4⅚); the pages do not say whether the same star is meant; given as printed. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2849 These rows run from the left-hand column of the lower block into the right-hand column; "Reading" and "Value" are this edition's heads, the page printing none. Each label is printed over two lines, its figures on the second, and is given whole on one row. *B.*, "north", stands after the figures of the first row only. In the first label *auſtralis* is taken with ♓, "the southern ♓", as *borealis* and *Bor.* go with the fish in the other labels; it can also be taken with *caudæ*, "the southern tail of ♓". The date heading names no year; the running head of this page is 1589. The values, printed without unit marks, are given as degrees and minutes.

- Right part, from the top down: 37 (the highest mark, drawn as a ring with rays; number above right); 24 (right of 37 and lower); 26 (below and left of 37; a point above the 2); 25 (below 24); 28 (left of 26 and lower; a point after the number); 27 (below 28 and right); 36 (at the right edge, below 25); 32 (below 36); 33 (left of 32; a point after the number); 29 (left of 33 and lower; a point below the number); 30 (below 29; number to the left of the mark); 35 (right of 30); 31 (below 30; number below left); 34 (below and right of 31); then 23, 22, 21 and 20, one below another; 18 (below and left of 20); 19 (below and right of 18, a larger, bushier mark).
- Left and middle part, from the top down: 4 (the higher of two marks at the top); 3 (left of 4); 1 (at the far left); 2 (right of 1 and lower); [?] (right of 4 and lower, its number above the mark, a hooked stroke not settled); 8 (number below left of the mark); 9; 6 (below 2); 10; 11 (number below left of the mark; to the right of the same mark a short stroke, a dash and a point, not settled as a number [?]); 7 (below 6 and right); 12; 13; 14; 16 (right of 14); 15 (below 14); 17 (below 16; a point below the number).[2850]

On 5 September, in the evening [DIE 5 SEPTEMBRIS, VESPERI.] The southern fish. [Piſcis auſtralis.]

Magnitude [Mag.]	Reading	Value
5	Between the Vulture and 1 of the southern fish [Inter Vulturem & [1 piſcis Auſtr.]	48° 15⅔′
		48° 15¾′
4 min.	Between the bright [star] of the Vulture and 2 of ♓ [Inter lucid. Vult.] [& 2 ♓]	51° 32⅓′
		51° 32¾′
6	Between the bright [star] of the Vulture and 3 of ♓ [Inter lucid. Vult.] [& 3 ♓]	52° 9′
		52° 10′
5	Between the bright [star] of the Vulture and 4 of ♓ [Inter lucid. Vult.] [& 4 ♓]	53° 53½′
		53° 53⅔′
5 mai.	Between the mouth of Pegasus and 5 of ♓ [Inter os Pegaſi] [& 5 ♓]	28° 56½′
		28° 56⅔′
4 min.	Between the mouth of Pegasus and 8 of ♓ [Inter os Peg. & 8 ♓]	33° 31½′ twice [bis]
5 min.	Between the mouth of Pegasus and 6 of ♓ [Inter os Pegaſi] [& 6 ♓]	26° 59′
		26° 59½′
5	Between the mouth of Pegasus and 7 of ♓ [Inter os Pegaſi] [& 7 ♓]	30° 25½′
		30° 26⅓′

[2850] The marks and numbers are listed in two parts, as they stand on the page, each from the top down; the drawing gives no other order. The number beside the fifth mark of the left part, standing above it, and the strokes to the right of the mark numbered 11 are not settled. The number 4 is drawn as a crossed stroke with a closed loop at the top, the form of the second figure of 14 in the same drawing.

Magnitude [Mag.]	Reading	Value
5	Declination of 1 of ♓ [Declin. 1 ♓]	1° 38⅙′ with both [vtr.]
4 min.	Declination of 2 of ♓ [Declin. 2 ♓]	1° 2½′ north [B.]
		1° 2¾′
6	Declination of 3 of ♓, north [Declin. 3 ♓ B.]	3° 11′ with both [vtr.]
5	Declination of 4 of ♓, north [Declin. 4 ♓ B.]	4° 10′
		4° 10¾′
5 mai.	Declination of 5 of ♓, north [Declin. 5 ♓ B.]	3° 25⅚′
		3° 25½′
4	Declination of 6 of ♓, south [Declin. 6 ♓ Auſtr.]	0° 58⅓′
		0° 58⅔′
5 min.	Declination of 7 of ♓, south [Declin. 7 ♓ Auſtr.]	0° 28⅚′
		0° 28½′
5	Declination of 8 of ♓, north [Declin. 8 ♓ B.]	4° 36⅔′
		4° 36⅓′

2851

Reading	Value
Declination of the mouth of Pegasus [Declin. oris Pegaſi]	8° 2⅔′
	8° 3⅓′
Set [Pone]	8° 3′ north [B.]

2852

2851 The head *Mag.* (in smaller type) is the page's, over the magnitude column; "Reading" and "Value" are this edition's heads, the page printing none over the labels or the figures. The line *Piſcis auſtralis.* stands over the labels, on the line of *Mag.*. The page prints no column of star numbers here; the numbers stand in the labels. The table begins in the left-hand column below the drawing and runs on at the head of the right-hand column, from the row of the mouth of Pegasus and 7 of ♓, under no heads; that row stands level with the date heading. At 2, 5, 8 and 6 of ♓ in the distances, and at the declinations of 2, 5 and 7 of ♓, the magnitude is printed with *min.* or *mai.* below it, a brace joining them to the lines of the row; each is given once, on its row. In the row of the mouth of Pegasus and 8 of ♓ the label and figures stand on one line, set between the magnitude 4 and *min.* below it. *lucid. Vult.* is taken as *lucidam Vulturis*, *Peg.* as *Pegaſi*, printed in full in the rows around it. *bis*, "twice", stands after the figures of the row of 8 of ♓; *vtr.*, "with both", after the figures of the declinations of 1 and 3 of ♓. *B.*, "north", stands after the first figures of the declination of 2 of ♓ and in the labels of 3, 4, 5 and 8 of ♓; *Auſtr.*, "south", in the labels of 6 and 7 of ♓; the declination of 1 of ♓ carries neither. The page prints a leading 0 in the declinations of 6 and 7 of ♓. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2852 These three rows continue the table of 5 September, in the evening, begun on p. 382; the page sets no heading above them. The heads "Reading" and "Value" are this edition's, repeated from that table; its magnitude column is left out here, no magnitude being printed in these rows. *Pone*, "put", stands in the label column against the figures. The values, printed without unit marks, are given as degrees and minutes.

On 6 September, in the evening [DIE 6 SEPTEMBRIS, VESPERI.]

Magnitude [Mag.]	Between the first [star] of the wing of Pegasus and [Inter primam alæ Pegaſi &]	Value
5	11 of ♓ [11 ♓]	26° 35′ twice [bis]
5	12 of ♓ [12 ♓]	29° 51¾′ twice [bis]
5	13 of ♓ [13 ♓]	32° 28⅓′
		32° 28½′
5 min.	16 of ♓ [16 ♓]	36° 46⅓′
		36° 47′
5	17 of ♓ [17 ♓]	39° 39½′
		39° 40′
5	18 of ♓ [18 ♓]	43° 17′ twice [bis]
4	19 of ♓ [19 ♓]	45° 22′
		45° 22⅙′
5 mai.	20 of ♓ [20 ♓]	39° 40′
		39° 39½′
6	21 of ♓ [21 ♓]	37° 5′ twice [bis]
4	22 of ♓ [22 ♓]	35° 21′
		35° 21⅚′

2853

On 27 September, in the evening [DIE 27 SEPTEMBRIS, VESPERI.]

Reading	Value
Between the bright [star] of ♈ and [Inter lucidam ♈ &]	
1 of the southern ♓ [1 ♓ auſtralis]	48° 21′
	48° 21½′
2 of the southern ♓ [2 ♓ auſtralis]	45° 45¾′
	45° 46′
3 of ♓, south [3 ♓ auſt.]	43° 59′
	43° 58⅚′
4 of ♓, south [4 ♓ auſt.]	41° 47⅓′
	41° 47¾′
5 of ♓, south [5 ♓ auſt.]	39° 36½′
	39° 36⅔′
8 of ♓, south [8 ♓ auſt.]	34° 52⅙′

[2853] The head *Mag.* (in smaller type) and the line *Inter primam alæ Pegaſi &*, which stands over the labels on the line of *Mag.*, are the page's; "Value" is this edition's head, the page printing none over the figures. The page prints no column of star numbers; the numbers stand in the labels. At 16 and 20 of ♓ the magnitude is printed with *min.* or *mai.* below it, a brace joining them to the lines of the row; each is given once, on its row. *bis*, "twice", stands after the figures of 11, 12, 18 and 21 of ♓. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

Reading	Value
	34° 52½′
7 of ♓, south [7 ♓ auſt.]	41° 13⅚′ twice [bis]
6 of ♓, south [6 ♓ auſt.]	44° 41⅓′
	44° 41′
Between 3 in the intersection of ♉ and 11 in the cord of ♓, south [Inter 3 in interſectione ♉] [& 11 in lino ♓ auſt.]	39° 11½′
	39° 11′
Between the same [star] and 12 in the cord of ♓, south [Inter eandem & 12] [in lino ♓ auſt.]	35° 39⅓′
	35° 39½′
Between the same [star] and 13 in the cord of ♓, south [Inter eandem & 13] [in lino ♓ auſt.]	33° 0⅓′
	33° 1′
Between the same [star] and 17 in the cord [Inter eand. & 17 in lino]	26° 31⅔′
Between the same [star] and 18 in the south cord of ♓ [Inter eandem & 18] [in lino auſt. ♓]	24° 7⅔′
	24° 8¾′
Between the same [star] and the bright [star] in the knot of the cord, namely 19 [Inter eandem & lucid.] [in nodo lini, videlicet 19]	22° 13½′
	22° 13⅔′

2854

On 28 September, in the evening [DIE 28 SEPTEMBRIS, VESPERI.]

Certain declinations of the stars in the fishes, repeated and observed by the armillae. [Declinationes ſtellarum in piſcibus] [quædam repetitæ ac obſeruatæ] [per Armillas.]

Number [Num.]	Reading	Value
1	Declination of 1 of the southern ♓ [Declin. 1 ♓ auſtralis]	1° 37′ north [B.]
2		1° 3¾′
3		3° 10¼′
		3° 11½′
4		4° 9½′
		4° 9⅚′

2854 "Reading" and "Value" are this edition's heads; the page prints none. The line *Inter lucidam* ♈ & stands alone, indented, with no figures; the labels of 1 to 6 of ♓ below it complete it. No magnitudes are printed in this entry. The sign after *interſectione* is the sign of Taurus. *auſt.* standing after the sign in the labels (3 to 8 of ♓; 11, 12 and 13 in the cord) is given as "south", as an abbreviated *Auſtr.* after a label is given on p. 382; in the label of 18 it stands before the sign. In the row of 17 the label and its figure stand on one line. *bis*, "twice", stands after the figures of 7 of ♓. The values, printed without unit marks, are given as degrees and minutes; a leading 0 is printed in the minutes of the first value of 13.

Number [Num.]	Reading	Value
5	with both [vtroque]	3° 26′ north [B.]
6		0° 57′ south [Au.]
7		0° 28⅓′ south [M.]
8		4° 37⅓′ north [B.]
11	in the cord of ♓, south [in lino ♓ auſt.]	5° 21½′ north [B.]
		5° 21⅓′
12	in the cord of ♓, south [in lino ♓ auſt.]	5° 40⅚′ north [B.]
		5° 41′
13	in the cord of ♓, south [in lino ♓ auſt.]	5° 24½′
		5° 25⅙′
16	in the cord of ♓, south [in lino ♓ auſt.]	4° 1⅔′ twice [bis]
17	in the cord of ♓, south [in lino ♓ auſt.]	3° 25′
		3° 25¾′
18	in the cord of ♓, south [in lino ♓ auſt.]	1° 9′ north [B.]
		1° 9⅓′
19	or the bright [star] in the knot of the south cord [ſeu lucid. in nodo] [lini auſtr.]	0° 45⅓′ north [B.]
		0° 45¾′
20	in the northern cord [in lino Boreali]	7° 5′ north [B.]
		7° 5⅙′
22	in the northern cord [in lino Boreali]	13° 12⅓′
		13° 13′
21	in the northern cord [in lino Boreali]	10° 1′ twice [bis]

2855

Diſtances between 1 of the wing of Pegasus and [Diſtantiæ inter 1 alæ Pegaſi &]

2855 The head *Num.* (in small capitals) is the page's, standing at the left a little below the last line of the title; "Reading" and "Value" are this edition's heads. No magnitudes are printed in this list. The rows of 2 to 8 carry no label; *vtroque*, "with both", stands in the label column of 5, set against the figures. *B.* after the figures is given as "north", *Au.* and *M.* as "south"; *auſt.* and *auſtr.* in the labels as "south". The page prints a leading 0 in the values of 6, 7 and 19. The values, printed without unit marks, are given as degrees and minutes. The title calls these declinations repeated. P. 382 (5 September) gives declinations of stars numbered 1 to 8 of ♓, under the line *Piſcis auſtralis*: 1, 1° 38⅙′; 2, 1° 2½′ and 1° 2¾′ north; 3, 3° 11′ north; 4, 4° 10′ and 4° 10¾′ north; 5, 3° 25⅚′ and 3° 25½′ north; 6, 0° 58⅓′ and 0° 58⅔′ south; 7, 0° 28⅚′ and 0° 28½′ south; 8, 4° 36⅔′ and 4° 36⅓′ north. Every value here differs from those; the page does not say which earlier observations it repeats.

Magnitude [Mag.]	Reading	Value
	23 in the tail of the northern ♓ [23 in cauda ♓ Borei]	34° 1⅓′
		34° 2′
5 min.	the more eastern of the 4 in the side of the preceding northern [one], 35 [Orientaliorem 4 in] [latere præcedentis] [Borei 35]	30° 36¾′
		30° 37′
6	31, the lower of the three in the preceding side of the northern ♓ [31 inferiorem trium] [in præcedente latere] [♓ Borei]	30° 11¼′
		30° 11½′
5 min.	29, the highest of the three in the preceding side of the northern ♓ [29 ſupremam trium in] [præcedente latere] [♓ Borei]	29° 21½′
		29° 22′
5	33, which is in the middle of the body of the northern ♓ [33 quæ eſt in medio] [corpore ♓ borei]	31° 41′ twice [bis]
5	32 in the right, or northern, side of the northern ♓ [32 in latere dextro] [ſiue boreali Borei ♓]	33° 31′
		33° 31½′

2856

Mag-ni-tude	Reading	Value
5 min.	the [one] which, following 32, [is] slightly more northern, in the spine, 36 [Eam quæ 32 ſe-] [quens paulo borealior] [in ſpina 36]	34° 13⅓′ twice [bis]
5	the brighter [star] in the jaw, 25; [it] is in a straight line with the bright [star] of the girdle of Andromeda and 33 [Lucidiorem in mandi-] [bula 25, eſt in recta] [linea cum cinguli] [lucid. Androm. & 33]	32° 42¾′
		32° 43′
6	the [one] which is in a straight line with the [one] just observed, more northern, 24 [Eam quæ eſt cum] [proxime obſeruata in] [recta linea borealior 24]	33° 4′
		33° 5¼′

[2856] The line *Diſtantiæ inter 1 alæ Pegaſi &* stands alone, centred, with no figures; the labels below it complete it. The head *Mag.* (in small capitals) is the page's; it stands in the magnitude column on the line of 23, and no magnitude is printed for 23. "Reading" and "Value" are this edition's heads. At 35 and 29 the magnitude is printed with *min.* below it, a brace joining them to the lines of the label; each is given once, on its row. In the rows of 35, 31, 29 and 33 the figures begin on the second line of the label. *bis*, "twice", stands after the figures of 33. The values, printed without unit marks, are given as degrees and minutes. Empty cells are empty on the page.

2857

On 28 September, in the evening [DIE 28 SEPTEMBRIS, VESPERI.]

Reading	Value
Between the eye of ♉ and 20 in the cord of ♓, north [Inter ocul. ♉ & 20 in lino] [♓ B.]	42° 6½′
	42° 5⅔′
Between the same [star] and 21 in the north cord of ♓ [Inter eandem & 21 in lino] [B. ♓]	43° 24¾′
	43° 25½′
Between the same [star], the eye of ♉, and 22 in the cord of ♓ [Inter eandem oculum ♉ &] [22 in lino ♓]	44° 15′ twice [bis]
Between the bright [star] of ♈ and 6 of ♓, south [Inter lucidam ♈ & 6 ♓] [Auſtr.]	44° 41⅔′
	44° 42′
Declination of the same [Declinatio eiusdem]	0° 58′ south [M.]
The other way round. [Vice verſa.]	
Between the following and bright [star] of the foot of Perseus and [Inter ſequent. & lucid. ped. Perſei &]	
the [one] which is in the tail, next to the bright [star] in ♓, north [Eam quæ eſt in cauda, proxi-] [ma lucidæ in ♓ Bor.]	35° 27′
	35° 28⅙′
the [one] which is one of those 4 in the preceding side [Eam quæ eſt vna 4 illarum] [in latere præcedenti]	37° 43¼′
	37° 43¾′
29, the highest of the three in the preceding side of the northern ♓ [29 ſupremam trium in præce-] [dente latere ♓ borei]	38° 48⅓′ twice [bis]
33 in the middle of the body of the northern ♓ [33 in medio corpore] [♓ borei]	35° 49⅓′
	35° 51′
32 in the northern ♓ [32 in ♓ boreo]	33° 47⅓′
	33° 48′

2858

[2857] These rows continue the distances of 28 September from 1 of the wing of Pegasus, begun on p. 383; the page sets no heading above them. The heads are repeated from that table: "Magnitude" stands for the head *Mag.* printed there, "Reading" and "Value" are this edition's. At 36 the magnitude is printed with *min.* below it, a brace joining them to the lines of the label; given once, on its row. In each row the figures stand on the later lines of the label. *bis*, "twice", stands after the figures of 36. The values, printed without unit marks, are given as degrees and minutes.

[2858] The page prints this date heading a second time; the entry under the same heading on p. 383 runs on at the head of this column above it. "Reading" and "Value" are this edition's heads; the page prints none, and no magnitudes. *Vice verſa.* and the line *Inter ſequent. & lucid. ped. Perſei &* each stand alone, centred, with no figures; the labels after the latter complete it. *B.*, *Bor.* and *Auſtr.* in the labels are given as "north" and "south"; *M.* after the figures as "south". A leading 0 is printed in the declination. *bis*, "twice", stands after the figures of 22 and of 29. The values, printed without unit marks, are given as degrees and minutes. Other values printed for a star numbered 6 of ♓: on p. 383 (27 September) the distance from the bright star of ♈ is 44° 41⅓′ and 44° 41′; its declination on p. 382 (5 September) is 0° 58⅓′ and 0° 58⅔′ south, and on p. 383 (28 September) 0° 57′ south. The page does not say whether the star here is the one so numbered there.

On 28 October, in the evening [DIE 28 OCTOBRIS, VESPERI.]

Reading	Value
Between 2 of the southern ♓ and 14 in the southern cord [Inter 2 ♓ Auſtralis &] [14 in lino Auſtrali]	27° 57¼′
	27° 58′
Between 2 of ♓, south, and 15 in the south cord [Inter 2 ♓ Auſt. &] [15 in lino Auſt.]	30° 11½′
	30° 12¼′
The other way round. [Vice verſa.]	
Between 14 in the south cord and Aldebaran [Inter 14 in lino auſt. &] [Aldeb.]	51° 51½′
	51° 51¼′
Its declination, north [Declin. eius B.]	3° 27½′ twice [bis]
Declination of 15 in the southern cord, north [Declin. 15 in lino] [auſtrali B.]	1° 21½′
	1° 22⅔′
Between Scheat of Pegasus and 30 of ♓, north [Inter Scheat Pegaſi &] [30 ♓ bor.]	29° 10⅚′
	29° 11′
Between Scheat of Pegasus and 37 of ♓, north, mag. 6 mai. [Inter Scheat Peg. & 37 ♓ bor.,] [mag. 6 mai.]	26° 1½′
	26° 2′
Between Scheat of Pegasus and 26 of ♓, mag. 6 min. [Inter Scheat Pegaſi &] [26 ♓ mag. 6 min.]	25° 3½′
	25° 4′
Between Scheat of Pegasus and 27 of ♓, mag. 6 min. [Inter Scheat Pegaſi &] [27 ♓ mag. 6 min.]	24° 50⅔′
	24° 51⅓′
Between Scheat of Pegasus and 28 of ♓, mag. 6 min. [Inter Scheat Pegaſi &] [28 ♓ mag. 6 min.]	23° 25¾′
	23° 26½′[1] [23 26½[1]]
The other way round, in ♓. [Vice verſa in ♓.]	
Between the eye of ♉ and 23 of the northern ♓ [Inter oculum ♉ & 23 ♓ borei]	45° 1¼′
	45° 2′
Between Aldebaran and 31 of ♓ [Inter Aldeboram & 31 ♓]	48° 52⅚′
	48° 52′
Between Palilicium and 35 of ♓ [Inter Palilicium & 35 ♓]	48° 25′
	48° 25½′
Between the brightest [star] of ♉ and 29 of ♓ [Inter lucidißimam ♉ & 29 ♓]	49° 41′
	49° 41½′
Between the brightest [star] in the head of ♉ and 30 of ♓ [Inter lucidiß. in capite ♉ &] [30 ♓]	49° 15′
	49° 14′
Between Lampadias [Greek: λαμπαδίαδα (lampadiada, "the torch-like [star]")] and 33 of ♓	47° 42′
	47° 42½′
Between the huge and ruddy [star] in ♉ and 32 of ♓ [Inter ingentem & rutilam] [in ♉ & 32 ♓]	46° 26′
	46° 26⅔′
Between the most brilliant [star] [ſplendidiſſimam] of the bull [Greek: ταύρου (taurou, "of the bull")] and 36 of ♓	46° 12⅙′
	46° 13′

Reading	Value
Between the eye [Greek: ὀφθαλμὸν (ophthalmon, "eye")] of Taurus [Tauri] and 25 of ♓	48° 21½′ twice [bis]
Between the [one] that shines most in ♉ and 24 of ♓ [Inter eam quæ maxime] [ſplendet in ♉ & 24 ♓]	48° 38¾′
	48° 38′
Between the [one] in the head of ♉ that is most conspicuous and 37 of ♓ [Inter eam quæ in capite] [♉ maxime conſpicua eſt] [& 37 ♓]	50° 24¼′
	50° 25⅙′
Between the outstanding [star] in ♉ and 26 of ♓ [Inter inſignem in ♉ & 26 ♓]	51° 21¾′
	51° 22′
Between the eye of ♉ and 27 of ♓ [Inter oculum ♉ & 27 ♓]	51° 45½′
	51° 46¼′
Between the eye of ♉ and 28 of ♓ [Inter oculum ♉ & 28 ♓]	53° 3′
	53° 4′

2859

On 14 November [DIE 14 NOUEMBRIS.] Declinations of the stars of the northern ♓ [Declinationes ſtellarum ♓ Borei]

Number [Num.]	Magnitude [Mag.]	With one pinnule [vno pin.]	With the other [altero]
23	5	17° 4½′	17° 4¾′
35	5	18° 53′	18° 52½′
29	5	19° 18′	19° 17¼′
31	5 min.	17° 31¼′	17° 31½′
30	6	18° 25′	18° 24½′
33		22° 26′	22° 26½′
32		25° 6′ twice [bis]	
25		27° 54½′	27° 55′
24		29° 14′	29° 14⅓′

2859 "Reading" and "Value" are this edition's heads; the page prints none, and no magnitude column. The entry runs from the lower left column into the head of the right column, from the row of Scheat of Pegasus and 26 of ♓. *Vice verſa.* and *Vice verſa in* ♓. stand alone, centred, with no figures. *mag. 6 mai.* and *mag. 6 min.* stand in the labels and are kept as printed. *auſt.*, *Auſt.*, *bor.* and *B.* in the labels are given as "south" and "north", the full *Auſtralis*, *Auſtrali*, *auſtrali* and *borei* as "southern" and "northern". In the row of 37 of ♓ a comma follows *bor.* The footnote cue 1 stands after the second value of 28 of ♓. *bis*, "twice", stands after the figures of the declination of 14 and of 25 of ♓. The three Greek words are printed upright among the Latin; their letterforms are given here in the standard Greek forms. The values, printed without unit marks, are given as degrees and minutes.

2860

[1] Added in the margin: "I suspect 35, 6". [Adſcriptum eſt in margine: »Suſpicor 35, 6«.]

Number	With one pinnule	With the other
15 in the northern cord [in lino Bor.]	1° 24¾′	1° 25½′
36	26° 25⅚′ twice [bis]	
37	29° 34½′	29° 35′
28	25° 21⅓′ twice [bis]	
	25° 29′ at another time [alio tempore]	
14 in the cord of ♓ [in lino ♓]	3° 28′	3° 27′
30	18° 24½′	18° 25⅙′
26	26° 44½′	26° 45′

2861

On 20 November, in the evening [DIE 20 NOUEMBRIS, VESPERI.]

Mag-nitude [Mag.]	Reading	Value
6	Between Aldebaran and 14 of ♓ [Inter Aldeb. & 14 ♓]	51° 52½′ twice [bis]
6	Between Aldebaran and 15 of ♓ [Inter Aldeb. & 15 ♓]	50° 15½′ twice [bis]
6 mai.	Between Aldebaran and 16 of ♓ [Inter Aldeb. & 16 ♓]	46° 36½′ 46° 36⅔′

2860 All four heads, in small capitals, are the page's. *min.* stands in the space to the right of the magnitude of 31, under no head; it is given with the magnitude. No magnitude is printed for 33, 32, 25 and 24, and no direction for any declination. For 32 one value is printed, with *bis*, "twice", and nothing under *altero*. The values, printed without unit marks, are given as degrees and minutes. Magnitudes printed for stars of the same numbers on p. 383 (28 September, distances from 1 of the wing of Pegasus): 35, 5 *min.*; 31, 6; 29, 5 *min.* — each differing from the magnitude here. The page does not identify the stars further.

2861 These rows continue the declinations of the stars of the northern ♓ of 14 November, begun on p. 384; the page sets no heading and no heads above them. The heads are repeated from that table, bare; its magnitude column is left out, no magnitude being printed in these rows. The labels *in lino Bor.* and *in lino* ♓, printed after the numbers 15 and 14, are given with the number. For 36 and 28 one value is printed, with *bis*, "twice", and nothing in the second position. The line *25 29 alio tempore* carries no number; its figures stand to the left of the first figure column, and it is given on its own row, where it stands. The values, printed without unit marks, are given as degrees and minutes. Values printed for star numbers on p. 384: 30, 18° 25′ and 18° 24½′ (14 November); 14 in the southern cord, declination 3° 27½′ north, twice (28 October) — each differing from the values here. The page does not identify the stars further.

Mag-nitude [Mag.]	Reading	Value
6 min.	Between Scheat of Pegasus and 30 of the northern ♓ [Inter Scheat Pegaſi &] [30 ♓ Borei]	29° 9⅔′
		29° 10′
6	Between Scheat of Pegasus and 36 of ♓, north [Inter Scheat Pegaſi &] [36 ♓ B.]	30° 8′
		30° 8¾′
6	Between Scheat of Pegasus and 37 of ♓, north [Inter Scheat Pegaſi &] [37 ♓ B.]	26° 0′
		26° 0½′
6 min.	Between Scheat of Pegasus and 26 of ♓, north [Inter Scheat Pegaſi &] [26 ♓ B.]	26° 26′
		26° 25¾′
6 min.	Between Scheat of Pegasus and 28 of ♓, north [Inter Scheat Pegaſi &] [28 ♓ B.]	25° 6′
		25° 6⅔′
	Declination of the lower and more eastern [star] of the two faint [stars] in the triangle of ♓, north, 27 [Declin. inferioris & orientalioris] [duarum tenuium] [in triangulo ♓ B. 27]	24° 51⅚′
		24° 52′

2862

On 4 December, in the evening [DIE 4 DECEMBRIS, VESPERI.]

Reading	Value
Between the right shoulder of ♒ and 10 of the southern ♓ [Inter dextrum humerum ♒] [& 10 ♓ Auſtralis]	37° 18′
	37° 18⅔′
Declination of the same 10 of ♓ [Declin. eiusdem 10 ♓]	4° 48′

2863

[2862] The head *Mag.* (in small capitals) is the page's; "Reading" and "Value" are this edition's, the page printing no heads over the labels and figures. The table runs from the foot of the left column into the head of the right column, which repeats no head. At 16 of ♓ the magnitude is printed with *mai.* below it, and at 30, 26 and 28 of ♓ with *min.*, a brace joining each to the two lines of its row; each is given once, on its row. *bis*, "twice", stands after the figures for 14 and 15 of ♓. The label of the declination runs over three lines, its figures on the second and third; it is given whole on the first row. No magnitude is printed for that row, and no direction after its figures. The values, printed without unit marks, are given as degrees and minutes. Values printed on p. 384 (28 October) for distances to stars of the same numbers: between 14 in the south cord and Aldebaran, 51° 51½′ and 51° 51¼′; between Scheat of Pegasus and 30 of ♓, north, 29° 10⅚′ and 29° 11′; 37, 26° 1½′ and 26° 2′ (magnitude 6 mai.); 26, 25° 3½′ and 25° 4′; 28, 23° 25¾′ and 23° 26½′ — each differing from the value here. The page does not identify the stars further.

[2863] "Reading" and "Value" are this edition's heads; the page prints none. The label of the distance runs over two lines, a figure on each; it is given whole on the first row. No direction is printed after the declination. The values, printed without unit marks, are given as degrees and minutes.

Observations of stars outside the zodiac, to the north [OBSERVATIONES STELLARUM EXTRA ZODIACUM AD BOREAM.]

On 3 January, in the evening [DIE 3 JANUARIJ, VESPERI.]

Reading	Instrument	Value
Declination of the elbow of Andromeda [Declin. Cubiti Andromedæ]		21° 11⅓′
	with the other pinnule [alt. pin.]	21° 11′

On 6 February, in the evening [DIE 6 FEBRUARIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of Capella [Alt. merid. Capellæ]		
	by the revolving quadrant [per Q. Vol.]	79° 34½′

On 10 February, in the evening [DIE 10 FEBRUARIJ, VESPERI.]

Reading	Remark	Value
Declination of the head of Andromeda [Declin. capitis Andromedæ]		26° 50′
		26° 50½′
	Repeated [Repetita]	26° 50′
		26° 50½′
[It] then had an altitude of 30° at least [Habuit tunc Altit. 30° ad minimum]		
Meridian altitude of Capella [Alt. merid. Capellæ]		
	by the revolving [quadrant] [per Vol.]	79° 34¾′

On 12 February, in the morning [DIE 12 FEBRUARIJ, MANE.]

Reading	Instrument	Value
Meridian altitude of Arcturus [Altitudo Arcturi merid.]		
	by the steel [quadrant] [per Chalyb.]	55° 27½′
	by the revolving [quadrant] [per Volub.]	55° 27⅓′
	by the mural [quadrant] [per Mural.], with the old [vet.]	55° 27′ 55″
	with the new [nouo]	55° 27′ 35″

Reading	Instrument	Value
In the evening. Meridian altitude of the star in the left elbow of Erichthonius, where there are no Capellae, by the lesser portable [quadrant] [Veſperi. Alt. merid. ſtellæ in ſiniſtro] [cubito Erichtonij vbi non ſunt Ca-] [pellæ, per Port. min.]		71° 10′

2864

On 15 February, in the evening [DIE 15 FEBRUARIJ, VESPERI.]

Reading	Instrument	Value
Declination of Arcturus [Declin. Arcturi]		21° 22½′
		21° 22⅔′
Between the head Algol and the bright [star] of ♈ [Inter caput Algol] [& lucid. ♈]		21° 38⅙′
		21° 38⅚′
Between the head Algol and Aldebaran [Inter caput Algol] [& Aldeb.]		30° 54½′
		30° 54⅚′
Meridian altitude of the bright [star] of the foot of Erichthonius [Altit. lucid. ped. Ericht. merid.]		
	by the revolving [quadrant] [per Volub.]	62° 15′
	by the steel [quadrant] [per Chalyb.]	62° 16¼′
	by the lesser quadrant [per Q. Min.]	62° 16′

2865

On 12 March, in the morning [DIE 12 MARTIJ, MANE.]

[2864] For the four entries of 3 January to 12 February: "Reading", "Instrument", "Remark" and "Value" are this edition's heads; the page prints none. Lines printed indented under a label (pinnule, instrument, *Repetita*) are given in the second column; *alt. pin.* is set to the right, against its figures. *Habuit tunc Altit. 30° ad minimum* is a line of text with no figures. On 12 February *vet.* and *nouo* stand immediately before the figures; the figures there run to three groups and are given as degrees, minutes and seconds. The last label, which names its instrument within the line, runs over three lines, its figures on the third; it is given whole. All other values, printed without unit marks, are given as degrees and minutes. No direction is printed after either declination.

[2865] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each distance label runs over two lines, a figure on each; it is given whole on the first row. The instrument lines are printed indented under the label. No direction is printed after the declination. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Between Vindemiator and the brightest [star] of those which are in the neck of Serpens [Inter Vindemiatorem & lucidißimam] [earum quæ ſunt in collo] [Serpentis Ophiuchi]		40° 13′
		40° 13½′
Between Spica and the preceding, or left, knee of Ophiuchus [Inter Spicam Virginis &] [præced. ſiue ſiniſtrum] [genu Ophiuchi]		47° 3½′
		47° 4′
Between the head of Hercules and the brightest [star] of those which are in the neck of Serpens [Inter caput Herculis & luci-] [diß. earum quæ ſunt in] [collo Serpentis Ophiuchi]		23° 34⅝′
		23° 35′
Meridian altitude of the brightest [star] in the neck of Serpens, by the steel [quadrant] [Altit. merid. lucidiß. in collo Serpentis] [Ophiuchi per Chalyb.]		41° 53⅛′
	by the revolving [quadrant] [per Volub.]	41° 53¼′
	by the sextant [per Sext.]	41° 53′
Declination by the armillae [Declin. per Armillas]		north [B.] 7° 48′

2866

Reading	Value
Between the Vulture and the head of Hercules [Inter Vulturem & caput] [Herculis]	38° 30½′
	38° 30¼′
Between the preceding knee of Ophiuchus and the bright [star] of the Vulture [Inter præced. genu Ophiuchi] [& lucidam Vulturis]	51° 51′
	51° 51⅔′
Between the same [star] in the knee of Ophiuchus and the northern scale-pan of ♎ [Inter eandem in genu Ophi-] [uchi & boreal. lancem ♎]	19° 31′
	19° 32′
Its declination by the armillae [Declin. eius per Armill.]	south [A.] 9° 37′ with both [vtr.]

2866 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each of the three distance labels runs over three lines, its figures on the second and third; each is given whole on the first row. The label of the meridian altitude runs over two lines and names its first instrument within the second; the other two instrument lines are printed indented under it. *B.* stands before the figures of the declination. The values, printed without unit marks, are given as degrees and minutes. The page ends at *Declin. per Armillas B. 7 48*.

2867

On 14 March, in the morning [DIE 14 MARTIJ, MANE.]

Reading	Value
Meridian altitude of the brighter [star] of the neck of Serpens, by the revolving [quadrant] [Altit. merid. lucidioris colli Serpentis] [Ophiuchi per Volub.]	41° 53¼′

2868

On 15 March, in the evening [DIE 15 MARTIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the left knee of Cepheus [Alt. merid. ſiniſtri genu Cephei]		
	by the revolving [quadrant] [per Volub.]	41° 15¾′
	by the lesser azimuthal quadrant [per Q. min. azim.]	41° 15½′
	by the steel [quadrant] [per Chalyb.]	41° 15⅔′

2869

On 22 March, in the evening [DIE 22 MARTIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the knee of Cepheus [Alt. merid. genu Cephei]		
	by the steel [quadrant] [per Chalyb.]	41° 15′ 25″
	by the revolving [quadrant] [per Volub.]	41° 15′ 30″

[2867] These rows continue the entry of 12 March, in the morning, from the foot of p. 385; the page sets no heading above them. The heads "Reading" and "Value" are this edition's, repeated from that table, bare; its instrument column is left out, empty in these rows. Each distance label runs over two lines, a figure on each; it is given whole on the first row. *A.* stands before the figures of the declination and *vtr.* after them. The values, printed without unit marks, are given as degrees and minutes.

[2868] "Reading" and "Value" are this edition's heads; the page prints none. The label runs over two lines and names its instrument within the second, where the figures stand. The value, printed without unit marks, is given as degrees and minutes.

[2869] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The instrument lines are printed indented under the label. The values, printed without unit marks, are given as degrees and minutes.

2870

On 30 March, in the morning [DIE 30 MARTIJ, MANE.]

Reading	Value
At twilight. To restore the place of the left knee of Ophiuchus, its distance from the Vulture was observed [Sub crepuſculo. Pro reſtituendo loco] [ſiniſtri genu Ophiuchi obſeruaba-] [tur eius diſtantia] [a Vulture]	51° 48½′
	51° 49¼′

This distance does not agree with the one that was observed...[1] Let the true distance be set at 51° 51⅓′. [Hæc diſtantia non conuenit cum ea quæ eſt obſeruata...[1]. Ponatur diſtantia vera 51 51⅓.]

Reading	Value
And the other way round, the same knee from the northern scale-pan of ♎ [Et viceverſa idem genu a] [boreali lance ♎]	19° 43′
	19° 43⅔′
Altitude of the left knee of Ophiuchus in the meridian by the revolving [quadrant] [Altitudo ſiniſtri genu Ophiuchi in] [Meridiano per Volub.]	24° 27½′

2871

On 5 September [DIE 5 SEPTEMBRIS.]

Reading	Value
Declination of the mouth of Pegasus [Declin. oris Pegaſi]	8° 2⅔′
	8° 3⅓′
Set 8° 3′ north [Pone 8° 3′ B.]	

2872

[2870] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The instrument lines are printed indented under the label. The values, printed in three groups without unit marks, are given as degrees, minutes and seconds.

[2871] "Reading" and "Value" are this edition's heads; the page prints none. The entry opens with a four-line label whose figures stand on its third and fourth lines; it is given whole on the first row. The sentences *Hæc diſtantia … 51 51⅓.* are printed as a paragraph between the figure lines, the three points and the footnote cue as printed, the true distance set within the sentence; they are given as printed, where they stand. The values, printed without unit marks, are given as degrees and minutes.

[2872] "Reading" and "Value" are this edition's heads; the page prints none. *Pone 8° 3′ B.* is printed as a line of text with its degree and minute marks, nothing standing in the figure column. The same declination of the mouth of Pegasus, with the same two values and *Pone*, stands at the head of p. 383, where *Pone* is followed by bare figures, *8 3 B.*; it is given here as this page prints it, where it stands. The other values, printed without unit marks, are given as degrees and minutes.

On 27 September, in the evening [DIE 27 SEPTEMBRIS, VESPERI.]

Reading	Value
Between the bright [star] of the Crown and [Inter lucidam Coronæ &]	
the upper of the two preceding [stars] in the □ of Ursa Major [Superiorem duarum præce-] [dentium in □ vrſæ mai.]	56° 7¼′
	56° 7½′
the lower of the two preceding [stars] in the □ of Ursa Major [Inferiorem duarum præce-] [dentium in □ vrſæ mai.]	56° 4¾′
	56° 4½′
the lower of the following [stars] in the □ of Ursa Major [Inferiorem ſequentium in □] [vrſæ maioris]	48° 24½′ twice [bis]
the upper of the following [stars] in the □ of the Bear [Superiorem ſequentium] [in □ Vrſæ]	46° 18⅓′ twice [bis]
the first [star] in the tail of Ursa Major [Primam in cauda vrſæ] [maioris]	41° 0⅓′
	41° 0½′
the middle [star] in the tail of Ursa Major [Mediam in cauda vrſæ] [maioris]	36° 53′ twice [bis]
the last [star] in the tail of Ursa Major [Vltimam in cauda vrſæ] [maioris]	30° 35′
	30° 35¼′
Between Capella and [Inter Capellam &]	
that [star] in the neck of Ursa Major [Illam in collo Vrſæ] [maioris]	38° 38⅙′
	38° 38′
that [star] in the shoulder of Ursa Major [Illam in armo vrſæ] [maioris]	41° 37⅚′
	41° 37′
that [star] in the nostrils of Ursa Major [Illam in naribus vrſæ] [maioris]	31° 31⅓′
	31° 31¾′

2873

In Perseus [In Perſeo]

On 9 October, in the evening [DIE 9 OCTOBRIS, VESPERI.]

Magnitude [Mag.]	Between the head of Andromeda and [Inter caput Andromedæ &]	Value
4	14 in the head of Medusa [14 in capite Meduſæ]	37° 33′
		37° 33½′
	23 of Perseus in the left thigh [23 Perſei in ſiniſtro] [femore]	47° 39′ twice [bis]

2873 "Reading" and "Value" are this edition's heads; the page prints none. The table runs from the foot of the left column into the head of the right column. *Inter lucidam Coronæ &* and *Inter Capellam &* are each printed centred on a line of their own, with no figures. Each label runs over two lines; where a figure stands on each line the label is given whole on the first row, and where the figures stand on the second line only (the lower and the upper of the following stars, the middle star of the tail) the label is given whole on the row of its figures. *bis*, "twice", stands after three of the values. The values, printed without unit marks, are given as degrees and minutes.

Magnitude [Mag.]	Between the head of Andromeda and [Inter caput Andromedæ &]	Value
5	22 of Perseus at the buttocks [22 Perſei ad clunes]	45° 12′ twice [bis]
3	10 of Perseus[2] [10 Perſei[2]]	44° 53½′
		44° 53⅓′
2	the bright [star] in the side of Perseus [Lucidam in latere] [Perſei]	42° 8′
		42° 8½′
3	3 in the right shoulder blade of Perseus [3 in dextra ſcapula] [Perſei]	40° 10¾′
		40° 11′
3	26 in the left foot of Perseus [26 in ſiniſtro pede] [Perſei]	48° 10′
		48° 10⅙′
4	25 in the left heel of Perseus [25 in ſiniſtro calcaneo] [Perſei]	46° 2′
		46° 2½′
4	24 in the left shin of Perseus [24 in tibia ſiniſtra] [Perſei]	48° 32¾′
		48° 33′
	The other way round. [Vice verſa.]	
	Between Capella and [Inter Capellam &]	
3	the third [star] in the right shoulder blade of Perseus [Tertiam in dextra] [ſcapula Perſei]	22° 20½′
		22° 21′
2	the bright [star] in the side of Perseus [Lucidam in latere] [Perſei]	19° 5½′
		19° 5¾′
3	10 in the right side of Perseus [10 in dextro latere] [Perſei]	16° 3½′
		16° 4′
	22 at the buttocks of Perseus [22 ad clunes Perſei]	16° 40′
		16° 40½′

2874

[1] Very difficult to read, at the foot of the page. Cf. above, at 12 March. [Valde difficile lectu, ad imam paginam. Cf. ſupra, ad diem 12 Martii.]

[2] Added in the margin beside the preceding four stars: "They do not correspond to the operation, for the most part". [Adſcriptum eſt in margine ad præcedentes quatuor ſtellas: »Non reſpondent operationi vt plurimum«.]

Reading	Value
23 of Perseus [23 Perſei]	15° 33′
	15° 33½′

[2874] The head *Mag.* (in small capitals) and the line *Inter caput Andromedæ &*, which stands over the labels on the line of *Mag.*, are the page's; "Value" is this edition's head, the page printing none over the figures. *In Perſeo* is printed centred above the date heading. No magnitude is printed for 23 of Perseus or for the last row, 22 at the buttocks. Labels that run over two lines are given whole on the first row of their figures. *bis*, "twice", stands after the figures of 23 and 22 of Perseus in the first list. The footnote cue *2* stands after *Perſei* in the label of 10. *Vice verſa.* and *Inter Capellam &* are each printed centred on a line of their own, with no figures. The values, printed without unit marks, are given as degrees and minutes. The page does not identify the stars further.

Reading	Value
24 in the shin of Perseus [24 in tibia Perſei]	17° 50′ twice [bis]
25 in the left heel of Perseus [25 in ſiniſtro calcaneo] [Perſei]	22° 26¾′
	22° 27′
26, the brighter [star] in the left foot of Perseus [26 lucidiorem in pede] [ſiniſtro Perſei]	21° 15⅚′
	21° 16′
Of the head of Medusa, 14 [Capitis Meduſæ 14]	25° 8′
	25° 8½′

2875

Declinations of the stars by the armillae in Perseus. [Declinationes ſtellarum] [per Armillas in Perſeo.]

Number [Num.]	Reading	Value
14	Of the lower of the preceding [stars] in the head of Medusa [Præcedentium inferioris] [in capite Meduſæ]	37° 12′ twice [bis]
7	Of the bright [star] that is in the right side, 2 Mag. [Lucidæ quæ eſt in dex-] [tro latere, 2 Mag.]	48° 21′
		48° 21¼′
10	Of the one that is in the right hip [Eius quæ eſt in coxen-] [dice dextra]	46° 25′
		46° 24½′
3	Of the one that is in the right shoulder [Eius quæ eſt in humero] [dextro]	51° 50′
		51° 50½′
23	Of the one that is above the left knee[1] [Eius quæ eſt ſupra] [genu ſiniſtrum[1]]	38° 44′
		38° 44½′
26	Of the one that is in the ankle of the left foot [Eius quæ eſt in talo] [ſiniſtri pedis]	30° 36′
		30° 36⅚′
25	Of the one that is in the heel of Perseus [Eius quæ eſt in calcaneo] [Perſei]	30° 58′
24	Of the one that is in the shin of Perseus [Eius quæ eſt in tibia] [Perſei]	34° 33′
23	Of the one that is in the thigh [Eius quæ eſt in femore]	38° 46′ twice [bis]
22	Of the one that is at the buttocks of Perseus [Eius quæ eſt ad clunes] [Perſei]	41° 13⅙′
14	In the head of Medusa, the following [star], the brightest of the head [In capite Meduſæ ſeq.] [lucidiß. cap.]	37° 12′ twice [bis]

[2875] These rows open the left-hand column under no heading and continue the 9 October distances of p. 386, where they follow the line "Between Capella and" printed after "The other way round". There the page heads the table with *Mag.* and *Inter caput Andromedæ &*; that second head does not apply to these rows, so "Reading" and "Value", this edition's heads, are used here, and the magnitude column is left out, the page printing no magnitude in any of these rows. Labels that run over two lines are given whole on the first row of their figures. *bis*, "twice", stands after the figures of 24. The values, printed without unit marks, are given as degrees and minutes. The page does not identify the numbered stars further.

2876

On 10 October, in the evening [DIE 10 OCTOBRIS, VESPERI.]

Num-ber	Reading	Value
10	Declination of the bright [star] in the bend of the side of Perseus [Declin. lucidæ in flexura] [lateris Perſei]	46° 25⅓′
7	Of the one that is in the right side of Perseus [Eius quæ eſt in latere] [dextro Perſei]	48° 21′
3	Of the one that is in the right shoulder of Perseus [Eius quæ eſt in dextro] [humero Perſei]	51° 51′

2877

On 21 November, in the evening [DIE 21 NOUEMBRIS, VESPERI.]

For the examination of the revolving [quadrant], rectified anew, and of the steel [quadrant]. [Pro examinatione Volubilis] [denuo rectificati & Chalybei.]

Meridian altitude [Altit. Merid.]	by the steel [quadrant] [per Chal.]	by the revolving [quadrant] [per Vol.]	Difference [Diff.]
Of the head of Andromeda [Capitis Androm.]	60° 56⅙′	60° 55′	1⅙′
The far end of the wing of Pegasus [Extrem. alæ Pegaſi]	47° 0¼′	46° 59¾′	30″
The bright [star] in the tail of Cetus [Luc. in cauda Ceti]	13° 55′	13° 54⅙′	50″
The middle [star] in the tail of Ursa Major [Med. in cauda vrſ.] [mai.]	23° 3′	23° 2′	5″

2876 The two-line title is centred over the list; *Num.* is the page's head, printed in small type at the left on the line of *per Armillas in Perſeo.*; "Reading" and "Value" are this edition's heads. The list follows the 9 October distances under no new date heading. The number 14 stands at the head of the list and again at its foot, with different labels and with 37° 12′ twice in both rows; the number 23 stands twice, with different labels and different values (38° 44′ and 38° 44½′; 38° 46′ twice); the page does not say whether the same star is meant. Labels that run over two lines are given whole on the first row of their figures; where the figures stand on the second line only (25, 24, 22, the last 14) the label is given whole on the row of its figures. *bis*, "twice", stands after the figures of the first 14, the second 23 and the last 14. No north or south is printed with these declinations. The values, printed without unit marks, are given as degrees and minutes.

2877 "Number", "Reading" and "Value" are this edition's heads; the numbers stand at the left in the position of the numbered list above, with no head printed over them here. The numbers 10, 7 and 3 also stand in the list above, where 10 is labelled as the star in the right hip (46° 25′, 46° 24½′), 7 as the bright star in the right side (48° 21′, 48° 21¼′) and 3 as the star in the right shoulder (51° 50′, 51° 50½′); the page does not say whether the same stars are meant. Each label runs over two lines, the figures on the second; it is given whole on the row of its figures. The values, printed without unit marks, are given as degrees and minutes.

2878

On 23 November [DIE 23 NOUEMBRIS.]

Meridian altitude [Altit. Merid.]	by the steel [quadrant] [per Chal.]	by the revolving [quadrant] [per Vol.]
The preceding [star] of the following two in the □ of Ursa Major [Præced. ſeq. duarum] [in □ vrſæ maioris]	21° 55′	21° 54⅙′
Of the head of Andromeda [Capitis Androm.]	60° 56′	60° 55′
The far end of the wing of Pegasus [Extr. alæ Pegaſi]	47° 0¼′	46° 59′
The preceding [star] at the far end of the tail of Cetus [Præced. in extrem.] [caudæ Ceti]	22° 45¼′	22° 44⅙′
The bright [star] of the girdle of Andromeda [Luc. cinguli Androm.]	67° 30⅚′	67° 30′
The bright [star] in the belly of Cetus [Luc. in ventre Ceti]	16° 1⅔′	16° 1′ 55″
by the sextant [per Sext.]	16° 2′	

2879

On 29 November, in the evening [DIE 29 NOUEMBRIS, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the bright [star] of the girdle of Andromeda [Alt. merid. Lucidæ cinguli Androm.]		
	by the steel [quadrant] [per Chalyb.]	67° 30⅚′

[2878] All four heads are the page's, printed in small type over the labels and the three figure groups. The table runs from the foot of the left-hand column into the head of the right-hand column. The differences are printed with their own marks, 1⅙′ with a minute mark and 30″, 50″ and 5″ with second marks. In the last row *5″* is printed close after the figures 23 2, to the left of the position of the differences in the rows above; it is given in the difference column. As a difference it does not agree with the two figures (23° 3′ less 23° 2′ is 1′); it may instead be the seconds of the second figure, 23° 2′ 5″, as the page sets 40 0 5″ on p. 388. The label of the last row runs over two lines, the figures on the second; it is given whole on one row. The other values, printed without unit marks, are given as degrees and minutes. Measured on a native-resolution crop, the *5″* stands about one and three-quarter figure-widths to the left of the *50″* of the row of Cetus, aligned with neither of its figures, and nearer to the *2* before it than to the difference column; it is left in the difference column here, with the other reading given above.

[2879] All three heads are the page's, printed in small type; the page prints no difference column in this entry. *per Sext.* is printed indented under the belly of Cetus, its figures standing under the *per Chal.* figures; they are given in that column, and nothing stands under *per Vol.* on that line. Labels that run over two lines, the figures on the second, are given whole on one row. The value 16° 1′ 55″ is printed in three figure groups without unit marks and is given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the revolving [quadrant] [per Volub.]	67° 30⅔′
Minimum altitude of the middle [star] in the tail of Ursa Major [Alt. min. mediæ in cauda vrſ. mai.]		
	by the steel [quadrant] [per Chalyb.]	23° 2′
	by the revolving [quadrant] [per Volub.]	23° 2¼′
Of the one in the point of the Triangle [Eius in cuſpide Trianguli]		
	by the steel [quadrant] [per Chalyb.]	61° 36⅚′
	by the revolving [quadrant] [per Volub.]	61° 38⅙′

2880

On 3 December [DIE 3 DECEMBRIS.]

Reading	Instrument	Value
Meridian altitude of the preceding [star] in the point of the triangle, by the steel [quadrant] [Alt. merid. præced. in cuſpide] [trianguli per Chal.]		61° 37½′
	by the revolving [quadrant] [per Vol.]	61° 38⅙′
Toward the north. [Ad ſeptentrionem.]		
Meridian altitude of the bright [star] in the □ of Ursa Minor [Alt. mer. lucidæ in □ vrſæ minoris]		
	by the steel [quadrant] [per Chal.]	41° 43⅔′
	by the revolving [quadrant] [per Vol.]	41° 44⅙′
Meridian altitude of the following, less bright [star] in the □ of Ursa Minor [Alt. mer. ſequentis minus] [lucidæ in □ vrſæ minoris]		
	by the steel [quadrant] [per Chalyb.]	39° 12⅓′
	by the revolving [quadrant] [per Volub.]	39° 12¼′

2880 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The instrument lines are printed indented under each label. The values, printed without unit marks, are given as degrees and minutes.

2881

On 4 December, in the evening [DIE 4 DECEMBRIS, VESPERI.]

Reading	Remark	Value
Between the preceding or unformed [star] of the head of Medusa and Capella, 5 magn. [Inter præcedentem ſeu informem ca-] [pitis Meduſæ &] [Capellam, 5 magn.]		27° 52′
	with the other [alt.]	27° 52¼′
Between 15 in the head of Medusa and Capella [Inter 15 in capite Meduſæ &] [Capellam]		25° 40′
Between 14 in the head of Medusa and the bright [star] of the girdle of Andromeda [Inter 14 in cap. Meduſæ &] [lucid. cinguli Androm.]		23° 7½′
		23° 8′

2882

[1] Added in the margin: "see a better one here below". [Adſcriptum eſt in margine »vide meliorem hic infra«.]

Reading	Value
Between 13 in the head of Medusa and the bright [star] of the girdle of Andromeda [Inter 13 in cap. Med. &] [lucid. cing. Androm.]	24° 16′
	24° 16¼′
Between 24 of Perseus and the bright [star] of the girdle of Andromeda [Inter 24 Perſei &] [lucid. cinguli Androm.]	34° 6½′
	34° 6′
Between the upper foot of Erichthonius and the bright [star] of ♈ [Inter ſuperiorem ped.] [Ericht. & lucid. ♈]	38° 19⅚′
	38° 21′
Meridian altitude of 11 of Perseus by the revolving [quadrant] [Alt. mer. 11 Perſei per Volub.]	77° 20¼′
Meridian altitude of 6 of Perseus by the revolving [quadrant] [Alt. mer. 6 Perſei per Volub.]	82° 2′

2881 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. In the first label the instrument, *per Chal*., stands at the end of the label's second line, with the figures; it is given in the label, on that row. *Ad ſeptentrionem.* is printed centred on a line of its own, with no figures, between the first star and the two stars of Ursa Minor. *trianguli* is printed here with a small initial, *Trianguli* with a capital in the 29 November entry above. The other instrument lines are printed indented under their labels. The values, printed without unit marks, are given as degrees and minutes.

2882 "Reading", "Remark" and "Value" are this edition's heads; the page prints none. The first label runs over three lines, the first figures on the second and the second figures on the third; it is given whole on the first row. *5 magn.* stands after *Capellam* and a comma; the page does not say which star it qualifies. *alt*., "with the other", stands on the third line between *5 magn.* and the figures, and is given on the row of those figures. The last label runs over two lines, each with figures, and is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes. The page ends at the figures 23 8 at the foot of the right-hand column.

2883

On 16 December [DIE 16 DECEMBRIS.] Observation of the constellation of the Triangle. [Obſeruatio afteriſmi Trianguli.]

Reading	Value
Between the far end of the wing of Pegasus and the one that is in the point of the Triangle, number 1 [Inter extremam alæ Pegaſi & eam quæ] [eſt in cuſpide Trianguli] [num. 1]	27° 4½′ twice [bis]
Between the far end of the wing of Pegasus and the upper [star] in the base of the Triangle, number 2 [Inter extremam alæ Pegaſi &] [ſuperiorem in baſi] [Trianguli num. 2]	32° 38½′
	32° 39′
Between the far end of the wing of Pegasus and the lower of the two [stars] in the base of the triangle [Inter extremam alæ Pegaſi &] [inferiorem duarum] [in baſi trianguli]	33° 33⅔′
	33° 34⅙′

2884

On … December [DIE… DECEMBRIS.]

Reading	Instrument	Value
The bright [star] of Perseus at the greatest altitude [Lucida Perſei in max. alt.]		
	by the steel [quadrant] [per Chalyb.]	82° 23⅚′
	by the revolving [quadrant] [per Volub.]	82° 24′
Meridian altitude of the brighter [star], the one that is in the right hip [Alt. mer. lucidioris eius quæ] [eſt in coxendice dextra]		
	by the steel [quadrant] [per Chalyb.]	80° 28⅙′

[2883] These rows open the left-hand column of the upper block under no heading and continue the 4 December entry of p. 387; "Reading" and "Value" are this edition's heads, as there, and the remark column of that table is left out, nothing standing in it in these rows. Each of the first three labels runs over two lines, each with figures, and is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes. The page does not identify the numbered stars further.

[2884] "Reading" and "Value" are this edition's heads; the page prints none. The title line is printed centred under the date heading. The table runs from the foot of the left-hand column into the head of the right-hand column. The first label runs over three lines, the figures on the third; the others run over three lines with figures on the second and third; each is given whole on its first row of figures. *bis*, "twice", stands after the figures of number 1. *trianguli* is printed with a small initial in the last label. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the revolving [quadrant] [per Volub.]	80° 28½′

2885

Observations of southern stars outside the zodiac [OBSERUATIONES STELLARUM EXTRA ZODIACUM AUSTRALIUM.]

On 3 January, in the evening [DIE 3 JANUARIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the lower of the bright [stars] in the head of Cetus, by the revolving [quadrant] [Alt. merid. inferioris lucidarum in ca-] [pite Ceti per Volub.]		32° 37½′
	by the steel [quadrant] [per Chal.]	32° 37′
	by the sextant [per Sext.]	32° 37′
Of the following [star] of the same [stars] [Sequentis earundem]		
	by the revolving [quadrant] [per Volub.]	35° 33⅓′
	by the steel [quadrant] [per Chalyb.]	35° 34′
	by the sextant [per Sext.]	35° 33⅚′

2886

On 7 January, in the morning [DIE 7 JANUARIJ, MANE.]

Reading	Instrument	Value
The lower of the two preceding [stars] in the □ of the Crow, in the meridian [Inferior duarum præceden-] [tium in □ Corui in Merid.]		

[2885] The date heading prints three spaced points where the day would stand; no day is given. "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The instrument lines are printed indented under each label. The values, printed without unit marks, are given as degrees and minutes.

[2886] "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. In the first label the instrument, *per Volub.*, stands at the end of the label's second line, with the figures; it is given in the label, on that row. The other instrument lines are printed indented under their labels. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the revolving [quadrant] [per Volub.]	13° 48⅚′
	by the steel [quadrant] [per Chal.]	13° 50′
	by the sextant [per Sext.]	13° 49′
The following [star] of the two, by the revolving [quadrant] [Sequens duarum per Volub.]		18° 52½′
	by the steel [quadrant] [per Chalyb.]	18° 53′
	by the sextant [per Sext.]	18° 53′
The bright [star] of the tail of Hydra [Lucida caudæ Hydræ]		
	by the revolving [quadrant] [per Volub.]	13° 10′
	by the steel [quadrant] [per Chalyb.]	13° 11′
	by the sextant [per Sext.]	13° 10⅙′

2887

On 8 January, in the evening [DIE 8 JANUARIJ, VESPERI.]

Reading	Value
Distance between Canis Major and [Diſtantia inter Canem maiorem &]	
the head of the Hare [Caput Leporis]	22° 10¾′
the far end of the foot of the Hare [Extremam pedis] [Leporis]	24° 14′
	24° 14⅓′
the back of the Hare [Dorſum Leporis]	17° 23⅔′ twice [bis]
the one in the belly of the Hare [Eam in ventre] [Leporis]	18° 44′
	18° 44⅓′
the more southern of the 2 in the hind feet [Auſtr. 2 in poſterioribus] [pedibus]	15° 25½′ twice [bis]
the more northern of the same [Borealiorem earundem]	13° 31¼′
once, because of the clouds [ſemel propter nubes.]	
Declination of the one that is in the head of the Hare [Declin. eius quæ eſt] [in capite Leporis]	16° 42½′

2887 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. In the label of the following star the instrument, *per Volub.*, stands on the label's line, with the figures; it is given in the label, on that row. The other instrument lines are printed indented under their labels. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
	16° 42⅔′

2888

On 11 January, in the evening [DIE 11 JANUARIJ, VESPERI.]

Reading	Value
Altitude of the two brighter [stars] in the pelt of Orion: of the preceding [Altit. duarum lucidiorum in exuuiis] [Orionis præcedentis]	40° 16′
Of the following, by the revolving [quadrant] [Sequentis per Volub.]	38° 56½′

2889

Reading	Instrument	Altitude [Altitudo]	Declination [Declin.], with one / with the other [vno/alt.]
Of the first [star] in Eridanus [Primæ in Eridano]			
	by the steel [quadrant] [per Chal.]	28° 25⅓′	5° 40′
	by the revolving [quadrant] [per Vol.]	28° 25⅔′	5° 39⅔′
	by the sextant [per Sext.]	28° 26⅓′	
Of the left foot of Orion [Siniſtri pedis Orion.]			
	by the revolving [quadrant] [per Vol.]	25° 21⅓′	8° 43′
	by the sextant [per Sext.]	25° 22½′	8° 42½′

2888 "Reading" and "Value" are this edition's heads; the page prints none. The table runs from the foot of the left-hand column of the lower block into the head of the right-hand column. *Diſtantia inter Canem maiorem &* is printed on a line of its own, with no figures. *ſemel propter nubes.* is printed on a line of its own below the figures of the more northern star, set to the right and ending at the column's edge, with no figures. Labels that run over two lines are given whole on the first row of their figures. *bis*, "twice", stands after the figures of the back of the Hare and of the more southern of the two in the hind feet. No north or south is printed with the declination. The values, printed without unit marks, are given as degrees and minutes.

2889 "Reading" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, the figures on the second; it is given whole on one row. No instrument is printed with the first value. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Altitude [Altitudo]	Declination [Declin.], with one / with the other [vno/alt.]
	by the steel [quadrant] [per Chal.]	25° 23⅙′	
	the mural [quadrant] [Mural.]	25° 21⅔′ with both [vtroq.]	
Of the preceding shoulder of Orion [Præced. humeri Orion.]			
	by the sextant [per Sext.]	40° 0⅙′	5° 55′
	by the revolving [quadrant] [per Vol.]	40° 0′	5° 55⅓′
	by the steel [quadrant] [per Chal.]	40° 0′ 5″	
	the mural [quadrant] [Mural.]	40° 0′	
	with the other pinnule [alt. pin.]	39° 59¾′	

2890

Reading	Instrument	Altitude	Declination
Of the first [star] in the girdle of Orion [Primæ in cingulo Orion.]			
	the mural [quadrant] [Mural.]	33° 25¾′	0° 39½′
	by the revolving [quadrant] [per Vol.]	33° 25⅓′	0° 39⅓′
	by the steel [quadrant] [per Chal.]	33° 26⅙′	
	by the sextant [per Sext.]	33° 26½′	
Of the middle [star] in the girdle [Mediæ in cingulo]			
	by the revolving [quadrant] [per Vol.]	32° 33½′	1° 31½′

2890 "Reading" and "Instrument" are this edition's heads; *Altitudo* and *Declin. / vno/alt.* are the page's, printed in small type over the two figure groups, *Altitudo* on the line of *Primæ in Eridano* and *Declin.* above *vno/alt.*. The instrument lines are printed indented under each label; *alt. pin.* is set further to the right, ending just before its figures. The declination figures stand on the lines of the first two instrument lines under each star, as printed; the head pairs them as one value "with one" and one "with the other" (*vno/alt.*, no *pin.* printed with them), and the head itself names no instrument for them. *vtroq.*, "with both", stands after the mural figures of the left foot. In the steel line of the preceding shoulder *5″*, with a second mark, is printed close after the figures 40 0, in the altitude group; it is given as seconds of that value. No north or south is printed with the declinations. The other values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Altitude	Declination
	by the sextant [per Sext.]	32° 34⅙′	1° 31⅓′
	by the steel [quadrant] [per Chal.]	32° 34⅓′	
	the mural [quadrant] [Mural.]	32° 34′	
Of the last [star] in the girdle [Vltimæ in cing.]			
	by the revolving [quadrant] [per Vol.]	31° 52′	2° 12½′
	by the sextant [per Sext.]	31° 53′	2° 12⅚′
	by the steel [quadrant] [per Chal.]	31° 53′	
	the mural [quadrant] [Mural.]	31° 52′	
Of the right foot [Dextri pedis]			
	by the steel [quadrant] [per Chal.]	24° 14⅚′	9° 51⅔′
	by the sextant [per Sext.]	24° 13⅔′	9° 51½′
	by the revolving [quadrant] [per Vol.]	24° 13½′	
	the mural [quadrant] [Mural.]	24° 13′	
	with the other pinnule [alt. pin.]	24° 13⅓′	
The bright shoulder of Orion [Luc. humer. Orion.]			
	by the sextant [per Sext.]	41° 20¼′	7° 17′
	by the steel [quadrant] [per Chal.]	41° 21′	7° 17⅓′
	by the revolving [quadrant] [per Vol.]	41° 21′	
	the mural [quadrant] [Mural.]	41° 21′ with both [vtroq.]	

2891

Reading	Instrument	Value
Meridian altitude of the preceding foot of Canis Major [Præcedentis pedis Canis maioris Alt.] [merid.]	by the sextant [per Sext.]	16° 19′

[2891] These rows continue the 11 January table that begins on p. 388; the page prints no heading or column heads above them. "Reading", "Instrument", "Altitude" and "Declination" are this edition's heads, carried from that table. The instrument lines are printed indented under each label; *alt. pin.* is set further to the right, ending just before its figures. The declination figures stand on the first two instrument lines under each star, as printed; the head on p. 388, *Declin.* over *vno/alt.*, pairs them as one value with one pinnule and one with the other; the page names no other instrument for them and prints no north or south with them. *vtroq.*, "with both", stands after the mural figures of the bright shoulder, in the area of the second figure group; it is given with those figures. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the revolving [quadrant] [per Vol.]	16° 18⅔′
	by the steel [quadrant] [per Chal.]	16° 19½′
The bright [star] of Canis Major [Luc. Can. mai.]	by the revolving [quadrant] [per Volub.]	17° 54⅔′
	by the sextant [per Sext.]	17° 55′
	by the steel [quadrant] [per Chalyb.]	17° 55⅙′
Declination of the bright [star] of Canis Major [Decl. luc. Can. mai.]		16° 10′
	with the other [alt.]	16° 10¼′
Altitude of the lower or southern foot of Canis Major [Alt. inf. ſiue auſt.] [ped. Can. mai.]	by the revolving [quadrant] [per Vol.]	5° 45½′
	by the sextant [per Sext.]	5° 45½′
Of the following [star] in the hind foot of Canis Major [Sequentis in pede poſteriori] [Canis mai.]	by the revolving [quadrant] [per Volub.]	8° 21½′
	by the steel [quadrant] [per Chalyb.]	8° 23⅓′
	by the sextant [per Sext.]	8° 23′
	by the mural [quadrant] [per Mural.]	8° 22′

2892

On 6 February [DIE 6 FEBRUARIJ.]

Reading	Instrument	Value
Altitude of the left foot of Orion [Alt. ſiniſtri pedis Orionis]		
	by the revolving [quadrant] [per Volub.]	25° 21′
	by the steel [quadrant] [per Chalyb.]	25° 22⅓′
	by the lesser quadrant [per Q. Min.]	25° 22¾′
	by the sextant [per Sext.]	25° 22′

[2892] These rows follow the Orion rows with no new date heading. "Reading", "Instrument" and "Value" are this edition's heads; the figures stand in one group, at the position of the declination figures of the rows above. The first label runs over two lines, its second line (*merid. per Sext.*) carrying the figures; it is given whole on one row, with the instrument beside it. The label *Alt. inf. ſiue auſt. / ped. Can. mai.* runs over two value lines, each line carrying its own instrument; it is given whole on the first row. *alt.*, set right just before its figures under the declination line, is rendered "with the other", as in the head *vno/alt.* of p. 388. No north or south is printed with the declination. The values, printed without unit marks, are given as degrees and minutes.

2893

On 9 February [DIE 9 FEBRUARIJ.]

Reading	Instrument	Value
Meridian altitude of the left shoulder of Orion [Alt. mer. ſiniſtri humeri Orionis]		
	by the steel quadrant [per Q. Chalyb.]	40° 0′
	by the new sextant [per Sext. nou.]	39° 59⅔′
Of the right foot [Dextri pedis]	by the revolving [quadrant] [per Volub.]	24° 12⅔′
Of the right shoulder [Dextri humeri]	by the revolving [quadrant] [per Volub.]	41° 21′

2894

On 10 February [DIE 10 FEBRUARIJ.]

Reading	Instrument	Value
Of the left foot [Siniſtri pedis]		
	by the revolving [quadrant] [per Volub.]	25° 22⅓′
	by the steel [quadrant] [per Chalyb.]	25° 22⅙′
	by the old sextant [per Sext. vet.]	25° 22′
Of the left shoulder [Sin. humeri]		
	by the revolving [quadrant] [per Volub.]	40° 0′
	by the old sextant [per Sext. vet.]	39° 59⅚′
Of the first [star] of the belt [Primæ balthei]		
	by the steel [quadrant] [per Chalyb.]	33° 25½′
	by the old sextant [per Sext. vet.]	33° 25′
Of the second [star] [Secundæ]		
	by the revolving [quadrant] [per Volub.]	32° 33′
	by the steel [quadrant] [per Chalyb.]	32° 33⅚′
	by the old sextant [per Sext. vet.]	32° 33¼′
	by the mural [quadrant] [per Mural.]	32° 33¾′
Of the third [star] [Tertiæ]		
	by the revolving [quadrant] [per Volub.]	31° 50′
	by the steel [quadrant] [per Chalyb.]	31° 52⅙′
	by the old sextant [per Sext. vet.]	31° 51′

2893 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

2894 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the mural [quadrant] [per Mural.]	31° 52′
Of the right foot [Dextri pedis]		
	by the revolving [quadrant] [per Volub.]	24° 13⅙′
	by the steel [quadrant] [per Chalyb.]	24° 14′
	by the old sextant [per Sext. vet.]	24° 13′
	by the mural [quadrant] [per Mural.]	nearly [fere] 24° 13½′
Of the right shoulder [Dext. hum.]		
	by the revolving [quadrant] [per Volub.]	41° 21′
	by the steel [quadrant] [per Chalyb.]	41° 20⅙′
	by the old sextant [per Sext. vet.]	41° 21′
	by the mural [quadrant] [per Mural.]	41° 20⅔′

2895

Declinations [Declinationes]	with one pinnule [vno pin.]	with the other [altero]
Of the left foot [Siniſtri pedis]	south [M.] 8° 42½′	8° 42½′
Of the left shoulder [Siniſtri humeri]	north [B.] 5° 54½′	5° 54¼′
Of the first [star] in the girdle [Primæ in cingulo]	south [M.] 0° 40¼′	0° 40′
Of the second [star] [Secundæ]	south [M.] 1° 31⅔′	1° 31¾′
Of the third [star] [Tertiæ]	south [M.] 2° 13½′	2° 13¾′
Of the right shoulder [Dextri humeri]	north [B.] 7° 15½′	7° 15½′
Of the right foot [Dextri pedis]	south [M.] 9° 52′	9° 52¼′

2896

Reading	Instrument	Value
Distance between the left shoulder of Orion and Canis Minor [Diſt. inter ſin. humerum Ori-] [onis & Canem minorem]		33° 27¼′ twice [bis]
Between the right shoulder of Orion and Canis Minor [Inter dext. hum Orion. &] [Can. min.]		26° 2⅓′
	by the new sextant [per Sext. nou.]	26° 2½′

2895 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none, and names no quantity (altitude or other) for these figures. *fere*, "nearly", is printed before the figures of the mural line of the right foot. The values, printed without unit marks, are given as degrees and minutes.

2896 All three heads are the page's, printed in small type. *M.* and *B.* are printed before the first figures of each row only; none is printed with the second figures. Under 11 January (p. 388 and the left column of this page) labels of the same form carry other declination figures: the left foot 8° 43′ and 8° 42½′, the first star in the girdle 0° 39½′ and 0° 39⅓′, the right foot 9° 51⅔′ and 9° 51½′. Each is given as printed; no identity is asserted. The values, printed without unit marks, are given as degrees and minutes.

2897

On 11 February [DIE 11 FEBRUARIJ.]

The bright [star] of ♈, west [Luc. ♈ occ.]	The middle [star] of the belt of Orion, west [Media balth.] [Orion. occ.]	Difference of right ascension [Diff. Asc. R.]
66° 42½′	13° 52¾′	52° 49¾′
67° 23½′	14° 35′	52° 48½′
67° 52½′	15° 3½′	52° 49′
	Set down here [Pone hic]	52° 49⅙′
Canis Minor, east [Can. min. or.]		
15° 9′	15° 25½′	30° 34½′
14° 47½′	15° 48¼′	30° 35¾′
14° 16½′	16° 18¾′	30° 35¼′
	Set down here [Pone hic]	30° 35¼′

2898

On 12 February, in the evening [DIE 12 FEBRUARIJ, VESPERI.]

Reading	Instrument	Value
Meridian altitude of the left shoulder of Orion [Alt. mer. Sin. humeri Orionis]		
	by the revolving quadrant [per Q. Volub.]	40° 0′
	by the lesser portable [quadrant] [per Min. port.]	40° 0′
	by the steel [quadrant] [per Chal.]	40° 0¼′
Of the first [star] in the girdle [Primæ in cingulo]	by the revolving [quadrant] [per Volub.]	33° 23½′
	by the lesser portable [quadrant] [per Min. port.]	33° 25½′
	or [vel]	25¾′
	by the steel [quadrant] [per Chalyb.]	33° 25¾′
Of the middle [star] [Mediæ]	by the revolving [quadrant] [per Volub.]	32° 33′

2897 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Both labels run over two lines and are given whole on their first row. The second label runs over two value lines; *per Sext. nou.* is printed on the second line only, and the page does not say whether it also governs the first figures. *hum* is printed without a point. The values, printed without unit marks, are given as degrees and minutes.

2898 All three heads are the page's, printed in small type; the middle head stands on two lines, *Media balth.* over *Orion. occ. Can. min. or.* is printed in small type over the first column only, below the third row of figures; the middle and last columns carry no new head below it. *Pone hic*, "Set down here", is printed in the middle column, before figures in the last column. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the lesser portable [quadrant] [per Min. port.]	32° 34½′
	or [vel]	34⅓′
	by the steel [quadrant] [per Chalyb.]	32° 34½′
	by the new sextant [per Sext. nou.]	32° 33¾′
Of the third [star] [Tertiæ]	by the revolving [quadrant] [per Volub.]	31° 51′
	by the lesser portable [quadrant] [per Min. port.]	31° 52¾′
	by the steel [quadrant] [per Chalyb.]	31° 52¾′
	by the new sextant [per Sext. nou.]	31° 52¼′
Of the right foot [Dextri pedis]	by the revolving [quadrant] [per Volub.]	24° 13′
	by the lesser portable [quadrant] [per Min. port.]	24° 12¾′
	by the steel [quadrant] [per Chalyb.]	24° 14½′
Of the right shoulder [Dextri humeri]	by the revolving [quadrant] [per Volub.]	41° 20⅔′
	by the lesser portable [quadrant] [per Min. port.]	41° 20¼′
	by the steel [quadrant] [per Chalyb.]	41° 20½′
	by the new sextant [per Sext. nou.]	41° 21¼′

2899

On 15 February [DIE 15 FEBRUARIJ.]

Reading	Instrument	Value
Meridian altitude of the left foot of Orion [Alt. merid. ſiniſtri pedis Orionis]		
	by the revolving quadrant [per Q. Volub.]	25° 20⅔′
Of the left shoulder of Orion [Siniſtri humeri Orionis]		
	by the revolving quadrant [per Q. Volub.]	40° 0′
	by the lesser portable [quadrant] [per Min. port.]	40° 0¼′
	by the steel [quadrant] [per Chalyb.]	40° 0¼′
Of the first [star] in the girdle [Primæ in cingulo]		
	by the lesser portable [quadrant] [per Min. port.]	33° 26′
	by the steel [quadrant] [per Chalyb.]	33° 25⅔′

2899 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Min. port.* is given as "the lesser portable [quadrant]", *port.* expanded as the work gives *Quadrans Portatilis*; "quadrant" is supplied. Each *vel*, "or", stands right of the instrument lines with only a minutes figure after it, in the minutes position; no degrees are printed on those lines. The values, printed without unit marks, are given as degrees and minutes, and the lone figures after *vel* as minutes.

Reading	Instrument	Value
	by the new sextant [per Sext. nou.]	33° 25′
Of the middle [star] [Mediæ]	by the lesser portable [quadrant] [per Min. port.]	32° 34½′
	by the steel [quadrant] [per Chalyb.]	32° 34⅔′
	by the new sextant [per Sext. nou.]	32° 33¾′
Of the last [star] [Poſtremæ]	by the lesser portable [quadrant] [per Min. port.]	31° 53½′
	by the steel [quadrant] [per Chalyb.]	31° 53′
	by the new sextant [per Sext. nou.]	31° 52⅙′
Of the right foot [Dextri pedis]	by the lesser portable [quadrant] [per Min. port.]	24° 13¾′
	by the steel [quadrant] [per Chalyb.]	24° 14⅔′
	by the new sextant [per Sext. nou.]	24° 14½′
Of the right shoulder [Dextri humeri]	by the lesser portable [quadrant] [per Min. port.]	41° 21½′
	by the steel [quadrant] [per Chalyb.]	41° 21⅙′
	by the new sextant [per Sext. nou.]	41° 21⅔′

2900

On 15 March [DIE 15 MARTIJ.]

Reading	Instrument	Value
Meridian altitude of the bright [star] of Hydra [Alt. merid. Lucidæ Hydræ]		
	by the revolving quadrant [per Q. Volub.]	27° 11⅚′
	by the lesser azimuthal quadrant [per Q. Min. azim.]	27° 11′
	by the steel [quadrant] [per Chalyb.]	27° 11⅚′
	by the mural [quadrant] [per Muralem,], with the new [nouo]	27° 11½′
	with the old [vet.]	27° 11′

2901

On 22 March [DIE 22 MARTIJ.]

2900 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The list runs from the foot of the left column into the head of the right column, which opens with *Mediæ per Min. port.* under no heading. The values, printed without unit marks, are given as degrees and minutes.

2901 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *nouo* and, on the next line, *vet.* are set right, each just before its figures; the page does not name what is new or old. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Meridian altitude of the bright [star] of Hydra [Alt. merid. Luc. Hydræ]		
	by the revolving [quadrant] [per Volub.]	27° 11′ 30″
	by the steel [quadrant] [per Chalyb.]	27° 11′ 25″

2902

On 1 November [DIE 1 NOUEMBRIS.]

Reading	Value
Between the bright [star] of the jaw of Cetus and the bright [star] of the tail of the same, for the place of the bright star in the tail of Cetus [Inter luc. mand. Ceti & luc.] [caudæ eiusdem pro loco] [ſtellæ luc. in cauda Ceti]	40° 44¼′ twice [bis]

2903

On 21 November [DIE 21 NOUEMBRIS.]

Reading	Instrument	Value
The bright [star] in the tail of Cetus [Luc. in cauda Ceti]	by the steel [quadrant] [per Chal.]	13° 55′
	by the revolving [quadrant] [per Volub.]	13° 54⅙′

2904

On 23 November [DIE 23 NOUEMBRIS.]

Reading	Instrument	Value
The bright [star] in the belly of Cetus [Luc. in ventre Ceti]	by the steel [quadrant] [per Chal.]	16° 1⅔′
	by the revolving [quadrant] [per Volub.]	16° 1′ 55″

2902 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values are printed in three figure groups without unit marks and are given as degrees, minutes and seconds.

2903 "Reading" and "Value" are this edition's heads; the page prints none. The label runs over three lines, the figures on the third; it is given whole on one row. The value, printed without unit marks, is given as degrees and minutes.

2904 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. On p. 387 the date 21 November, there with *VESPERI*, carries the same label with the same two figures by the steel and the revolving quadrants. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the sextant [per Sext.]	16° 2′

2905

On 29 November [DIE 29 NOUEMBRIS.]

Reading	Instrument	Value
Meridian altitude of the tail of Cetus [Alt. mer. caudæ Ceti]	by the revolving [quadrant] [per Vol.]	13° 54′ 5″
	by the steel [quadrant] [per Chalyb.]	13° 54⅚′
	by the new sextant [per Sext. nou.]	13° 53⅚′

2906

On 3 December [DIE 3 DECEMBRIS.]

Reading	Instrument	Value
Of the following or middle [star] in the jaw of Cetus [Sequentis ſeu mediæ in man-] [dibula Ceti]	by the revolving [quadrant] [per Volub.]	35° 34⅔′
	by the steel [quadrant] [per Chalyb.]	35° 34¼′
Of the third and bright [star] of the jaw [Tertiæ & luc. mandibulæ]		
	by the revolving [quadrant] [per Volub.]	36° 31⅚′
	by the steel [quadrant] [per Chalyb.]	36° 32½′

2907

On 4 December [DIE 4 DECEMBRIS.]

2905 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. On p. 387 the date 23 November carries the same label with the same three figures. The value 16° 1′ 55″ is printed in three figure groups without unit marks and is given as degrees, minutes and seconds; the others, printed without unit marks, as degrees and minutes.

2906 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. In the first row a single figure *5* stands well to the right of *13 54*, in the position of the seconds figures of the 23 November row above, with no unit mark; it is given as seconds of that value. The other values, printed without unit marks, are given as degrees and minutes.

2907 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The first label runs over two lines, the figures on the second; it is given whole on one row. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Between the middle [star] of the belt of Orion, no. 27, and the bright [star] of the jaw of Cetus [Inter mediam balthei Orionis] [num. 27 &] [lucidam mandibulæ Ceti]	38° 47′
	38° 46⅔′
Between the bright [star] of the jaw of Cetus and 28 in the belt [Inter luc. mand. Ceti &] [28 in baltheo]	40° 1⅙′
	40° 1¼′
29 in the hilt of the sword [29 in manubrio] [gladij]	36° 7¼′
	36° 7⅔′
the right foot of Orion, no. 38 [dextrum pedem] [Orionis num. 38]	43° 26′
	43° 26¼′
32 in the sword of Orion [32 in enſe Orionis]	39° 30′
	39° 29⅔′
31 in Orion [31 in Orione]	39° 19½′
	39° 20⅔′
22 in the shield [22 in clipeo]	26° 51′ twice [bis]
23 in the shield [23 in clipeo]	27° 10′
	27° 11′
24 in the shield [24 in clipeo]	28° 0′ twice [bis]
25 in the shield [25 in clipeo]	29° 1′ twice [bis]
Between Canis Minor and 22 of Orion [Inter Canem Minorem &] [22 Orionis]	42° 9½′
	42° 10′
23	41° 43′
	41° 44′
24	41° 20′
	41° 20¾′
the one that is in the hilt of Orion [eam quæ eſt in] [manubrio Or.]	34° 37′ twice [bis]
30	31° 5½′
	31° 6′
28 in the belt [28 in baltheo]	30° 35¼′

2908

Meridian altitude [Alt. Merid.]	by the revolving [quadrant] [per Volub.]	by the steel [quadrant] [per Chalyb.]
5 in Eridanus [5 in Eridano]		30° 2¾′
22 of Orion [22 Orionis]	40° 16⅔′	40° 16⅙′
23	38° 55′	38° 55¼′

2908 "Reading" and "Value" are this edition's heads; the page prints none. The list runs from the foot of the left-hand column of the upper block into the head of the right-hand column, which opens with *23* under no heading. The three lines beginning *Inter* stand at the column's edge; every other label stands indented below them and is given as printed, with nothing supplied from the *Inter* line above it. Labels that run over two or three lines are given whole on the first row of their figures. *bis*, "twice", stands after the figures. The values, printed without unit marks, are given as degrees and minutes.

Meridian altitude [Alt. Merid.]	by the revolving [quadrant] [per Volub.]	by the steel [quadrant] [per Chalyb.]
24	35° 49⅔′	
25	35° 6′	
29 in the hilt of the sword of Orion [29 in manubrio enſis] [Orion.]	31° 15⅔′	
32 in the sword [32 in enſe]	27° 50′	27° 51′
31	28° 22′	
28 of the girdle [28 cinguli]	31° 51⅔′	31° 53′
38 in the right foot [38 in dextro pede]	24° 13½′	

2909

For investigating the refractions of the fixed stars [PRO REFRACTIONIBUS STELLARUM FIXARUM INDAGANDIS.]

On 10 January, in the evening [DIE 10 JANUARIJ, VESPERI.]

Declination of Arcturus [Declin. Arcturi], with one pinnule [vno pinn.]	with the other [altero]	Its altitude [Altit. eius]
21° 37½′	...	2° 20′
21° 36′	21° 35′	2° 56′
21° 32⅔′	21° 32⅔′	3° 0′ doubtful altitude [dubia alt.]
21° 31⅓′	21° 31½′	3° 50′
21° 30⅔′	21° 31¼′	4½° *by conjecture* [*per coniecturam*]
21° 28⅓′	21° 28⅔′	6° 10′
21° 27¾′	21° 28′	8° 13′

True [declination] 21° 23′ from the altitude. [Vera 21 23 ex altitudine.]

Minimum altitude of Lyra by the revolving [quadrant] [Altit. Lyræ minima per Volub.]: 4° 32¼′[2910]

On 11 January [DIE 11 JANUARIJ.]

[2909] The three heads are the page's, set in small type on one line. For 5 in Eridanus the figures stand under *per Chalyb.*, the *per Volub.* column empty. The label of 29 runs over two lines, the figures on the second; it is given whole on one row. The values, printed without unit marks, are given as degrees and minutes.

[2910] The heads are the page's, in small type: *Declin. Arcturi* stands centred over the two declination columns, with *vno pinn.* and *altero* below it, and *Altit. eius* over the third column. The dots are printed. The figure *4½* stands at the degrees position of the altitude column with no minutes figure, and is given as degrees; *per coniecturam* is italic. The figures of the minimum altitude of Lyra stand on a line of their own below the label, under the altitude column. The other values, printed without unit marks, are given as degrees and minutes.

	Declination [Declinatio]	Altitude [Altit.]	
Canis Minor [Canis min.]	6° 11½′	6° 12′	11° 16½′
	6° 12′	6° 11⅔′	12° 30½′
Of the neck of ♌ [Ceruicis ♌]	22° 1′	22° 0⅔′	6° 26′
	22° 0⅔′*	21° 59½′*	8° 14′
* Uncertain because of clouds [* Incerta propter nubes]			
Of the eye of ♉ [Oculi ♉]	15° 38′	15° 38¼′	...
Canis Major [Can. mai.]	16° 5′	16° 4½′	5° 58′
	16° 5′	16° 4⅓′	6° 16′
Of Arcturus [Arcturi]	22° 29⅔′	22° 29′	4° 30′ by the least [quadrant] [per Minim.]

2911

On 29 January [DIE 29 JANUARIJ.]

H. M.	Azimuth of ♃, east [Azim. ♃ or.]	Altitude of ♃ [Alt. ♃]	Declination of ♃ [Declin. ♃], with one [vno]	with the other [alt.]
	101° 44′	0° 56½′		
	100° 18′	1° 4′	7° 16⅔′	
	99° 26′	2° 16′	7° 12½′	
7^h $19½^m$	98° 25′	2° 53⅓′	7° 11′	
7^h $22⅓^m$			7° 9⅔′	
7^h 23^m				7° 10′
7^h 26^m	97° 9′	3° 44′	7° 9′	7° 9½′
7^h 30^m	96° 25′	4° 13½′	7° 7½′	7° 8′
7^h $35⅙^m$	95° 20′	4° 52′	7° 6⅔′	7° 7′
7^h $40½^m$	94° 24′	5° 31⅓′	7° 5½′	7° 6′
...	93° 36′	6° 1½′	7° 5⅓′	7° 5½′
7^h 50 $1/10^m$	91° 44′	7° 17½′	7° 4⅔′	7° 5′
7^h $57⅚^m$	90° 56′	7° 46½′	7° 3½′	7° 4¼′
8^h $2½^m$	90° 1′	8° 23½′	7° 3⅓′	7° 4′

2911 The page prints two heads, in small type: *Declinatio*, centred over the first two figure columns, and *Altit.* over the third; the label column and the second figure column have no head of their own. The list runs from the foot of the left-hand column of the lower block into the head of the right-hand column, which opens with *Can. mai.* under no heading. The asterisks stand after the two declinations of the second row of the neck of ♌, and the line *Incerta propter nubes*, opening with an asterisk, stands below them. The dots in the altitude column of the eye of ♉ are printed. *per* stands after the figures of Arcturus and *Minim.* on the next line, set right; both are given on that row. The values, printed without unit marks, are given as degrees and minutes. The declinations of Arcturus here, 22° 29⅔′ and 22° 29′ (the 22 confirmed on a native-resolution crop), stand about 1° above those printed for Arcturus under 10 January on this page, from 21° 37½′ down to 21° 27¾′ at altitudes from 2° 20′ to 8° 13′, with 21° 23′ as the true declination; both are given as printed, and no correction is made.

H. M.	Azimuth of ☋, east [Azim. ☋ or.]	Altitude of ☋ [Alt. ☋]	Declination of ☋ [Declin. ☋], with one [vno]	with the other [alt.]
8^h 6½^m	89° 19′	8° 54′	7° 2⅔′	7° 3⅓′
8^h 13⅓^m	87° 58′	9° 49½′	7° 3′	7° 3⅓′

2912

On 30 January [DIE 30 JANUARIJ.]

Time	Value	Value	Value	Value
Morning [Mane]				
1^h 43⅔^m	5° 20′	40° 57′	7° 0′	6° 59½′
1^h 46½^m	4° 14′	41° 0½′	7° 0′	7° 0½′
1^h 56½^m	2° 16′	41° 1½′	7° 0′	
…	1° 17′	41° 3′	7° 0′	7° 0′
Evening [Veſperi]				
7^h 8⅚^m	101° 0′	1° 19½′	7° 20¾′	
7^h 12½^m	100° 11′	1° 49′	7° 18′	
7^h 18^m	99° 6′	2° 17′	7° 14′	
7^h 21^m	98° 26′	2° 54′	7° 13½′	
7^h 29^m	96° 50′	3° 56′	7° 10′	7° 10½′
7^h 32½^m	96° 7′	4° 26′	7° 9⅓′	7° 10′
7^h 36½^m	95° 20′	4° 55½′	7° 9′	7° 9½′

2913

On 29 January [DIE 29 JANUARIJ.] Arcturus was observed for refraction. [Obſeruabatur Arcturus pro refractione.]

In the evening [Veſperi]	Azimuth [Azim.]	Altitude [Altit.]	Declination [Declinatio], with one pinnule [vno pin.]	with the other [altero]
8^h 35⅚^m	125° 38′	2° 51′	21° 35¼′	21° 35½′

2912 The heads are the page's, in small type; *Declin.* ☋ stands centred over the last two columns, with *vno* and *alt.* below it. *H. M.* is printed in the first column on the line of the third row, so the first three rows carry no time. In the fifth row the only other figures stand in the fourth column, in the sixth row in the fifth column. The dots in the time column are printed. The fraction of the time in the twelfth row is printed 1 over 10. The azimuths, altitudes and declinations, printed without unit marks, are given as degrees and minutes.

2913 "Time" and "Value" are this edition's heads; the page prints no column heads here and names no object for these figures. *Mane* and *Veſperi* are printed in small type above the first column. The figures stand in five columns and are given in the column where each is printed; in the morning rows the second and third columns hold *5 20* to *1 17* and *40 57* to *41 3*, in the evening rows *101 0* to *95 20* and *1 19½* to *4 55½*. The dots in the first column are printed. The pairs of the first column, printed without unit marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes.

In the evening [Veſperi]	Azimuth [Azim.]	Altitude [Altit.]	Declination [Declinatio], with one pinnule [vno pin.]	with the other [altero]
$8^h\ 42^m$	124° 20′ doubtful [dub.]	3° 5′	21° 34¼′	21° 33⅔′
$8^h\ 46½^m$	123° 34′	3° 59′	21° 32¾′	21° 32½′
$8^h\ 53⅓^m$	122° 16′	4° 40⅓′		
$9^h\ 14⅚^m$	118° 9′	7° 5′	21° 28½′	21° 28′
$9^h\ 20½^m$	117° 9′	7° 42¼′	21° 27½′	21° 28′
$9^h\ 24⅔^m$	116° 20′	8° 13′	21° 27½′	21° 28½′
$9^h\ 40⅙^m$	113° 25′	10° 3⅓′	21° 27′	21° 27¼′[1]
$10^h\ 8^m$		13° 30′ doubtful [dub.]	21° 27′	21° 26½′[1]
$10^h\ 19½^m$	105° 55′	15° 0′	21° 26′	21° 25½′[1]
$10^h\ 44⅓^m$	101° 28′	18° 13′	21° 25′	21° 24⅔′
$10^h\ 53½^m$	99° 36′	19° 26⅔′	21° 24⅓′	21° 25′
$11^h\ 0^m$	98° 20′	20° 19½′	21° 24′	21° 24½′
$11^h\ 11½^m$	96° 7′	21° 51′	21° 24′	21° 23⅔′
$12^h\ 3^m$	86° 5′	28° 40⅓′	21° 23½′	
$12^h\ 9⅓^m$			21° 23½′	
$12^h\ 17^m$		31° 0′	21° 23′	21° 23½′
$12^h\ 30⅔^m$	66° 11′	40° 21′	21° 22½′	21° 23′
$12^h\ 35⅙^m$	65° 28′	40° 42′		
Of Spica ♍, toward the east [Spicæ ♍, verſus ortum.]				
$11^h\ 49^m$	59° 45′	8° 33½′	8° 53′	
$11^h\ 54^m$	58° 41′	9° 8′	8° 53½′	8° 54′
$11^h\ 58⅚^m$	57° 42′	9° 39½′	8° 54′	8° 53⅔′
	30° 9′	20° 59′	8° 56½′	8° 56¾′
	29° 25′	21° 10′	8° 57′	8° 56¾′

2914

Likewise the bright [star] of ♈ was also observed toward the west, inclining toward the horizon, for the verification of the instrument and the examination of the preceding observations that were made toward the east. [Item Lucida ♈ etiam obſeruabatur verſus occaſum inclinans ad Horizontem pro verificatione inſtrumenti, & præcedentium obſeruationum quæ verſus ortum fiebant examinatione.]

2914 The heads are the page's, in small type; *Declinatio* stands centred over the last two columns, with *vno pin.* and *altero* below it. *dub.* is printed on the line below *124 20*, and again below *13 30*, each joined to its figures by a brace; it is given with those figures. In the row at $10^h\ 8^m$ no azimuth is printed. The line *Spicæ ♍, verſus ortum.* is printed on its own, indented, with no figures. The last two rows carry no time. The first-column pairs, printed without unit marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes. The cue [1] stands after three figures of the last column.

	Altitude [Alt.]	Declination [Declinatio]	
This observation was made at about 11½^{h} [Hæc obſeruatio fiebat] [circiter horam 11½]	9° 40′	21° 31⅓′	21° 31′
	9° 0′	21° 31⅔′	21° 32′
	8° 30′	21° 32¼′	

2915

On 30 January, in the evening [DIE 30 JANUARIJ, VESPERI.]

Of the tail of ♌ [Caudæ ♌]	Azimuth [Azim.]	Altitude [Altit.]	Declination [Declin.], with one [vno]	with the other [alt.]
7^{h} 45½^{m}	102° 28′	11° 40′	16° 55′	16° 55⅔′
7^{h} 55^{m}	101° 4′	12° 52½′	16° 55′	16° 55⅔′
8^{h} 0^{m}	100° 5′	13° 33½′	16° 56′	16° 56½′
8^{h} 7^{m}	98° 43′	14° 18′	16° 56′	16° 56½′
6^{h} 27⅓^{m}	Of the heart of ♌ [Cordis ♌]		14° 0′	14° 0′
6^{h} 33^{m}	95° 5′	13° 23′	14° 0½′	14° 0¼′
6^{h} 38⅔^{m}	93° 55′	14° 10½′	14° 0½′	14° 0½′
6^{h} 42⅓^{m}	93° 11′	14° 43′	14° 0⅔′	14° 0¾′
6^{h} 46⅙^{m}	92° 26′	15° 12½′	14° 0⅔′	14° 0¾′
6^{h} 50⅓^{m}	91° 34′	15° 45′	14° 0⅔′	14° 0¾′

2916

On the same day, in the evening, Arcturus was observed. [Eodem die veſperi obſeruabatur Arcturus.]

Time	Azimuth	Altitude	Declination, with one	with the other
9^{h} 8½^{m}	118° 50′	6° 40′	21° 29′	21° 29½′
9^{h} 15^{m}	117° 31′	7° 26′	21° 28⅔′	21° 29′
9^{h} 20^{m}	116° 39′	7° 59′	21° 28½′	21° 28¼′
9^{h} 24½^{m}	115° 40′	8° 36½′	21° 28′	21° 27½′
9^{h} 31^{m}	114° 21′	9° 26′	21° 27¼′	21° 27½′
9^{h} 36½^{m}	113° 25′	10° 5′	21° 26½′	21° 27′

2915 The paragraph above runs from the foot of the left-hand column into the head of the right-hand column. In the table the page prints two heads, in small type: *Alt.*, and *Declinatio* centred over the last two columns; the label column and the last column have no head of their own. The two-line label stands at the left, its second line on the line of the first figures. The values, printed without unit marks, are given as degrees and minutes.

2916 The heads are the page's, in small type; *Caudæ* ♌ stands over the first column, which holds times, and *Declin.* is centred over the last two columns, with *vno* and *alt.* below it. In the fifth row *Cordis* ♌, in small type, stands over the azimuth and altitude columns, which carry no figures on that line; it is given in the azimuth cell. The first-column pairs, printed without unit marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes.

Time	Azimuth	Altitude	Declination, with one	with the other
$9^h\ 42^m$	112° 13′	10° 50′	21° 26⅓′	21° 27′
$9^h\ 46^m$	111° 31′	11° 17½′	21° 26⅔′	21° 26′

2917

On 9 February [DIE 9 FEBRUARIJ.]

Reading	Value	Value	Value	Value
Of Arcturus [Arcturi]		3° 37′	21° 32′	21° 32⅓′
		4° 15′	21° 32½′	21° 33′ *doubtful* [*dubia*]
	122° 1′	4° 48′	21° 31′	21° 30¾′
	120° 12′	5° 54′	21° 30′	21° 29⅔′
	119° 13′	6° 28′	21° 29′	21° 29½′
	118° 10′	7° 6′	21° 28¼′	21° 28½′
	117° 6′	7° 43′	21° 28′	21° 27⅔′
	116° 25′	8° 11′	21° 27¼′	21° 27½′
	115° 37′	8° 40′	21° 26¼′	21° 26½′
By the least quadrant [Per Q. minim.]				
		12° 40′	21° 25′	21° 25½′
By the revolving quadrant [Per Q. Volub.]				
	97° 16′	21° 1′	21° 24½′	21° 25′
	96° 8′	21° 50′	21° 24½′	21° 25′

2918

[1] Added in the margin: “Aurifaber observed the declination.” [In margine adſcriptum eſt: »Aurifaber obſeruauit declinationem«.]

On 10 February [DIE 10 FEBRUARIJ.]

2917 The page prints no heads for these rows. ”Azimuth”, ”Altitude” and ”Declination, with one” / ”with the other” are carried over from the heads *Azim.*, *Altit.* and *Declin.* with *vno* / *alt.* of the table above, whose five figure columns these rows occupy; ”Time” is this edition's head. The first-column pairs, printed without unit marks, are given as hours and minutes; the other values, printed without unit marks, as degrees and minutes.

2918 ”Reading” and ”Value” are this edition's heads; the page prints none for this date. The four figure columns stand at the positions of the azimuth, altitude and two declination columns of the 30 January evening table above, and each value is given in the column where it is printed. *dubia*, italic, is printed on the line below *21 33*, under the two declination columns, and is joined to that row by a brace after *21 33*; it is given with those figures. *Per Q. minim.* and *Per Q. Volub.* are printed in small type on lines of their own above the figures they govern. The values, printed without unit marks, are given as degrees and minutes.

	Azimuth [Azim.]	Altitude [Altit.]	Declination [Declinatio]	
Of the bright [star] of ♈ [Lucidæ ♈]		16° 20′	21° 29½′	21° 29′
		15° 4′	21° 29′	21° 29½′
		14° 22′	21° 30′	21° 29⅔′
		13° 41′	21° 30½′	21° 30′
		12° 42′	21° 31′	21° 30½′
		12° 21′	21° 31¼′	21° 31′
		9° 0′	21° 32¼′	21° 32½′
		7° 49′	21° 33′	
		7° 10′	21° 33′	21° 33½′
Of Arcturus [Arcturi]	121° 16′	5° 14′	21° 30′	21° 30½′
	120° 32′	5° 40½′	21° 30½′	21° 30′
	119° 56′	6° 7′	21° 30′	21° 29½′
	113° 13′	10° 15′	21° 26½′	21° 26¾′
	112° 41′	10° 33′	21° 26½′	21° 26¾′
	112° 0′	11° 0′	21° 26½′	21° 26′
	111° 16′	11° 29′	21° 26′	21° 26½′
	106° 30′	14° 43′	21° 24½′	21° 25′
	94° 46′	22° 48′	21° 24′	21° 24½′
	92° 28′	24° 23′	21° 24½′	21° 24⅓′
	91° 40′	24° 58′	21° 24½′	21° 24⅔′
	73° 55′	36° 13′	21° 23¾′	21° 24′
	72° 52′	36° 51′	21° 23¾′	21° 24′
	71° 56′	37° 15′	21° 24′	21° 23¾′
Of the bright [star] of ♈ [Lucid. ♈]	116° 50′	8° 2′	21° 32¼′	
	118° 15′	7° 22′	21° 33′	
		6° 0′	21° 34′	21° 34½′
	121° 14′	5° 35′	21° 35′	21° 35′

2919

Chasms [chaſmata] prevented further observation from being possible. [Quominus vlterius obſeruari poterat chaſmata obſtabant.]

On 12 February, in the evening [DIE 12 FEBRUARIJ, VESPERI.]

2919 The heads are the page's, in small type: *Azim.*, *Altit.*, and *Declinatio* centred over the last two columns; the label column and the last column have no head of their own. In rows 1–9 and in row 26 no azimuth is printed, the first figures standing under *Altit.*; in rows 8, 24 and 25 the last column is empty. *Lucid.* ♈ is set in small type. A small point stands to the left of the altitude in row 1. The values, printed without unit marks, are given as degrees and minutes.

	Azimuth [Azim.]	Altitude [Altit.]	Declination [Declinatio]	
Of the bright [star] of ♈ [Lucidæ ♈]		12° 50′	21° 30′	21° 30½′
		12° 0′	21° 31′	21° 30¼′
		10° 55′	21° 31⅙′	21° 31⅓′
		7° 20′	21° 33′	21° 33½′
		6° 40′	21° 33¾′	21° 34′
Of Arcturus [Arcturi]	121° 22′	5° 11′	21° 30½′	21° 30′
	120° 35′	5° 38′	21° 29½′	21° 30′
	119° 26′	6° 19′	21° 28¾′	21° 28¾′
	118° 42′	6° 41′	21° 28′	21° 28½′
		8° 40′	21° 27½′	21° 27′
		16° 5′	21° 25½′	21° 25′
		17° 0′	21° 25′	21° 24⅔′
		18° 40′	21° 24′	21° 24⅓′
		33° 0′	21° 23⅚′	21° 24′
		33° 40′	21° 23¾′	21° 24′
		34° 30′	21° 23¾′	21° 24′
		35° 5′	21° 23⅚′	21° 24′
		35° 55′	21° 23⅙′	21° 23¾′
		36° 30′	21° 23¾′	21° 24′

2920

On 15 February, in the evening [DIE 15 FEBRUARIJ, VESPERI.]

Reading	Value	Value	Value	Value
Of Arcturus [Arcturi]	115° 58′	8° 21½′	21° 28¼′	21° 28′
	115° 7′	8° 54′	21° 27⅓′	21° 27¼′
	114° 11′	9° 32½′	21° 27′	21° 26¾′

2921

On 3 December [DIE 3 DECEMBRIS.]

2920 The heads are the page's, in small type, as in the table above; the label column and the last column have no head of their own. In rows 1–5 and 10–19 no azimuth is printed. The list runs from the foot of the left-hand column into the head of the right-hand column, which prints no heads and opens with rows 4 and 5, under no star name; their figures stand in the columns that the Arcturus rows below them use for altitude and the two declinations, and are given there. The values, printed without unit marks, are given as degrees and minutes.

2921 "Reading" and "Value" are this edition's heads; the page prints none for this date. The four figure columns stand at the positions of the azimuth, altitude and two declination columns of the Arcturus rows of 12 February above them in the same column of the page. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value	Value	Value
Of Arcturus [Arcturi]	59° 41′	5° 48⅓′	21° 30⅙′
	61° 47′	7° 3′	21° 27½′
	67° 17′	10° 27¼′	21° 26½′
	69° 3′	11° 34⅔′	21° 26′

2922

On 16 December [DIE 16 DECEMBRIS.] Observation of Lyra tending toward the northern meridian. [Obſeruatio Lyræ tendentis ad Merid. Sept.]

Reading	Value	Value	Value	Value
Of Lyra [Lyræ]	36° 30′	12° 39½′	38° 31⅔′	38° 31⅚′
	35° 30′	12° 0′	38° 31⅔′	38° 31⅔′

2923

N. B. For ascertaining the refraction of stars at the minimum altitude, the stars of Perseus are above all to be observed: in the evening at the maximum meridian altitude, and in the morning at the minimum [altitude] below the pole. [N. B. Pro refractione ſtellarum in minima altitudine cognoſcenda ſunt imprimis obſeruandæ ſtellæ Perſej, veſperi in maxima altitudine meridiana, & mane in minima infra polum.]

On 30 December [DIE 30 DECEMBRIS.] Toward the west [Ad occaſum]

Of the bright [star] of the Vulture, by the steel quadrant [Lucidæ Vulturis per Q. Chalyb.]

	Altitude [Altit.]	Declination [Declinatio], with one [vno]	with the other [altero]
	13° 55′	7° 53¾′	7° 54′
	8° 15′	7° 54½′	7° 54¾′
	7° 30′	7° 55⅓′	7° 55¾′
	6° 40½′	7° 55¾′	7° 56′
By the lesser quadrant [Per Q. min.]			
	4° 40′	7° 59½′	7° 59¼′

2922 "Reading" and "Value" are this edition's heads; the page prints none for this date. The three figure columns stand at the positions of the first three figure columns of the Arcturus rows of 12 February in the same column of the page; nothing stands at the position of the fourth. The values, printed without unit marks, are given as degrees and minutes.

2923 "Reading" and "Value" are this edition's heads; the page prints none for this date. The four figure columns stand at the positions of the four figure columns of the Arcturus rows of 12 February in the same column of the page. The values, printed without unit marks, are given as degrees and minutes.

2924

Toward the east [Ad ortum]

	Azimuth from the meridian toward the east [Azim. a Merid. ad ort.]	Alti-tude [Altit.]	Declination [Declinatio], with one [vno]	with the other [altero]
Of Lyra [Lyræ]				
	61° 47′	28° 3½′	38° 28¼′	38° 28¾′
	60° 2⅓′	26° 53′	38° 28¾′	38° 28½′
Of Canis Minor, by the revolving quadrant [Canis minoris per Q. Volub.]				
		5° 52½′	6° 20′	6° 19⅚′
		6° 35½′	6° 20′	6° 19¾′
		7° 26⅙′	6° 19½′	

2925

	Altitude	Declination, with one	with the other
	3° 40′	8° 1¼′	8° 1′
	2° 30′	8° 4′	
	1° 35′	8° 9′	
	1° 15′	8° 10′	
	nearly [fere] 1°	8° 10′	
True declination [Decl. vera]		7° 52¼′ north [B.]	

2926

[2924]The heads are the page's, in small type: *Altit.* over the first figure column, and *Declinatio* centred over the last two, with *vno* and *altero* below it; the label column has no head. *Per Q. min.* stands centred on a line of its own above the figures it governs. The values, printed without unit marks, are given as degrees and minutes.

[2925]The heads are the page's, in small type: *Azim.* above *a Merid. ad ort.* over the first figure column, *Altit.* over the second, and *Declinatio* centred over the last two, with *vno* and *altero* below it; the label column has no head. *Lyræ* and *Canis minoris per Q. Volub.* stand on lines of their own above the figures they govern. In rows 5–7 no azimuth is printed, and in row 7 the last column is empty. A small point stands to the left of the declination in row 6. The declinations of Canis Minor printed on p. 391, under 11 January, run from 6 11½ to 6 12; those printed here run from 6 19½ to 6 20. The values, printed without unit marks, are given as degrees and minutes.

[2926]These rows stand at the head of the left-hand column under no heading, following the list of *Lucidæ Vulturis* at the foot of the same column of p. 393. The page prints no heads here; "Altitude" and "Declination, with one" / "with the other" are carried over from the heads *Altit.* and *Declinatio* with *vno* / *altero* of that list. In rows 2–5 the last column is empty. In row 5 *fere* stands at the minutes position of the altitude, and the lone figure *1* is given as degrees. *Decl. vera* stands at the left edge of the column, with *7 52¼ B.* after it on the same line. The other values, printed without unit marks, are given as degrees and minutes.

	Alti-tude	Declination, with one	with the other
True declination 6° 13⅓′ north [Decl. vera] [6 13⅓ B.]	8° 47⅙′	6° 17⅔′	6° 17½′
	9° 47½′	6° 17′	6° 16½′
	10° 59⅔′	6° 17′	6° 16½′
	11° 42¼′	6° 17′	6° 16¾′
	14° 30′	6° 16′	6° 15½′
Of the heart of ♌, by the lesser quadrant [Cordis ♌ per Q. min.]			
	3° 10′	14° 7½′	
	3° 30′	14° 7′	
	4° 0′	14° 7⅔′	
	6° 0′	14° 3′	

2927

Comparison of those refractions that occur in declinations[1] [COLLATIO REFRACTIONUM EARUM QUÆ CONTINGUNT IN DECLINATIONIBUS[1].]

°	Toward the east [Ad ortum], Arcturus	The heart of ♌ [Cor ♌]	♃	Canis Minor [Can. min.]	Spica ♍, in the year 86 [A° 86]	Toward the west [Ad occasum], the bright [star] of ♈ [Lucida ♈]	The Vulture [Vultur]
1°	21′ 0″		18′ 0″		22′ 0″		17′ 50″
2°	16′ 30″		15′ 0″		15′ 30″		14′ 15″
3°	12′ 30″	10′ 50″	12′ 0″		11′ 40″		10′ 0″
4°	9′ 30″		9′ 0″		9′ 20″		8′ 0″
5°	7′ 40″		7′ 0″		7′ 40″	5′ 30″	
6°	6′ 0″	6′ 0″	5′ 30″	6′ 0″	6′ 50″	4′ 45″	3′ 45″
7°			4′ 45″	5′ 0″	5′ 45″	3′ 45″	
8°	5′ 15″		4′ 15″	4′ 0″	4′ 40″	2′ 45″	2′ 30″
9°			3′ 30″	3′ 30″	4′ 0″	2′ 30″	
10°	4′ 10″		3′ 0″		3′ 20″		
11°	3′ 40″			2′ 50″	3′ 0″	2′ 15″	
12°	3′ 30″				2′ 50″	1′ 30″	
13°	3′ 15″				2′ 40″		
14°					2′ 35″		1′ 30″

[2927]These rows stand at the head of the right-hand column under no heading, following the list of Canis Minor at the foot of the same column of p. 393. The page prints no heads here; "Altitude" and "Declination, with one" / "with the other" are carried over from the heads *Altit.* and *Declinatio* with *vno* / *altero* of that list, whose azimuth column carries no figure in these rows and is not given. *Decl. vera* and *6 13⅓ B.* stand at the left, one below the other, on the lines of rows 1 and 2; the label is given whole on row 1. *Cordis ♌ per Q. min.* stands centred on a line of its own above the figures it governs; in rows 7–10 the last column is empty. The values, printed without unit marks, are given as degrees and minutes.

°	Toward the east [Ad ortum], Arcturus	The heart of ♌ [Cor ♌]	♃	Canis Minor [Can. min.]	Spica ♍, in the year 86 [A° 86]	Toward the west [Ad occaſum], the bright [star] of ♈ [Lucida ♈]	The Vulture [Vultur]
15°	3′ 10″				2′ 30″		
16°	2′ 50″						
17°	2′ 10″						
18°	1′ 30″						
19°							
20°							
21°	0′ 55″						
22°							
Declinations of these stars from the maximum meridian altitude, for the year 89 [Declinationes harum ſtellarum ex maxima altitudine meridiana ad Annum 89]							
	Of Arcturus [Arcturi]	Of the heart of ♌ [Cordis ♌]	♃	Canis Minor [Can. min.]	Of Spica ♍ [Spicæ ♍]	Of the bright [star] of ♈ [Lucidæ ♈]	Of the Vulture [Vulturis]
	21° 22½′ north	13° 57′ north	7° 0′ north	6° 13⅔′...[2] north		21° 29½′ north	7° 52¼′ north

2928

[1] From codex Vindob. 10688[18], fol. 1v. [E cod. Vindob. 10688 [18], fol. 1[v].]
[2] 8° 57¼′ south, struck through with lines. [8° 57¼′ M., lineis inducta.]

Observations of circumpolar [stars] for the position of the armillae, likewise for the elevation of the pole [OBSERUATIONES CIRCUMPOLARIUM PRO SITU ARMILLARUM ITEM PRO ELEUATIONE POLI.]

On 3 January, in the evening [DIE 3 JANUARIJ, VESPERI.]

[2928] The table is ruled on all sides. The heads are the page's: *Ad ortum* stands over the five columns from Arcturus to Spica ♍, and *Ad occaſum* over the two columns of *Lucida* ♈ and *Vultur*; each is given with the first column it governs. *Spica* ♍ and *A° 86* stand on two lines in one head cell. The first column is headed ° and holds the degrees 1 to 22, given as degrees; each other column is headed *M* and a seconds sign, and its figures are given as minutes and seconds. Rows 19, 20 and 22 carry no figure beyond the degree number. The caption of row 23 stands centred across the full width inside the frame, below the figure columns, and rows 24 and 25 are a foot row of labels and values under the same columns; *B.* is given as "north". The true declinations printed above on this page name no star; they stand after the lists of the Vulture and of Canis Minor. They are *7 52¼ B.*, the value the foot row prints for the Vulture, and *6 13⅓ B.*, where the foot row prints *6 13⅔ B.* for Canis Minor. Under 10 January, p. 391 prints a true declination of Arcturus of *21 23*; the foot row here prints *21 22½ B.*.

Reading	Instrument	Value
Meridian altitude of the middle [star] of the tail of Ursa Major [Alt. Merid. Mediæ caudæ Vrſæ mai.]		
	by the steel [quadrant] [per Chalyb.]	23° 2′
	by the revolving [quadrant] [per Volub.]	23° 1′
The bright [star] in the □ of Ursa Minor [Lucid. in □ Vrſæ min.]		
	by the steel [quadrant] [per Chalyb.]	41° 44⅝′
	by the revolving [quadrant] [per Volub.]	41° 45⅛′
Declination of Capella [Capellæ Decl.]	by the armillae [per Armill.]	45° 28′
	with the other pinnule [alt. pin.]	45° 28½′
Repeated and better [Reiterata & melior]		45° 29½′
		45° 29¾′
Repeated [Reiterata]		45° 29½′
		45° 29½′
Declination of the bright [star] in the shoulder of Erichthonius [Decl. Luc. in humero] [Erichtonij]		44° 49′
	with the other [alt.]	44° 49¼′

2929

Both these last stars were then toward the east. [Ambæ hæ vltimæ ſtellæ erant tunc verſus ortum.]

Reading	Instrument	Value
Meridian altitude of the less bright [star] in the □ of Ursa Minor [Alt. mer. minus luc. in □ Vrſæ min.]		
	by the steel [quadrant] [per Chalyb.]	39° 12⅝′
	by the revolving [quadrant] [per Volub.]	39° 12⅔′
Declination of the first [star] of the tail of Ursa Major [Decl. primæ caudæ] [Vrſæ maioris]	with one [vno]	58° 14¼′
	with the other [alt.]	58° 14¾′
Of the other [star] in the tail of Ursa Major [Alterius in cauda] [Vrſæ mai.]		57° 7½′
		57° 7¾′

2929 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The instrument lines are printed indented under their labels. *Capellæ Decl. per Armill.* is one line, with its figures; *per Armill.* is given in the instrument column of the same row. *alt. pin.* and *alt.* stand at the right, just before their figures. Rows 10 and 12 carry figures only. The label *Decl. Luc. in humero / Erichtonij* runs over two value lines and is given whole on row 13; *alt.* stands on its second line. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
Of the last [star] in the tail of Ursa Major [Vltimæ in cauda] [Vrſæ mai.]		51° 26½′
		51° 26½′

2930

These three were all below the pole, near the meridian, at that time. [Erant hæ omnes tres infra polum iuxta meridianum tunc temporis.]

On 5 January, in the evening [DIE 5 JANUARIJ, VESPERI.]

Reading	Instrument	Value
The bright [star] in the □ of Ursa Minor, meridian altitude [Luc. in □ Vrſæ min. Alt. mer.]		
	by the steel [quadrant] [per Chalyb.]	41° 44¾′
	by the revolving [quadrant] [per Volub.]	41° 45′
	by the new sextant [per Sext. nou.]	41° 44⅔′
Of the other, less bright [star] [Alterius minus lucidæ]		
	by the steel [quadrant] [per Chalyb.]	39° 13′
	by the revolving [quadrant] [per Volub.]	39° 12⅚′
	by the new sextant [per Sext. nou.]	39° 12⅚′

2931

On 7 January, in the morning [DIE 7 JANUARIJ, MANE.]

Reading	Instrument	Value
Minimum altitude of the pole star [Stellæ polaris Alt. min.]		
	by the steel [quadrant] [per Chalyb.]	52° 59′ 35″
	by the revolving [quadrant] [per Volub.]	53° 0′
Of the bend of Cassiopeia [Flexuræ Caßiop.]	by the steel [quadrant] [per Chalyb.]	24° 25⅙′

2930 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. Each of the labels in rows 4, 6 and 8 runs over two value lines and is given whole on its first row; *vno* and *alt.* stand at the right, just before their figures. No instrument is printed for rows 6–9. The values, printed without unit marks, are given as degrees and minutes.

2931 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The instrument lines are printed indented under their labels. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the revolving [quadrant] [per Volub.]	24° 24⅔′
Of the brighter of the two [stars] in the □ of Ursa Minor [Lucidioris duarum in □ Vrſæ min.]		
Declination [Decl.]	by the armillae [per Armillas], with one [vno]	75° 51′
	with the other pinnule [alt. pin.]	75° 50¾′
Of the other, less bright [star] [Alterius minus lucidæ]		73° 19′
		73° 18¾′

2932

When [they] were above the pole. [Cum eßent ſupra polum.]

Reading	Instrument	Value
Meridian altitude of the brighter [star] in the □ of Ursa Minor [Lucidioris in □ Vrſæ min. alt. mer.]		
	by the steel [quadrant] [per Chalyb.]	70° 5′
	by the revolving [quadrant] [per Volub.]	70° 5⅓′

2933

In the evening [Veſperi]

Reading	Instrument	Value
Declination of the brighter of the same [stars] [Lucidioris earundem Decl.]		75° 51′
Of the other, less bright [star] [Alterius minus luc.]	with one [vno]	73° 19¼′
	with the other [alt.]	73° 19′

2934

2932 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Flexuræ Caßiop. per Chalyb.* is one line, with its figures; *per Chalyb.* is given in the instrument column of the same row. *Decl. per Armillas* is printed indented under the label of row 6, with *vno* at the right before its figures. The list runs from the foot of the left-hand column into the head of the right-hand column, which opens with rows 9 and 10 under no date heading. The first figures of row 2, *52 59 35*, are three, and are given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes.

2933 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

2934 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Veſperi* stands centred on a line of its own above these rows. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Maximum altitude of the bright [star] [in the] □ of Ursa Major [Altitudo maxima lucidæ □ vrſæ] [maioris]	*70° 5′ 0″*
Minimum altitude of the same this year [Altitudo minima eiusdem] [hoc anno]	*41° 44′ 40″*
Diameter of the circle [diameter circuli]	*28° 20′ 20″*
Distance from the pole [diſt. a polo]	*14° 10′ 10″*
Elevation of the pole [Eleuatio poli]	*55° 54′ 50″*
Alternatively: maximum [Aliter Maxima]	*70° 5′ 0″*
Minimum [Minima]	*41° 44′ 30″*
	28° 20′ 30″
	14° 10′ 15″
	55° 54′ 45″

2935

Reading	Value	Value
Maximum [Maxima]	*58° 49′ 40″*	alternatively [aliter] *58° 49′ 45″*
Minimum altitude of the pole [star] [Alt.polaris min.]	*52° 59′ 40″*	*52° 59′ 40″*
	5° 50′ 0″	*5° 50′ 5″*
	2° 55′ 0″	*2° 55′ 3″*
	55° 54′ 40″	*55° 54′ 43″*

2936

N.B. We shall therefore err imperceptibly in assuming the altitude of the pole of this place [to be] 55° 54′ 45″. [N.B. Inſenſibiliter itaque aberrabimus aſſumentes poli altitudinem huius loci p. 55 M. 54 S. 45.]

Reading	Value
Altitude of Spica ♍ this year [Altitudo Spicæ ♍ hoc anno]	*25° 7′ 55″*
altitude of the equator [alt. æq.]	*34° 5′ 15″*
declination of Spica [decl. Spicæ]	*8° 57′ 20″*

2935 "Reading" and "Value" are this edition's heads; the page prints none. The lines are set in italic, the □ upright; *lucidæ □ vrſæ* prints no preposition; the words "in the" are supplied, in square brackets. A horizontal rule stands under the figures of rows 2 and 7. Rows 8–10 carry figures only. The values, printed as three bare figures, are given as degrees, minutes and seconds. The label of row 1 prints *vrſæ maioris*. The meridian altitudes printed above on this page under *Lucidioris in □ Vrſæ min.* are 70° 5′ and 70° 5⅓′ (7 January), and under *Lucid. in □ Vrſæ min.* and *Luc. in □ Vrſæ min.* 41° 44⅔′ to 41° 45⅙′ (3 and 5 January); on 3 January that label prints no *Alt.* of its own and stands under the block's head *Alt. Merid.*

2936 "Reading" and "Value" are this edition's heads; the page prints none. The lines are set in italic, except *aliter*, which is roman and smaller. The page sets two groups of figures: the first under the middle of the column, the second at the right, below the figures of the rows above; *aliter* stands between the two groups of row 1. A horizontal rule stands under each group of row 2. Rows 3–5 carry figures only. The values, printed as three bare figures, are given as degrees, minutes and seconds.

2937

For the position of the armillae [Pro ſitu Armillarum]

On 7 January, in the morning [DIE 7 JANUARIJ, MANE.]

Reading	Instrument	Value
Declination of the upper of the two preceding [stars] in the □ of Ursa Major, when [it] was toward the west from the pole [Declinatio ſuperioris duarum præce-] [dentium in □ Vrſæ mai., cum eßet] [a polo verſus occaſum]		63° 58′
	by the armillae [per Armillas]	63° 57⅔′
Of the lower of the two preceding [stars] [Inferioris duarum] [præcedentium]		58° 35′ 58° 34½′

2938

On 8 January [DIE 8 JANUARIJ.]

Reading	Value
Of the same, toward the east [Eiusdem verſus ortum]	58° 34½′ 58° 34¼′

2939

On 9 January, in the evening [DIE 9 JANUARIJ, VESPERI.]

Reading	Value
Of the upper of the same [stars], toward the east [Superioris earundem] [verſus ortum]	63° 58′ 63° 57⅚′

2937 "Reading" and "Value" are this edition's heads; the page prints none. The lines are set in italic, the ♍ upright. *alt. æq.* and *decl. Spicæ* stand at the right, before their figures; a horizontal rule stands under the figures of row 2. The values, printed as three bare figures, are given as degrees, minutes and seconds. On p. 394 the foot row of the comparison table prints three dots in the cell of Spica ♍, with a footnote recording *8° 57¼′ M.* struck through with lines. In row 1 the *25* stands directly after *hoc anno*, apart from the *7 55* in the figure column; it is given as the degrees of that value, the *34 5 15* of row 2 standing below it.

2938 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label of row 1 runs over three lines, the figures standing on the third; *per Armillas* is printed indented on the next line with its own figures. No instrument is printed for row 1 or for rows 3–4. The label of row 3 runs over two value lines and is given whole on its first row. The values, printed without unit marks, are given as degrees and minutes.

2939 "Reading" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

Reading	Value
Of the lower, toward the east [Inferioris verſus ortum]	58° 34½′
	58° 34½′

2940

It is therefore clear that the armillae this year are sufficiently exact as regards the position of the axis corresponding to the plane of the meridian, so that declinations taken by them toward the east and the west, outside the position of the meridian, admit no hesitation about deviation. [*Patet itaque Armillas hoc anno ſatis exacte ſe habere, quoad ſitum axis correſpondentem plano Meridiej, ita vt declinationes per eas verſus ortum & occaſum extra Meridiej ſitum acceptæ nullam ſufferant deuiationis hæſitationem.*]

On 12 February, in the morning [DIE 12 FEBRUARIJ, MANE.]

Reading	Instrument	Value
Minimum altitude of the pole star [Stellæ Polaris alt. minima]		
	by the steel [quadrant] [per Chalyb.]	52° 59⅔′
	by the revolving [quadrant] [per Volub.]	52° 59¾′

2941

On 15 March, in the evening [DIE 15 MARTIJ, VESPERI.]

Reading	Instrument	Value
Minimum meridian altitude of the pole star [Stellæ Polaris alt. merid. minima.]		
	by the revolving [quadrant] [per Volub.]	53° 0′
	by the steel [quadrant] [per Chalyb.]	52° 59′ 25″
	by the lesser azimuthal quadrant [per Q. min. az.]	52° 59⅓′

2942

2940 "Reading" and "Value" are this edition's heads; the page prints none. The label of row 1 runs over two value lines and is given whole on its first row. Row 4 carries figures only. The values, printed without unit marks, are given as degrees and minutes.

2941 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The values, printed without unit marks, are given as degrees and minutes.

2942 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The figures of row 3, *52 59 25*, are three, and are given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes.

On 28 March [DIE 28 MARTIJ.]

Reading	Meridian altitude by the steel [quadrant] [Alt. merid. per Chalyb.]	Sextant [Sext.]	Lesser azimuthal quadrant [Q. min.] [azim.]
Of the bright [star] of the Chair [Lucidæ] [cathedræ]	22° 49′	22° 49⅙′	22° 47⅔′
Schedar [Schedir]	20° 12⅙′	20° 11¾′	20° 12⅓′
Of the pole star, minimum [Stellæ Pol. min.]	52° 58⅚′	52° 59′	52° 59⅓′
Of the bend of Cassiopeia [Flexuræ Caß.]	24° 23′ 55″	24° 24′	24° 24⅔′

2943

On 13 December, in the evening [DIE 13 DECEMBRIS, VESPERI.]

Reading	Meridian altitude by the steel [quadrant] [Alt. Merid. per Chalyb.]	Revolving [quadrant] [Volub.]
Of the pole star, maximum [Stellæ Polaris max.]	58° 48′ 55″	58° 49′
Of the first [star] in the tail of Ursa Major, minimum [Primæ in cauda Vrſæ] [mai. minima]	24° 8⅓′	24° 8⅙′
Of the middle [star] in the tail [Mediæ in cauda]	23° 2⅙′	23° 2′
Of the extreme [star] in the tail [Extremæ in cauda]	17° 20½′	17° 21′

2944

On 15 December, in the evening [DIE 15 DECEMBRIS, VESPERI.]

Reading	Instrument	Value
Minimum altitude of the upper of the following [stars] in the □ of Ursa Major [Altitudo minima ſuperioris ſequen-] [tium in □ Vrſæ mai.]		

2943 "Reading" is this edition's head; the other heads are the page's, in small type. *Alt. merid. per Chalyb.* runs from above the right part of the label column to above the first figure column, and is given as the head of the first figure column; *Q. min.* and *azim.* stand on two lines over the third. The label of row 1 is printed on two lines, *Lucidæ* above and *cathedræ*, indented, with the figures. The first figures of row 4, *24 23 55*, are three, and are given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes.

2944 "Reading" is this edition's head; the other two are the page's, in small type, *Alt. Merid. per Chalyb.* over the first figure column and *Volub.* over the second. The label of row 2 is printed on two lines, the second indented and carrying the figures. The first figures of row 1, *58 48 55*, are three, and are given as degrees, minutes and seconds; the other values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the steel [quadrant] [per Chalyb.]	25° 15′
	by the revolving [quadrant] [per Volub.]	25° 15⅓′
Of the pole star, maximum [Stellæ Polaris max.]	by the steel [quadrant] [per Chal.]	58° 49⅙′
	by the revolving [quadrant] [per Volub.]	58° 49′
Of the first [star] in the tail of Ursa Major [Primæ in cauda Vrſæ maioris] among rather sparse clouds [inter rariuſculas nubes]		
	by the steel [quadrant] [per Chalyb.]	24° 8⅚′
	by the revolving [quadrant] [per Volub.]	24° 8⅓′
Of the middle [star] [Mediæ]	by the steel [quadrant] [per Chalyb.]	23° 2 1/12′
	by the revolving [quadrant] [per Volub.]	23° 1⅚′

2945

On 16 December, in the evening [DIE 16 DECEMBRIS, VESPERI.]

Reading	Instrument	Value
The lower following [star] in the □ of Ursa Major [Infer. ſequ. in □ Vrſæ mai.]		
	by the steel [quadrant] [per Chalyb.]	21° 54⅔′
	by the revolving [quadrant] [per Volub.]	21° 54⅚′
Of the upper of the following [stars] [Superioris ſequentium]		
	by the steel [quadrant] [per Chalyb.]	25° 14⅚′

2945 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Stellæ Polaris max. per Chal.* and *Mediæ per Chalyb.* are each one line, with their figures; the instrument is given in the instrument column of the same row. *inter rariuſculas nubes* stands indented on a line of its own, between the label of row 6 and its instrument lines. In row 10 the fraction is printed as one over twelve. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	by the revolving [quadrant] [per Volub.]	25° 14⅚′
Maximum altitude of the pole star [Stellæ Polaris alt. max.]		
	by the steel [quadrant] [per Chalyb.]	58° 49 1/12′
	by the revolving [quadrant] [per Volub.]	58° 49⅙′
Of the middle [star] in the tail of Ursa Major [Mediæ in cauda Vrſæ mai.]		
	by the steel [quadrant] [per Chalyb.]	23° 2⅙′
	by the revolving [quadrant] [per Volub.]	23° 1⅚′
Of the extreme [star] in the tail [Extremæ in cauda]	by the steel [quadrant] [per Chal.]	17° 21⅔′
		doubtful [dubia]
	by the revolving [quadrant] [per Volub.]	17° 21½′
Of the bright [star] in the □ of Ursa Minor [Lucidæ in □ Vrſæ min.]		
	by the steel [quadrant] [per Chalyb.]	41° 44⅓′
	by the revolving [quadrant] [per Volub.]	41° 43¾′
Of the less bright [star] [Minus lucidæ]	by the steel [quadrant] [per Chalyb.]	39° 12⅓′
	by the revolving [quadrant] [per Volub.]	39° 12½′

2946

On 30 December, in the evening [DIE 30 DECEMBRIS, VESPERI.]

Reading	Instrument	Value
Of the pole star, maximum [Stellæ Polaris max.]	by the steel [quadrant] [per Chal.]	58° 49′
	by the revolving [quadrant] [per Volub.]	58° 48⅚′
The front and brighter [star] in the wheel of Ursa Minor [Anterior & lucidior in rota] [Vrſæ minoris]	by the steel [quadrant] [per Chal.]	41° 44⅓′
	by the revolving [quadrant] [per Volub.]	41° 43⅚′

2946 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Extremæ in cauda per Chal.* and *Minus lucidæ per Chalyb.* are each one line, with their figures; the instrument is given in the instrument column of the same row. *dubia* stands alone at the right on the line below the figures of row 13, and is given on a row of its own. In row 8 the fraction is printed as one over twelve. The values, printed without unit marks, are given as degrees and minutes.

Reading	Instrument	Value
	rather [potius]	44½′
The following, less bright [star] [Sequ. minus lucida]	by the steel [quadrant] [per Chal.]	39° 12¼′
	by the revolving [quadrant] [per Volub.]	39° 12½′
The third [star] in the tail of Draco [Tertia in cauda Draconis]		
	by the steel [quadrant] [per Chalyb.]	32° 17½′

2947

For the position of the armillae [Pro situ Armillarum]

Reading	Instrument	Value
Declination of Capella [Capellæ Declin.]	with one pinnule [vno pin.]	45° 30′
	with the other [altero]	45° 29¾′
Of the tail of Cygnus [Caudæ Cygni]		43° 52′
		43° 51¾′

2948

Capella was then, from the meridian toward the east, at a nearly equal distance from the pole with the tail of Cygnus. [Erat tunc Capella a Meridie ad ortum in æquali fere remotione a polo cum Cauda Cygni.]

Reading	Value
Maximum altitude of the pole [star] [Altitudo maxima polaris]	*58° 49′ 10″*
Minimum altitude of the pole [star] [Altitudo minima polaris]	*53° 0′ 0″*
	5° 49′ 10″
	2° 30′
	24′ 35″
	2° 54′ 35″
	53° 0′ 0″
	55° 54′ 35″

2947 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. The label of row 3 runs over two lines, the second, indented, carrying *per Chal.* and the figures; it is given whole on that row. *potius* stands indented on a line of its own, and its figures *44½* stand alone in the minutes position, with nothing in the degrees position; they are given as minutes. *Sequ. minus lucida per Chal.* is one line, with its figures. The other values, printed without unit marks, are given as degrees and minutes.

2948 "Reading", "Instrument" and "Value" are this edition's heads; the page prints none. *Pro situ Armillarum* stands centred on a line of its own above these rows. *vno pin.* and *altero* stand at the right, before their figures. Row 4 carries figures only. The values, printed without unit marks, are given as degrees and minutes.

2949

Appendix to the observations of the year 1589[1] [APPENDIX AD OBSERUATIONES ANNI 1589[1].]

Catalogue, containing the right ascensions and declinations of all the stars of the dodecatemories (which could be observed), and hence their longitudes and latitudes, which were faithfully measured in the sky in the year 1589, here at Uraniborg, in the subterranean observatory. [CATALOGUS continens Omnium ſtellarum duodecatemorum (quæ obſeruari poterant) Aſcenſiones rectas et Declinationes indeque earum Longitudines et Latitudines quæ Anno 1589 hic Vraniburgi in obſeruatorio ſubterraneo cælitus fideliter dimenſæ ſunt.]

There follow the right ascensions of certain stars which we used as foundations, as it were, in investigating the right ascensions of the others. [Sequuntur Aſcenſiones rectæ quarundam ſtellarum quibus in indagandis cæterarum Aſcenſionibus rectis tanquam fundamentis vſi ſumus.]

Reading	Value
The bright [star] of ♈ at the beginning of the year 89 [Lucida ♈ ad init. A. 89]	26° 3′ 0″
The eye of ♉ [Oculus ♉]	63° 6′ 20″
Canis Minor [Canis minor]	109° 27′ 7″
The lower head of ♊ [Inferius caput ♊]	110° 0′ 30″
The heart of ♌ [Cor ♌]	146° 35′ 50″
The bright [star] of the neck of ♌ [Lucida ceruicis ♌]	149° 15′ 50″
Vindemiator ♍	190° 24′ 27″
Spica ♍	195° 55′ 0″
The head of Andromeda [Caput Andromedæ]	356° 50′ 30″

2950

Reading	Value
The northern scale-pan of Libra [Borealis lanx Libræ]	223° 45′ 0″
The southern [star] in the horn of ♐ [Auſtralis in cornu ♐]	299° 28′ 30″
Marcab, or the 1st [star] of the wing of Pegasus [Marcab ſeu 1ª alæ Peg.]	341° 6′ 15″
The bright [star] of the Vulture [Lucida Vulturis]	292° 41′ 25″
The far end of the wing of Pegasus [Extrema alæ Pegaſi]	358° 4′ 20″
Right ascension of the mouth of Pegasus [Aſcenſ. R. Oris Pegaſi]	321° 1′ 0″

[2949] "Reading" and "Value" are this edition's heads; the page prints none. The lines are set in italic. A horizontal rule stands under the figures of rows 2, 5 and 7. Rows 3–8 carry figures only. The values printed as three bare figures are given as degrees, minutes and seconds; *2 30* in row 4 stands in the degrees and minutes positions and is given as degrees and minutes, and *24 35* in row 5 stands in the minutes and seconds positions and is given as minutes and seconds.

[2950] "Reading" and "Value" are this edition's heads; the page prints none. These rows stand in the left column, divided from the next table by a vertical rule. Row 1 alone carries the degree, minute and second marks; the other values, printed as three bare figures, are given as degrees, minutes and seconds.

Reading	Value
The head of Andromeda [Caput Andromedæ]	356° 51′ 0″
Right ascension of Capella [Aſcenſio R. Capellæ]	71° 35′ 0″

2951

The constellation ♈ [ASTERISMUS ♈.]

In ♈ there are, in all, seventeen stars in number, of which [In ♈ ſunt ſtellæ omnes numero ſeptemdecim, quarum]

of the magnitude [magni-] [tudinis]	are [ſunt]
third [tertiæ]	1; [it] is our 3 [1 eſt 3 noſtra]
fourth [quartæ]	3
fifth [quintæ]	3
sixth [ſextæ]	10

2952

Reading	Value
The bright star in the crown of ♈, of the 3rd magnitude, greater, which for us is the third, of which at the beginning of this year there is presupposed [Lucida ſtella in vertice ♈ mag. 3æ mai., quæ nobis eſt tertia, cuius ad initium huius anni præſupponitur]	
Right ascension [Aſcenſio Recta]	26° 3′ 0″
Declination, north [Declinatio borea]	21° 29′ 30″
Corresponding longitude [Reſp. Longitudo]	1° 55½′ ♉
Latitude [Latitudo]	9° 57⅓′ north [borea]

2953

2951 "Reading" and "Value" are this edition's heads; the page prints none. These rows stand in the right column. Row 1 alone carries the degree, minute and second marks; the other values, printed as three bare figures, are given as degrees, minutes and seconds. The label *Caput Andromedæ* stands in both columns: with 356 50 30 in the left column (row 9 of the preceding table) and with 356 51 0 here (row 7); both are given as printed.

2952 The heads are the page's own words, set not over the columns but beside braces: *magni-* / *tudinis* to the left of a brace enclosing the four ordinals, *ſunt* between a second brace after the ordinals and a third brace enclosing the figures. *eſt 3 noſtra* stands after the figure 1.

2953 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of three lines with no figures; its verb *præſupponitur* has as subject the *Aſcenſio Recta* of row 2. The value of row 3, printed as three bare figures, is given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 356, under 10 February, the declination of the third [star] of ♈, labelled *Tertiæ ♈*, is printed 21 29 with both pinnules, and that of the same third, repeated, 21 29 with one and 21 29⅙ with the other; the same page, under 3 December, names *tertiæ ſeu lucidæ ♈*, "the third or bright [star] of ♈". The declination here, 21° 29′ 30″, is given as printed, and no identity is asserted.

Reading	Value
The first, of the 4th magnitude, the southern [star] in the preceding horn. Right ascension [Prima, mag. 4tæ Auſtralis in præcedente cornu. Aſc. recta]	22° 46½′
Declination, north [Declin. borea]	17° 15′
Corresponding longitude [Reſp. Longitudo]	27° 26¾′ ♈
Latitude [Latitudo]	7° 9′ north [borea]

2954

Reading	Value
The second, of the 4th magnitude, the northern [star] in the same horn. Right ascension [Secunda, mag. 4tæ, borealis in eodem cornu. Aſc. R.]	23° 0′ 0″
Declination, north [Declin. borea]	18° 46½′
Corresponding longitude [Reſp. Longitudo]	28° 13′ ♈
Latitude [Latitudo]	8° 29′ north [bor.]

2955

N. B.[2] The right ascensions and declinations of these three preceding [stars] have been gathered again from the right ascensions of the beginning year 87, with 50″ added to the right ascension for each year, etc. [N. B.[2] Aſcenſiones rectæ et Declinationes harum trium præcedentium ex Aſcenſionibus R. A[i] 87 incipientis ſunt recollectæ adiectis Aſcenſioni R. 50″ pro quolibet anno etc.]

Reading	Value
The third, of the 6th magnitude of the ancients, the preceding of the two in the forehead of ♈, is distant from Aldebaran [Tertia, veterum 6tæ mag., præcedens duarum in fronte ♈, diſtat ab Aldebora]	34° 7′
Its declination, north [Declinatio eius Bor.]	19° 16′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	27° 29′ 29″
The other way round [Viceverſa]	27° 33′ 5″
From this the corrected right ascension [Hinc Aſc. R. emendata]	27° 30′ 30″
Declination, north [Declinatio B.]	19° 15′ 30″
Corresponding longitude [Reſp. Longitudo]	2° 24′ ♉
Latitude [Latitudo]	7° 23′ north [Bor.]

2954 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures on the second. The values of rows 2 and 4, printed as two bare figures, are given as degrees and minutes. On p. 356, under 10 February, the declination of the first star, labelled *Primæ*, is printed 17 14½ and 17 14¾; the declination here, 17° 15′, is given as printed, and no identity is asserted.

2955 "Reading" and "Value" are this edition's heads; the page prints none. Rows 1–2 stand at the foot of the left column; rows 3–4 stand at the head of the right column, under no heading, and are given here in the same table. The values of rows 2 and 4, printed as two bare figures, are given as degrees and minutes.

2956

Reading	Value
The fourth, of the 6th magnitude, the following of the two in the mouth, is distant from Aldebaran [Quarta, 6tæ mag., duarum ſequens in rictu, diſtat ab Aldebora]	32° 49⅔′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	28° 51′ 33″
	28° 54′ 30″
Right ascension [Aſcenſio Recta]	28° 53′ 0″

2957

[1] Vienna, Cod. lat. 10709, called by us codex V[1]; cf. vol. III, p. 409. [Cod. Vindob. lat. 10709 a nobis Codex V[1] vocatus; cf. T. III p. 409.]

[2] Added in the margin. [In margine adſcriptum.]

Reading	Value
Declination, north [Declinatio Bor.]	17° 57′ 30″
Corresponding longitude [Reſp. Longitudo]	3° 10′ ♉
Latitude [Latitudo]	5° 42⅓′ north [B.]

2958

Reading	Value
The fifth, of the 5th magnitude, which is in the neck, from Aldebaran [Quinta, 5tæ mag., quæ eſt in collo, ab Aldebora]	37° 49½′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	23° 45′ 37″
The other way round [Viceverſa]	23° 46′ 49″
Right ascension [Aſcenſio recta]	23° 46⅙′
Declination, north [Declinatio borea]	15° 45′ 40″

2956 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over three lines, its figures on the third. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 356, under 30 January, in the list headed *Declinationes earundem per Armillas.*, the declination of the star numbered 3 and marked *vet.*, labelled *Sequentis trium vel mediæ trium infra lucid.* ♈ *quæ præcedit in fronte*, is printed 19 14, with 19 15 in the column headed *Limitatio*; the declinations here, 19° 16′ and 19° 15′ 30″, are given as printed, and no identity is asserted.

2957 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures at the end of the second. Row 3 carries figures only; the page prints no label on it. Values printed as three bare figures are given as degrees, minutes and seconds. The page ends with row 4 at the foot of the right column; this star's declination, longitude and latitude stand at the head of p. 398.

2958 "Reading" and "Value" are this edition's heads; the page prints none. These three rows stand at the head of the left column, under no heading; they belong to the entry of the fourth star of ♈ (the following of the two in the mouth), which begins on p. 397. The value of row 1, printed as three bare figures, is given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes.

Reading	Value
Corresponding longitude [Reſp. Longitudo]	27° 47′ ♈
Latitude [Latitudo]	5° 24′ north [borea]

2959

Reading	Value
The sixth, of the 6th magnitude, which is in the back, is distant from Aldebaran [Sexta, 6tæ mag., quæ eſt in dorſo, diſtat ab Aldebora]	28° 7′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	33° 58′ 10″ 33° 55′ 34″
Right ascension [Aſcenſio recta]	33° 56′ 50″
Declination, north [Declinatio borea]	20° 8′ 30″
Corresponding longitude [Reſp. Longitudo]	8° 26′ ♉
Latitude [Latitudo]	6° 7′ north [B.]

2960

Reading	Value
The seventh, of the 5th magnitude, which is in the lead-out of the tail, is distant from Aldebaran [Septima, magnitudinis 5tæ, quæ in eductione caudæ eſt, diſtat ab Aldebora]	23° 19′ 40″
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	38° 58′ 36″
The other way round [Viceverſa]	38° 58′ 56″
Right ascension [Aſcenſio recta]	38° 58′ 40″
Declination, north [Declinatio borea]	19° 39′ 30″
Corresponding longitude [Reſp. Longitudo]	12° 46½′ ♉
Latitude [Latitudo]	4° 8⅓′ north [Bor.]

2959 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures on the second. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 355, under 8 January, in the list headed *Declinationes per Armillas obſeruatæ.*, the declination of the star numbered 5 is printed 15 46, with both; on p. 356, under 30 January, in the list headed *Declinationes earundem per Armillas.*, the declination of the star numbered 5 is printed 15 45½ and 15 44½, with 15 45½ in the column headed *Limitatio*; the declination here, 15° 45′ 40″, is given as printed, and no identity is asserted.

2960 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures on the second. In row 2 only the last figure carries a mark (the second mark). Row 3 carries figures only; the page prints no label on it. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 355, under 8 January, in the list headed *Declinationes per Armillas obſeruatæ.*, the declination of the star numbered 6 is printed 20 8¾; the declination here, 20° 8′ 30″, is given as printed, and no identity is asserted.

2961

Reading	Value
The eighth, of the 4th magnitude. The preceding or more southern [star] in the tail, from Aldebaran [Octava, 4tæ mag. Præcedens ſeu auſtralior in cauda, ab Aldebora]	20° 17′ 30″
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	42° 3′ 11″
The other way round [Viceverſa]	42° 3′ 27″
Right ascension [Aſcenſio recta]	42° 3′ 20″
Declination, north [Declinatio borea]	18° 6′ 15″
Corresponding longitude [Reſp. Longitudo]	15° 5′ ♉
Latitude [Latitudo]	1° 46⅓′ north [B.]

2962

Reading	Value
The ninth, of the 5th magnitude. The middle [star] of the tail, from Aldebaran [Nona 5tæ mag. Media caudæ ab Aldebora]	19° 39¾′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	42° 52′ 11″
The other way round [Viceverſa]	42° 53′ 44″
Right ascension [Aſcenſio recta]	42° 53′ 0″
Declination, north [Declinatio borea]	19° 27′ 30″
Corresponding longitude [Reſp. Longitudo]	16° 14′ ♉
Latitude [Latitudo]	2° 50′ north [B.]

2963

[2961] "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over three lines, its figures on the third. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 355, under 8 January, in the list headed *Declinationes per Armillas obſeruatæ.*, the declination of the star numbered 7 is printed 19 40 and 19 39¼; the declination here, 19° 39′ 30″, is given as printed, and no identity is asserted.

[2962] "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines; its figures stand at the right on a third line of their own. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 355, under 8 January, in the list headed *Declinationes per Armillas obſeruatæ.*, the declination of the star numbered 8 is printed 18 6½, with both; on p. 356, under 30 January, in the list headed *Declinationes earundem per Armillas.*, the declination of the star numbered 8 is printed 18 5½ and 18 6, with 18 6 in the column headed *Limitatio*; the declination here, 18° 6′ 15″, is given as printed, and no identity is asserted.

[2963] "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures on the second. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. These rows end the left column. On p. 355, under 8 January, in the list headed *Declinationes per Armillas obſeruatæ.*, the declination of the star numbered 9 is printed 19 27 and 19 27¾; the declination here, 19° 27′ 30″, is given as printed, and no identity is asserted.

Reading	Value
The tenth, of the 6th magnitude. The last [star] of the tail, from Aldebaran [Decima mag. 6tæ. Vltima caudæ ab Aldebora]	18° 5⅔′
Right ascension [Aſc. R.]	44° 24′ 50″
The other way round, from the head of Andromeda [Viceverſa a cap. Androm.]	44° 25′ 50″
Corrected right ascension [Aſcenſio R. emendata]	44° 25⅓′
Declination, north [Declinatio Borea]	19° 39′
Corresponding longitude [Reſp. Longitudo]	17° 40½′ ♉
Latitude [Latitudo]	2° 36′ north [B.]

2964

Reading	Value
The eleventh, of the 6th magnitude. The little star which [is] in the thigh, is distant from Aldebaran [Vndecima 6tæ mag. Stellula quæ in femore, diſtat ab Aldebora]	23° 48′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	38° 20′ 49″
The other way round [Viceverſa]	38° 22′ 28″
Right ascension [Aſcenſio Recta]	38° 21′ 30″
Declination, north [Declinatio Borea]	16° 22′ 30″
Corresponding longitude [Reſp. Longitudo]	11° 11½′ ♉
Latitude [Latitudo]	1° 12′ north [B.]

2965

Reading	Value
The twelfth, of the 6th magnitude. The [star] preceding the 11th, or the southern of the upper [stars] in the □, is distant from Aldebaran [Duodecima 6tæ mag. Præcedens 11^{am} ſeu auſtralis ſuperiorum in □^{to}, diſtat ab Aldebora]	25° 28¼′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	36° 38′ 23″
The other way round [Viceverſa]	36° 37′ 15″
Right ascension [Aſcenſio Recta]	36° 37′ 50″

2964 "Reading" and "Value" are this edition's heads; the page prints none. These rows stand at the head of the right column. The paragraph of row 1 runs over two lines, its figures on the second. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 355, under 8 January, in the list headed *Declinationes per Armillas obſeruatæ.*, the declination of the star numbered 10 is printed 19 39⅙ and 19 39¼; the declination here, 19° 39′, is given as printed, and no identity is asserted.

2965 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures at the end of the second. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 356, under 30 January, in the list headed *Declinationes earundem per Armillas.*, the declination of the star numbered 11 is printed 16 21½, with 16 22 in the column headed *Limitatio*; the declination here, 16° 22′ 30″, is given as printed, and no identity is asserted.

Reading	Value
Declination, north [Declinatio Borea]	15° 43′ 30″
Corresponding longitude [Reſp. Longitudo]	9° 24½′ ♉
Latitude [Latitudo]	1° 6⅔′ north [B.]

2966

Reading	Value
The thirteenth, of the 6th magnitude, in the left knee and the following of the lower [stars] in the □, is distant from Aldebaran [Decima tertia mag. 6tæ in genu ſiniſtro et ſequens inferiorum in □to, diſtat ab Aldebora]	25° 9¼′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	37° 13′ 2″
The other way round [Viceverſa]	37° 15′ 52″
Right ascension [Aſcenſio Recta]	37° 14′ 30″
Declination, north [Declinatio Borea]	13° 21′ 10″
Corresponding longitude [Reſp. Longitudo]	9° 12¾′ ♉
Latitude [Latitudo]	1° 29⅔′ south[1] [Auſtr.[1]]

2967

Reading	Value
The fourteenth, of the 6th magnitude. The preceding of the two lower [stars] in the □, is distant from Aldebaran [Decima quarta 6tæ mag. Præcedens duarum inferiorum in □to, diſtat ab Aldebora]	26° 45¾′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	35° 31′ 25″
The other way round [Viceverſa]	35° 32′ 32″
Right ascension [Aſcenſio Recta]	35° 32′
Declination, north [Declinatio borea]	13° 30½′
Corresponding longitude [Reſp. Longitudo]	7° 41½′ ♉

2966 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over three lines, its figures on the third. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 355, under 8 January, in the list headed *Declinationes per Armillas obſeruatæ*., the declination of the star numbered 12 is printed 15 43 and 15 44; the declination here, 15° 43′ 30″, is given as printed, and no identity is asserted.

2967 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over three lines, its figures on the third. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 355, under 8 January, in the list headed *Declinationes per Armillas obſeruatæ*., the declination of the star numbered 13 is printed 13 21 and 13 21¾; on p. 356, under 30 January, in the list headed *Declinationes earundem per Armillas*., the declination of the star numbered 13 is printed 13 19⅝ and 13 21, with 13 21 in the column headed *Limitatio*; the declination here, 13° 21′ 10″, is given as printed, and no identity is asserted.

Reading	Value
Latitude [Latitudo]	0° 39′ south [Auſt.]

2968

Reading	Value
The fifteenth, of the 6th magnitude, which is in the belly, is distant from the head of Andromeda [Decima quinta mag. 6tæ, quæ eſt in alvo, diſtat a capite Andromedæ]	36° 1¾′

2969

[1] [It] ought to be 1° 19¾′. Cf. vol. III, p. 412. [Debet eße 1° 19¾′. Cf. T. III p. 412.]

Reading	Value
Right ascension from the head of Andromeda [Aſc. R. a cap. Andr.]	34° 51′ 40″
[Right ascension] from the eye of ♉ [ab oculo ♉]	34° 49′ 0″
Verified right ascension [Aſcenſio R. verificata]	34° 50′
Declination, north [Declinatio borea]	18° 13′
Corresponding longitude [Reſp. Longitudo]	8° 36¼′ ♉
Latitude [Latitudo]	4° 1′ north [borea]

2970

2968 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over three lines, its figures on the third. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. In row 6 the page prints *7° 41½* with a degree mark but no minute mark; the *41½* is given as minutes. On p. 356, under 30 January, in the list headed *Declinationes earundem per Armillas.*, the declination of the star numbered 14 is printed 13 29, with 13 30 in the column headed *Limitatio*; the declination here, 13° 30½′, is given as printed, and no identity is asserted.

2969 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph runs over two lines; its figures stand at the right on a third line of their own, the last line of the right column. The page ends with this row.

2970 "Reading" and "Value" are this edition's heads; the page prints none. These six rows stand at the head of the left column, under no heading; they belong to the entry of the fifteenth star of ♈ (the one in the belly), which begins on p. 398. The label of row 2 is set indented under that of row 1. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. In row 5 the page prints *8° 36¼* with a degree mark but no minute mark; the *36¼* is given as minutes. On p. 356, under 30 January, in the list headed *Declinationes earundem per Armillas.*, the declination of the star numbered 15 is printed 18 13¼; the declination here, 18° 13′, is given as printed, and no identity is asserted.

Reading	Value
The sixteenth, of the 6th magnitude [Decima ſexta mag. 6tæ.]	
Right ascension from Aldebaran [Aſc. R. ab Aldebora]	25° 56′ 34″
The other way round, from the head of Andromeda [Viceverſa a cap. Andr.]	25° 54′ 25″
Corrected right ascension [Aſcenſio R. emendata]	25° 55½′
Declination, north [Declinatio Borea]	20° 39′
Corresponding longitude [Reſp. Longitudo]	1° 30½′ ♉
Latitude [Latitudo]	9° 13′ north [B.]

2971

The constellation ♉ [ASTERISMUS ♉.]

Taurus has 43 stars. [Taurus habet ſtellas 43.]

Of these, of the magnitude [Harum] [magni-] [tudinis]	are [ſunt]
first [primæ]	1
second [ſecundæ]	1
third [tertiæ]	5
fourth [quartæ]	7
fifth [quintæ]	18
sixth [ſextæ]	11

2972

Reading	Value
The first and uppermost in the intersection, of the 5th magnitude, is distant from Aldebaran [Prima et ſuprema in interſectione magnitudinis 5tæ, diſtat ab Aldebora]	16° 8¾′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	47° 2′ 46″
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	47° 4′ 14″
True right ascension [Vera Aſcenſio Recta]	47° 3½′
Declination, north [Declinatio borea]	11° 29′
Corresponding longitude [Reſp. Longitudo]	17° 50′ ♉
Latitude [Latitudo]	5° 57′ south [Auſt.]

2973

2971 "Reading" and "Value" are this edition's heads; the page prints none. These rows stand at the head of the right column. Row 1 is a paragraph line with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

2972 The heads are the page's own words, set not over the columns but beside braces: *Harum* / *magni-* / *tudinis* in three lines to the left of a brace enclosing the six ordinals, *ſunt* between a second brace after the ordinals and a third brace enclosing the figures.

2973 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over three lines, its figures on the third. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Reading	Value
The second, immediately below in the intersection, of the 6th magnitude, is distant from Aldebaran [Secunda proxime infra in interſectione 6tæ magnitudinis, diſtat ab Aldebora]	16° 43′
Right ascension from Aldebaran [Aſcenſ. R. ab Aldeb.]	47° 0′ 5″
The other way round, from the bright [star] of ♈, [it] has not been observed [Viceverſa a luc. ♈ non eſt obſeruata.]	
Right ascension [Aſcenſ. R.]	47° 0′ 0″
Declination, north [Declinatio borea]	9° 52′ 30″
Corresponding longitude [Reſp. Longitudo]	17° 20′ ♉
Latitude [Latitudo]	7° 29′ south [Auſt.]

2974

Reading	Value
The third in the intersection, of the 4th magnitude, greater, distant from Aldebaran [Tertia in interſectione magn. 4tæ maior., diſt. ab Aldeb.]	18° 4¾′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	46° 12′ 56″
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	46° 13′ 11″
Mean right ascension [Media Aſcenſio R^{ta}]	46° 13′
Declination, north [Declinatio borea]	8° 15¼′
Corresponding longitude [Reſp. Longitudo]	16° 7⅔′
Latitude [Latitudo]	8° 49⅔′ south [Auſt.]

2975

Reading	Value
The fourth and lowest in the intersection, of the 4th magnitude, is distant from the eye of ♉ [Quarta et infima in interſectione magn. 4tæ, diſtat ab oculo ♉]	18° 51¾′
Right ascension according to Aldebaran [Aſc. R. iuxta Aldeb.]	45° 41′ 34″
The other way round, according to the bright [star] of ♈ [Viceverſa ſecund. luc. ♈]	45° 41′ 5″

2974 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over three lines, its figures on the third. Row 3 is set over two lines and carries no figures. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 358, under 9 January, in the list headed *Declinationes earundem per Armillas ſubterraneas*, the declination of the star numbered 2 is printed 9 52 and 9 53; the declination here, 9° 52′ 30″, is given as printed, and no identity is asserted.

2975 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures on the second. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. In row 6 the page prints *16 7⅔* with no degree mark, no minute mark and no sign; it is given as degrees and minutes, and no sign is supplied. These rows end the left column. On p. 358, under 9 January, in the list headed *Declinationes earundem per Armillas ſubterraneas*, the declination of the star numbered 3 is printed 8 15 and 8 16; the declination here, 8° 15¼′, is given as printed, and no identity is asserted.

Reading	Value
Mean right ascension [Media Aſcenſio Recta]	45° 41⅓′
Declination, north [Declinatio borea]	7° 32′
Corresponding longitude [Reſp. Longitudo]	15° 25¼′ ♉
Latitude [Latitudo]	9° 22½′ south [Auſtr.]

2976

Reading	Value
The fifth, of the 5th magnitude, which is in the shoulder, distant from the bright foot of ♊ [Quinta mag. 5tæ, quæ in armo eſt, diſt. a lucido ♊ pede]	41° 23⅔′
Right ascension from the bright foot of ♊ [Aſc. R. a luc. pede ♊]	51° 26′ 23″
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	51° 28′
Corrected right ascension [Aſcenſio R. emendata]	51° 27⅙′
Declination, north [Declinatio borea]	9° 49⅔′
Corresponding longitude [Reſp. Longitudo]	21° 35⅚′ ♉
Latitude [Latitudo]	8° 41′ south [Auſt.]

2977

Reading	Value
The sixth, of the 4th magnitude. The breast of ♉. [It] is distant from the bright star in the feet of ♊ [Sexta 4tæ mag. Pectus ♉. Diſtat a lucida ſtella in pedibus ♊]	38° 8½′
Right ascension from the bright foot [Aſcenſ. R. a lucido pede]	54° 30′ 5″[1] [54 30 5[1]]
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	54° 26′ 55″
Mean right ascension [Aſcenſio R. media]	54° 28′ 30″
Declination, north [Declinatio borea]	11° 13′ 40″
Corresponding longitude [Reſp. Longitudo]	24° 51′ ♉
Latitude [Latitudo]	8° 3′ south [Auſt.]

2976 "Reading" and "Value" are this edition's heads; the page prints none. These rows stand at the head of the right column, below the title. The paragraph of row 1 runs over two lines, its figures on the second. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 360, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 4 is printed 7 31, with both; the declination here, 7° 32′, is given as printed, and no identity is asserted.

2977 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures on the second. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 5 is printed 9 49½ and 9 50; the declination here, 9° 49⅔′, is given as printed, and no identity is asserted.

2978

Reading	Value
The seventh, of the 4th magnitude. The knee of the preceding foot, from the bright foot of ♊ [Septima mag. 4tæ. Genu pedis præcedentis, a luc. ♊ pede]	35° 26⅓′
Right ascension from the bright foot [Aſc. R. a lucido pede]	58° 17′ 7″
The other way round [Viceverſa]	58° 19′ 43″
Mean right ascension [Aſcenſio recta media]	58° 18′ 20″
Declination, north [Declinatio borea]	7° 48′ 40″
Corresponding longitude [Reſp. Longitudo]	27° 49′ ♉
Latitude [Latitudo]	12° 13½′ south [Auſt.]

2979

[1] It is added: "[It] seems better, and therefore the longitude is to be corrected with the limited right ascension." In the catalogue, however, this longitude has been entered without any correction. [Adſcriptum eſt: »Videtur melior, ideoque longitudo cum limitata Aſcenſione Recta corrigenda venit.« In catalogo tamen hæc longitudo ſine ulla correctione inſerta eſt.]

Reading	Value
The eighth, of the 4th magnitude. The preceding [star] in the front foot [Octava 4tæ mag. Præcedens in anteriore pede.]	
Right ascension from the bright foot [Aſc. R. a luc. pede]	55° 19′ 50″
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	55° 19′ 37″
True right ascension [Vera Aſcenſio recta]	55° 19′ 40″
Declination, north [Declinatio borea]	4° 47′ 0″
Corresponding longitude [Reſp. Longitudo]	24° 8′ 40″ ♉
Latitude [Latitudo]	14° 30′ 30″ south [Auſt.]

2978 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures on the second. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. In row 2 the footnote cue stands after the last figure group, which carries no second mark. On p. 360, under 10 January, the declination of the star numbered 6 is printed 20 18, with the footnote cue 1; on p. 360, under 29 January, the declination of the star numbered 6 is printed 11 12½ and 11 13; on p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 6 is printed 11 14½ and 11 15; the declination here, 11° 13′ 40″, is given as printed, and no identity is asserted.

2979 "Reading" and "Value" are this edition's heads; the page prints none. The paragraph of row 1 runs over two lines, its figures on the second. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. These rows end the right column. On p. 359, under 10 January, the declination of the star numbered 7 is printed 7 49½ and 7 49; on p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 7 is printed 7 48½ and 7 48; the declination here, 7° 48′ 40″, is given as printed, and no identity is asserted.

2980

Reading	Value
The ninth, of magnitude 5, the northern [star], or the knee of the following foot [Nona mag. 5, borealis ſeu genu pedis ſequentis.]	
Right ascension from the bright foot of ♊ [Aſc. R. a luc. pede ♊]	63° 46′ 2″
The other way round [Viceverſa]	63° 49′ 18″
Averaged right ascension [Mediata Aſcenſio R.]	63° 47′ 40″
Declination, north [Declinatio borea]	11° 38′ 20″
Corresponding longitude [Reſp. Longitudo]	3° 59′ ♊
Latitude [Latitudo]	9° 32′ south [Auſt.]

2981

Reading	Value
The tenth, of the 5th magnitude, the lower [star] of the following foot [Decima 5tæ mag. inferior pedis ſequentis.]	
Right ascension from the bright foot [Aſc. R. a lucido pede]	63° 15′ 5″
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	63° 16′ 12″
True right ascension [Vera Aſcenſio R^{ta}]	63° 15′ 40″
Declination, north [Declinatio borea]	9° 14′ 20″
Corresponding longitude [Reſp. Longitudo]	3° 0′ 45″ ♊
Latitude [Latitudo]	11° 48′ 0″ south [Auſt.]

2982

Reading	Value
The eleventh, of the 3rd magnitude, the first of the Hyades, in the nostrils of ♉ [Vndecima 3tiæ mag., ſuccularum prima in naribus ♉.]	
Right ascension from the bright foot of ♊ [Aſc. R. a luc. pede ♊]	59° 5′ 8″

2980 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds.

2981 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures; the page prints the magnitude as a bare *5*. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 9 is printed 11 38 and 11 38½; on p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 9 is printed 11 38 and 11 37¾; the declination here, 11° 38′ 20″, is given as printed, and no identity is asserted.

2982 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds. On p. 359, under 10 January, the declination of the star numbered 10 is printed 9 14½, with both; on p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 10 is printed 9 14 and 9 14½; the declination here, 9° 14′ 20″, is given as printed, and no identity is asserted.

Reading	Value
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	59° 7′ 33″
Right ascension, limited [Aſcenſio R. limitata]	59° 6′ 20″
Declination, north [Declinatio borea]	14° 34′ 30″
Corresponding longitude [Reſp. Longitudo]	0° 1′ 46″ ♊
Latitude [Latitudo]	5° 46′ 30″ south [Auſt.]

2983

Reading	Value
The twelfth, of the 3rd magnitude, the following and second of the Hyades [Duodecima 3tiæ mag. ſuccularum ſequens et ſecunda.]	
Right ascension from the bright foot of ♊ [Aſc. R. a lucido pede ♊]	59° 48′ 24″
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	59° 50′ 21″
Mean right ascension [Media Aſcenſio recta]	59° 49′ 20″
Declination, north [Declinatio borea]	16° 30′ 0″
Corresponding longitude [Reſp. Longitudo]	1° 6⅓′ ♊
Latitude [Latitudo]	4° 2′ south [Auſt.]

2984

Reading	Value
The thirteenth, of the 4th magnitude. Which is between Aldebaran and the nostrils [Decima tertia 4tæ mag. Quæ eſt inter Aldeboram et nares.]	
Right ascension from the bright foot [Aſc. R. a luc. pede]	61° 17′ 5″
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	61° 20′ 24″
Mean right ascension [Aſcenſio Recta media]	61° 18⅔′
Declination, north [Declinatio borea]	14° 54′
Corresponding longitude [Reſp. Longitudo]	2° 12′ ♊
Latitude [Latitudo]	5° 53′ south [Auſt.]

2983 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds. On p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 11 is printed 14 34 and 14 34¾; the declination here, 14° 34′ 30″, is given as printed, and no identity is asserted.

2984 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 12 is printed 16 30½ and 16 30¾; the declination here, 16° 30′ 0″, is given as printed, and no identity is asserted.

2985

Reading	Value
The fourteenth, of the 1st magnitude. Aldebaran, the bright and southern eye of ♉, of which here at the beginning of the year there is presupposed [Decima quarta mag. 1mæ. Aldeboram, Lucidus et auſtralis oculus ♉, cuius hic ad initium anni præſupponitur.]	
Right ascension [Aſcenſio recta]	63° 6′ 30″
Declination, north [Declinatio borea]	15° 37′ 0″
Corresponding longitude [Reſp. Longitudo]	4° 2¾′ ♊
Latitude [Latitudo]	5° 30⅓′ south [Auſt.]

2986

Reading	Value
The fifteenth, of the 3rd magnitude. The northern eye of ♉ [Decima quinta, mag. 3æ Borealis oculus ♉.]	
Right ascension from the bright foot [Aſc. R. a lucido pede]	61° 9′
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	61° 13′
Mean right ascension [Media Aſcenſio recta]	61° 11′
Declination, north [Declinatio borea]	18° 12½′
Corresponding longitude [Reſp. Longitudo]	2° 43′ ♊
Latitude [Latitudo]	2° 37′ south [Auſt.]

2987

[2985] "Reading" and "Value" are this edition's heads; the page prints none. Rows 1 and 2 stand at the foot of the left column, row 1 a paragraph of two lines with no figures; rows 3 to 7 stand at the head of the right column, under no heading. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 358, under 9 January, in the list headed *Declinationes earundem per Armillas ſubterraneas*, the declination of the star numbered 13 is printed 14 57 and 14 57½; the declination here, 14° 54′, is given as printed, and no identity is asserted.

[2986] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of three lines with no figures; its verb *præſupponitur* has as subject the *Aſcenſio recta* of row 2. The value of row 3, printed as three bare figures, is given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 397 the list of right ascensions used as foundations gives *Oculus* ♉ with 63 6 20; here the right ascension is printed 63 6 30. Both are given as printed. On p. 360, under 29 January, a line marked *N. B.* inside the numbered list of declinations gives the declination of the eye of ♉ for this year as 15 36½ or ⅔; the declination here, 15° 37′ 0″, is given as printed, and no identity is asserted.

[2987] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 15 is printed 18 12 and 18 12¼; the declination here, 18° 12½′, is given as printed, and no identity is asserted.

Reading	Value
The sixteenth, of the 6th magnitude. The one which is at the root of the southern horn of ♉ [Decima ſexta 6æ mag. Ea quæ eſt in radice auſtralis cornu ♉.]	
Distance from the lower head of ♊ [Diſt. ab infer. cap. ♊]	40° 47½′
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	66° 50⅔′
The other way round [Viceverſa]	66° 54′ 30″
Mean right ascension [Aſcenſio recta media]	66° 52′ 35″
Declination, north [Declinatio borea]	18° 6′[1] [18 6[1]]

2988

Reading	Value
The seventeenth, of magnitude 6. The southern of the two in the southern horn [Decima ſeptima 6 mag. Auſtralis duarum in auſtrali cornu.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	70° 51⅚′
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	70° 56⅙′
Corrected right ascension [Aſcenſio R. emendata]	70° 54′
Declination, north [Declinatio borea]	19° 49⅓′
Corresponding longitude [Reſp. Longitudo]	12° 3¼′ ♊
Latitude [Latitudo]	3° 30½′ south [M.]

2989

Reading	Value
The eighteenth, of the 5th magnitude, the northern of the two in the southern horn [Decima octava mag. 5tæ, duarum in cornu auſtrali borea.]	
Right ascension from the bright [star] of ♈ [Aſc. R. a lucida ♈]	69° 39′ 13″
The other way round [Viceverſa]	69° 37′ 24″
Declination, north [Declinatio B.]	20° 56⅓′
Corresponding longitude [Reſp. Longitudo]	10° 53′ 52″ ♊
Latitude [Latitudo]	1° 49½′ south[2] [M.[2]]

[2988] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. No longitude or latitude follows row 6.

[2989] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures; the page prints the magnitude as a bare *6*. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 17 is printed 19 49 and 19 49½; the declination here, 19° 49⅓′, is given as printed, and no identity is asserted.

2990

[1] Longitude and latitude are missing. [Longitudo et Latitudo deſunt.]

[2] Longitude ought to be 11° 5½′, latitude 1° 15½′ (cf. vol. III, p. 412). [Long. debet eße 11° 5½′, Lat. 1° 15½′ (cf. T. III p. 412).]

Reading	Value
The nineteenth, of the 3rd magnitude. The last [star] of the southern horn [Decima nona magn. 3iæ. Vltima cornu auſtralis.]	
Right ascension from the lower head [Aſc. R. ab. infer. cap.]	78° 15′ 46″
The other way round [Viceverſa]	78° 15′ 10″
True right ascension [Vera Aſcenſio recta]	78° 15′ 30″
Declination, north [Declinatio borea]	20° 50′ 10″
Corresponding longitude [Reſp. Longitudo]	19° 1⅔′ ♊
Latitude [Latitudo]	2° 14′ south [Auſt.]

2991

Reading	Value
The twentieth, of the 5th magnitude. Which is at the root of the northern horn [Viceſima 5tæ magn. Quæ eſt in radice cornu borealis.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	64° 24′ 0″
The other way round, from the bright [star] of ♈ [Viceverſa a lucida ♈]	64° 25′ 49″
Mean right ascension [Aſcenſio R. media]	64° 25′
Declination, north [Declinatio borea]	22° 6′
Corresponding longitude [Reſp. Longitudo]	6° 25′ ♊
Latitude [Latitudo]	0° 40′ north [Borea]

2992

2990 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. The value of row 3, printed as three bare figures, is given as degrees, minutes and seconds; those printed as two, as degrees and minutes. These rows end the right column. On p. 359, under 10 January, the declination of the star numbered 18 is printed 20 56½ and 20 56; the declination here, 20° 56⅓′, is given as printed, and no identity is asserted.

2991 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. In row 2 the page names no constellation after the lower head. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 19 is printed 20 50½ and 20 50; on p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 19 is printed 20 50 and 20 49½; the declination here, 20° 50′ 10″, is given as printed, and no identity is asserted.

2992 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Reading	Value
The twenty-first, of the 2nd magnitude. The northern horn of ♉, or the bright foot of Erichthonius [Viceſima prima mag. 2dæ. Boreale cornu ♉ ſeu lucidus pes Erichtonij.]	
Right ascension from the bright [star] of ♈ [Aſc. R. a lucida ♈]	75° 4⅔′
The other way round [Viceverſa]	75° 6½′
Corrected right ascension [Aſcenſio recta emend.]	75° 5′ 35″
Declination, north [Declinatio borea]	28° 10½′
Corresponding longitude [Reſp. Longitudo]	16° 49′ 20″ ♊
Latitude [Latitudo]	5° 20′ north[1] [borea[1]]

2993

Reading	Value
The twenty-second, of the 5th magnitude, the northern [star] in the ear [Viceſima ſecunda mag. 5tæ in aure borealis.]	
Right ascension from the bright foot [Aſc. recta a luc. pede]	60° 25′ 55″
The other way round [Viceverſa]	60° 26′ 51″
Verified right ascension [Aſcenſio r. verificata]	60° 26⅓′
Declination, north [Declinatio borea]	21° 49′
Corresponding longitude [Reſp. Longitudo]	2° 44′ ♊
Latitude [Latitudo]	1° 4′ north [Borea]

2994

Reading	Value
The twenty-third, of the 4th magnitude, the southern [star] in the ear [Viceſima tertia, mag. 4tæ in aure auſtralis.]	
Right ascension from the bright foot [Aſc. recta a luc. pede]	60° 14′
The other way round [Viceverſa]	60° 15′
Corrected right ascension [Aſcenſio r. emendata]	60° 14½′
Declination, north [Declinatio borea]	21° 17½′
Corresponding longitude [Reſp. Longitudo]	2° 28′ ♊
Latitude [Latitudo]	0° 35′ north [borea]

2993 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

2994 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

2995

Reading	Value
The twenty-fourth, of the 5th magnitude, which [is] the preceding of the two in the neck [Viceſima quarta mag. 5tæ, quæ præcedens duarum in collo.]	
Right ascension from the bright foot of ♊ [Aſc. recta a luc. ped. ♊]	55° 6′ 49″
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	55° 7′ 54″
Verified right ascension [Aſcenſio R. verificata]	55° 6′ 30″
Declination, north [Declinatio borea]	20° 52′ 40″
Corresponding longitude [Reſp. Longitudo]	27° 41′ ♉
Latitude [Latitudo]	1° 12′ north [Borea]

2996

Reading	Value
The twenty-fifth, of the 6th magnitude. [It] is the following [star] in the neck of ♉ [Viceſima quinta mag. 6tæ. Eſt ſequens in collo ♉.]	
Right ascension from the bright foot [Aſc. recta a luc. pede]	58° 16′ 6″
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	58° 19′ 44″
Verified right ascension [Aſcenſio r. verificata]	58° 18′
Declination, north [Declinatio borea]	19° 31½′
Corresponding longitude [Reſp. Longitudo]	0° 18′ 23″ ♊
Latitude [Latitudo]	0° 46′ 18″ south [M.]

2997

2995 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 23 is printed 21 18 and 21 17; on p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 23 is printed 21 15, with both; the declination here, 21° 17½′, is given as printed, and no identity is asserted.

2996 "Reading" and "Value" are this edition's heads; the page prints none. Rows 1 to 4 stand at the foot of the left column, row 1 a paragraph of two lines with no figures; rows 5 to 7 stand at the head of the right column, under no heading. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 24 is printed 20 52¾ and 20 52; on p. 360, under 29 January, the declination of the star numbered 24 is printed 20 50 and 20 50½; on p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 24 is printed 20 53 and 20 53½; the declination here, 20° 52′ 40″, is given as printed, and no identity is asserted.

2997 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 25 is printed 19 32 and 19 31; the declination here, 19° 31½′, is given as printed, and no identity is asserted.

Reading	Value
The twenty-sixth, of the 6th magnitude. The very small [star] below the southern of the two preceding [stars] in the quadrilateral of ♉ [Viceſima ſexta mag. 6tæ. Paruula infra auſtralem præcedentium duarum in quadrilatero ♉.]	
Right ascension from the lower head of ♊ [Aſc. recta ab infer. cap. ♊]	56° 26′
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	56° 28⅚′
Corrected right ascension [Aſcenſio recta emend.]	56° 27⅓′
Declination, north [Declinatio borea]	25° 20′
Corresponding longitude [Reſp. Longitudo]	29° 53⅔′ ♉
Latitude [Latitudo]	5° 16$\frac{1}{12}$′ north [B.]

2998

Reading	Value
The twenty-seventh, of the 5th magnitude. The northern of the preceding [stars] in the quadrilateral of the neck of ♉ [Viceſima ſeptima mag. 5tæ. Borealis præcedentium in quadrilatero colli ♉.]	
Right ascension from the lower head of ♊ [Aſc. recta ab infer. cap. ♊]	55° 26⅓′
The other way round [Viceverſa]	55° 27⅙′
Corrected [right ascension] [emendata]	55° 26¾′
Declination, north [Declinatio borea]	27° 50½′
Corresponding longitude [Reſp. Longitudo]	29° 35½′ ♉
Latitude [Latitudo]	7° 55′ north [borea]

2999

Reading	Value
The twenty-eighth, of the 5th magnitude, the lower of the following [stars] in the □ of ♉ [Viceſima octava, magn. 5tæ, ſequentium inferior in □^{to} ♉.]	
Right ascension from the lower head of ♊ [Aſc. recta ab infer. cap. ♊]	59° 26⅔′
The other way round [Viceverſa]	59° 27⅔′
Mean right ascension [Aſcenſio recta media]	59° 27¼′
Declination, north [Declinatio borea]	24° 34¼′
Corresponding longitude [Reſp. Longitudo]	2° 23⅚′ ♊
Latitude [Latitudo]	3° 56¾′ north [B.]

2998 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of three lines with no figures. Values printed as two bare figures are given as degrees and minutes.

2999 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. The label of row 4 is the single word *emendata*. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 27 is printed 27 50 and 27 51; the declination here, 27° 50½′, is given as printed, and no identity is asserted.

3000

Reading	Value
The twenty-ninth, of the 6th magnitude. The more northern of the following [stars] in the quadrilateral [Viceſima nona mag. 6tæ. Borealior ſequentium in quadrilatero.]	
Right ascension from the bright [star] of ♈ [Aſc. recta a lucida ♈]	58° 48½′
This right ascension is to be kept, because it was observed from this star twice, in different years, the declination also having been repeated [Hæc aſc. recta retinenda eſt, quia ab hac ſtella bis diuerſis annis obſeruata eſt, iterata etiam declin.]	
Declination, north [Declinatio borea]	26° 18½′ good [bona]
Corresponding longitude [Reſp. Longitudo]	2° 15¼′ ♊ [2° 15¼ ♊]
Latitude [Latitudo]	5° 45½′ north [B.]

3001

[1] [It] has been added in the margin: "The distance of this 21st [star] from Aldebaran 16° 44′ 50″. Likewise from the upper head of ♊ 33° 3′ 45″. From this its place can be obtained more exactly." [Adſcriptum eſt in margine: »Diſtantia huius 21æ ab Aldeb. 16° 44′ 50″. Item a ſuperiori capite ♊ 33° 3′ 45″. Hinc locus eius exactius haberi poteſt«.]

Reading	Value
The thirtieth, of the 5th magnitude, which is the western of the three brighter [stars] in the Pleiades [Triceſima, magn. 5tæ, quæ eſt occidentalis lucidiorum trium in plejadibus.]	
Right ascension from the bright foot of ♊ [Aſc. R. a lucido pede ♊]	50° 7′ 54″
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	50° 9′ 5″
Further, from the northern horn of ♉ [Adhuc a bor. cornu ♉]	50° 7′ 45″
Verified right ascension [Aſc. R. verificata]	50° 8′ 30″
Declination, north [Declinatio borea]	22° 47′ 40″
Corresponding longitude [Reſp. Longitudo]	23° 40′ ♉
Latitude [Latitudo]	4° 10⅔′ north [B.]

3000 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures; the page sets the square as a sign. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 28 is printed 24 34 and 24 34½; the declination here, 24° 34¼′, is given as printed, and no identity is asserted.

3001 "Reading" and "Value" are this edition's heads; the page prints none. Rows 1 and 3 are paragraphs, of two and three lines, with no figures. Values printed as two bare figures are given as degrees and minutes; the longitude of row 5 is printed with a degree mark but no minute mark, and is given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 29 is printed 26 18 and 26 19; the declination here, 26° 18½′, is given as printed, and no identity is asserted.

3002

Reading	Value
The thirty-first, of the 6th magnitude, lesser. Nearest to the western [star], and the lowest [Triceſima prima mag. 6tæ minor. Proxima occidentali et infima.]	
Right ascension from the bright [star] of ♈ [Aſc. R. a lucida ♈]	50° 23½′
The other way round is not available [non habetur viceverſa.]	
Declination, north [Declinatio borea]	22° 42½′ is kept [retinetur.]
Corresponding longitude [Reſp. Longitudo]	23° 52½′ ♉
Latitude [Latitudo]	4° 1′ 50″ north [B.]

3003

Reading	Value
The thirty-second, of the 3rd magnitude, the middle and bright [star] of the Pleiades [Triceſima ſecunda mag. 3æ Plejadum media et lucida.]	
Right ascension from the bright foot of ♊ [Aſc. R. a luc. pede ♊]	50° 46′ 56″
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	50° 45′ 56″
Verified right ascension [Aſc. recta verificata]	50° 46′
Declination, north [Declinatio borea]	22° 46′
Corresponding longitude [Reſp. Longitudo]	24° 14′ ♉
Latitude [Latitudo]	4° 0′ north [borea]

3004

Reading	Value
The thirty-third, of the 5th magnitude. Which is in the point, toward the east [Triceſima tertia 5tæ mag. Quæ eſt in cuſpide ad ortum.]	
Right ascension from the bright foot of ♊ [Aſc. recta a luc. pede ♊]	51° 11′ 53″

3002 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of three lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 30 is printed 22 49 and 22 48½, the number printed with the footnote cue 1; on p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 30 is printed 22 45 and 22 45½; the declination here, 22° 47′ 40″, is given as printed, and no identity is asserted.

3003 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures; row 3 is a line with no figures. In row 4 the word *retinetur* follows the figures on the same line. Values printed as two bare figures are given as degrees and minutes; the latitude, printed as three, as degrees, minutes and seconds.

3004 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Reading	Value
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	51° 11′ 57″
Verified right ascension [Aſcenſio R. verificata]	51° 12′
Declination, north [Declinatio borea]	22° 46′
Corresponding longitude [Reſp. Longitudo]	24° 37′ ♉ [24° 37 ♉]
Latitude [Latitudo]	3° 55′ north [Bor.]

3005

Reading	Value
The thirty-fourth, of the 6th magnitude. [It] is the most southern of all, and in the hoof of the preceding or left foot [Triceſima quarta mag. 6tæ. Eſt omnium auſtralißima et in vngula pedis præcedentis ſeu ſiniſtri.]	
Right ascension from the bright foot of ♊ [Aſc. recta a luc. pede ♊]	50° 57′
Declination, north [Declinatio borea]	4° 43′
Corresponding longitude [Reſp. Longitudo]	19° 47′ ♉
Latitude [Latitudo]	13° 30′ south [Auſtr.]

3006

Reading	Value
The thirty-fifth, of the 6th magnitude. The little star in the ankle of the following foot [Triceſima quinta mag. 6tæ. Stellula in talo ſequentis pedis.]	
Right ascension from the bright foot of ♊ [Aſc. recta a luc. pede ♊]	60° 20⅓′
The other way round, from the bright [star] of ♈ [Viceverſa a luc. ♈]	60° 26′
Corrected right ascension [Aſc. recta emendata]	60° 22⅙′
Declination, north [Declinatio borea]	8° 26⅓′
Corresponding longitude [Reſp. Longitudo]	29° 59⅔′ ♉
Latitude [Latitudo]	12° 2¼′ south [Auſt.]

[3005] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. The longitude of row 6 is printed with a degree mark but no minute mark, and is given as degrees and minutes. On p. 361, under 9 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 33 is printed 22 44, with both; the declination here, 22° 46′, is given as printed, and no identity is asserted.

[3006] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of three lines with no figures. Values printed as two bare figures are given as degrees and minutes. No reading the other way round is printed for this star.

3007

Reading	Value
The thirty-sixth, of the 5th magnitude. The little star in the thigh of the following foot [Triceſima ſexta mag. 5tæ. Stellula in fæmore ſequentis pedis.]	
The other way round is not available [Viceverſa non habetur.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	61° 28¼′[1]
Declination, north [Declinatio borea]	12° 4½′
Corresponding longitude [Reſp. Longitudo]	1° 48¼′ ♊
Latitude [Latitudo]	8° 41′ south [Auſt.]

3008

Reading	Value
The thirty-seventh, of the 5th magnitude. The more southern and more western of the three below the Hyades [Triceſima ſeptima mag.5tæ.Auſtralior et occidentalior trium infra ſucculis.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	60° 51½′
Limited. Observed the other way round, [it] agrees well [limitata.Viceverſa obſeruata bene reſpondet.]	
Declination, north [Declinatio borea]	13° 44′
Corresponding longitude [Reſp. Longitudo]	1° 32′ ♊
Latitude [Latitudo]	6° 56½′ south [Auſt.]

3009

[3007] "Reading" and "Value" are this edition's heads; the page prints none. Rows 1 to 3 stand at the foot of the left column, row 1 a paragraph of two lines with no figures; rows 4 to 7 stand at the head of the right column, under no heading. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 35, with the magnitude 6 and *fere*, "nearly", described as the middle one between the right knee and the lower [star] in the left foot, is printed 8 26½ and 8 26; the declination here, 8° 26⅓′, is given as printed, and no identity is asserted.

[3008] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures; row 2, a line with no figures, stands before the right ascension. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 36 is printed 12 5 and 12 4; the declination here, 12° 4½′, is given as printed, and no identity is asserted.

[3009] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures; row 3 is two lines with no figures, indented under row 2, whose right ascension its first word *limitata* qualifies. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 37 is printed 13 44½ and 13 43½; the declination here, 13° 44′, is given as printed, and no identity is asserted.

Reading	Value
The thirty-eighth, of the 5th magnitude. The middle of the same three [Triceſima octava mag. 5tæ. Earundem trium media.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	62° 38′ 10″
The other way round [Viceverſa]	62° 39′ 10″
Corrected right ascension [Aſcenſio recta emendata]	62° 38⅔′
Declination, north [Declinatio borea]	13° 56′
Corresponding longitude [Reſp. Longitudo]	3° 17⅔′ ♊
Latitude [Latitudo]	7° 4½′ south [M.]

3010

Reading	Value
The thirty-ninth, of the 5th magnitude. The uppermost and last of the three, just below the southern eye of ♉ [Triceſima nona mag. 5tæ. Trium ſuprema et vltima proxime infra oculum ♉ Auſt.]	
Right ascension from the lower head of ♊ [Aſc. recta ab infer. cap. ♊]	63° 58½′
The other way round [Viceverſa]	63° 57′ 33″ [63 57 33″]
Corrected right ascension [Aſcenſio recta emend.]	63° 58′
Declination, north [Declinatio borea]	14° 57⅔′
Corresponding longitude [Reſp. Longitudo]	4° 45$\frac{1}{12}$′ ♊ [4° 45$\frac{1}{12}$ ♊]
Latitude [Latitudo]	6° 17⅗′ south [M.]

3011

Reading	Value
The fortieth, of the 6th magnitude. Which is fourth in number in the southern horn [Quadrageſima mag. 6tæ. Quæ eſt in auſt. cornu numero quarta.]	
Is distant from the lower head of ♊ [Diſtat ab infer. cap. ♊]	33° 31⅔′
Right ascension from the lower head [Aſc. recta ab infer. cap.]	73° 40′
The other way round [Viceverſa]	73° 43¼′

[3010] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 38 is printed 13 56½ and 13 55½; the declination here, 13° 56′, is given as printed, and no identity is asserted.

[3011] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of three lines with no figures. Row 3 carries a second mark after its last figure and no other marks; it is given as degrees, minutes and seconds. Values printed as two bare figures are given as degrees and minutes. The longitude of row 6 is printed with a degree mark but no minute mark, and is given as degrees and minutes. The fraction of row 7 is printed as three fifths. On p. 359, under 10 January, the declination of the star numbered 39 is printed 14 58 and 14 57½; the declination here, 14° 57⅔′, is given as printed, and no identity is asserted.

Reading	Value
Corrected right ascension [Aſcenſio recta emend.]	73° 41⅔′
Declination, north [Declinatio borea]	21° 35½′
Corresponding longitude [Reſp. Longitudo]	14° 52¼′ ♊
Latitude [Latitudo]	1° 4⅙′ south [M.]

3012

1 [It] has been added: "Corrected right ascension the other way round." [Adſcriptum eſt »Emendata aſcenſio recta viceverſa«.]

Reading	Value
The forty-first, of the 6th magnitude. The fifth in the horn, and nearest to the extreme [star] [Quadrageſima prima mag. 6tæ. Quinta in cornu et extremæ proxima.]	
Right ascension from the lower head of ♊ [Aſc. recta ab inf. cap. ♊]	75° 44′
The other way round [Viceverſa]	75° 45⅗′
Corrected right ascension [Aſcenſio recta emend.]	75° 44⅚′
Declination, north [Declinatio borea]	21° 31½′
Corresponding longitude [Reſp. Longitudo]	16° 45⅓′ ♊
Latitude [Latitudo]	1° 20¼′ south [M.]

3013

Reading	Value
The forty-second, of the 6th magnitude. The little star forming a right-angled triangle with the 3rd and 4th of ♉ in the intersection [Quadrageſima ſecunda mag. 6tæ.Stellula conficiens triangulum rectangulum cum 3^{tia} et 4ta ♉ in interſectione.]	
Right ascension from the bright foot of ♊ [Aſc. R. a lucido pede ♊]	47° 36′
The other way round, from 22 ♓ [Viceverſa a 22 ♓]	47° 37′ 50″
Right ascension, limited [Aſc. recta limitata]	47° 37′ 0″

3012 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. In row 3 the page names no constellation after the lower head. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 40, with the magnitude 6, described as the third in the southern horn of ♉, is printed 21 36 and 21 35; in that list the ordinals of the horn run one behind those of this catalogue (its order: 16 the first, 18 the second, 17, 40 the third, 41 the fourth, 19 the extreme). The declination here, 21° 35½′, is given as printed, and no identity is asserted.

3013 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the declination of the star numbered 41, with the magnitude 6, described as the fourth in the southern horn of ♉, is printed 21 31 and 21 31¾; in that list the ordinals of the horn run one behind those of this catalogue (see the note on the fortieth star, p. 402). The declination here, 21° 31½′, is given as printed, and no identity is asserted.

Reading	Value
Declination, north [Declinatio borea]	7° 54′
Corresponding longitude [Reſp. Longitudo]	17° 22¾′ ♉
Latitude [Latitudo]	9° 34⅓′ south [Auſt.]

3014

Reading	Value
The forty-third, of the 5th magnitude. The southern [star] of the preceding [stars] in the quadrilateral of the neck of Taurus [Quadrageſima tertia mag. 5tæ. Auſtralis præcedentium in quadrilatero colli Tauri.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	55° 22′
The other way round [Viceverſa]	55° 25′
Corrected right ascension [Aſcenſio R. emend.]	55° 23½′
Declination, north [Declinatio borea]	26° 25½′
Corresponding longitude [Reſp. Longitudo]	29° 12¼′ ♉
Latitude [Latitudo]	6° 32¾′ north [B.]

3015

The constellation ♊ *[ASTERISMUS* ♊*.]*

The stars of ♊ are 25 in number, [Stellæ ♊$^{o^{r}um}$ numero ſunt 25,]

Of these, of the magnitude [harum] [magni-] [tudinis]	are [ſunt]
first [primæ]	2
second [ſecundæ]	1
third [tertiæ]	4
fourth [quartæ]	8
fifth [quintæ]	4
sixth [ſextæ]	6

3014 "Reading" and "Value" are this edition's heads; the page prints none. Rows 1 to 3 stand at the foot of the upper block of the left column, row 1 a paragraph of three lines with no figures; rows 4 to 7 stand at the head of the right column, under no heading. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 360, under 29 January, the declination of the star numbered 42 is printed 7 53, with both; the declination here, 7° 54′, is given as printed, and no identity is asserted.

3015 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of three lines with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 359, under 10 January, the row numbered 26 carries the description of this star, *Auſtralis præcedentium duarum in quadril. colli*, and its declination is printed 26 26 and 26 25; the row numbered 43 there carries the description of this catalogue's twenty-sixth star. The declination here, 26° 25½′, is given as printed, and no identity is asserted.

3016

Reading	Value
The first, of the 2nd magnitude. The lower head of ♊ [Prima, mag. 2æ. Caput inferius ♊.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	109° 59′ 12″
From observation of the year 87 [Ex obſeruat. anni 87]	110° 0′ 2″
Corrected right ascension [Aſc. recta emendata]	110° 0′ 0″
Declination, north [Declinatio borea]	28° 56′ 20″
Corresponding longitude [Reſp. Longitudo]	17° 32′ 30″ ♋
Latitude [Latitudo]	6° 38′ 20″ north [borea]

3017

Reading	Value
The second, of the 2nd magnitude. The upper head of ♊ [Secunda magn.2æ.Superius caput ♊.]	
Right ascension from the bright [star] of the neck [Aſc. R. a lucida ceruicis]	107° 0′ 52″
From observation of the year 87 [Ex obſeruat. A^{i} 87]	107° 2′ 53″
Corrected right ascension [Aſcenſ. recta emendata]	107° 2′ 0″
Declination, north [Declinatio borea]	32° 41′ 30″
Corresponding longitude [Reſp. Longitudo]	14° 30⅔′ ♋
Latitude [Latitudo]	10° 2′ north [borea.]

3018

Reading	Value
The third, of the 5th magnitude. Which is in the uppermost and northern hand [Tertia mag. 5tæ. Quæ eſt in ſuprema et boreali manu.]	
Right ascension from the bright [star] of the neck of ♌ [Aſc. R. a luc. ceruicis ♌]	96° 22′ 25″
The other way round, from Aldebaran [Viceverſa ab Aldeboram]	96° 23′ 44″
Verified right ascension [Aſcenſio R. verificata]	96° 23′
Declination, north [Declinatio borea]	34° 22½′

[3016] The heads are the page's own words, set not over the columns but beside braces: *harum* / *magni-* / *tudinis* in three lines to the left of a brace enclosing the six ordinals, *ſunt* between a second brace after the ordinals and a third brace enclosing the figures. The sign ♊ is printed with the ending *orum* raised after it. The summary counts two stars of the first magnitude and one of the second; the entries on pp. 403–404 print none of the first magnitude, and three (the first, the second and the seventeenth) of the second; the counts are given as printed.

[3017] "Reading" and "Value" are this edition's heads; the page prints none. Values printed as three bare figures are given as degrees, minutes and seconds.

[3018] "Reading" and "Value" are this edition's heads; the page prints none. In row 2 the page names no constellation after *ceruicis*. In row 3 *A*^{i}, with a small raised *i*, is taken as *Anni*, "of the year". Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes.

Reading	Value
Corresponding longitude [Reſp. Longitudo]	5° 21⅝′ ♋ [5° 21⅝ ♋]
Latitude [Latitudo]	10° 58⅙′ north [B.]

3019

Reading	Value
The fourth, of the 4th magnitude. In the left arm or upper shoulder blade [Quarta magn. 4tæ. In ſiniſtro brachio ſeu ſcapula ſuperiori.]	
Right ascension from the bright [star] of the neck of ♌ [Aſc. R. a luc. ceruicis ♌]	101° 15′ 15″
The other way round [Viceverſa]	101° 14′ 43″
The right ascension was afterwards found [Inuenta eſt poſtea Aſc. R.]	101° 15′
Declination, north [Declinatio borea]	30° 51′
Corresponding longitude [Reſp. Longitudo]	9° 44′ ♋
Latitude [Latitudo]	7° 43′ north [borea]

3020

Reading	Value
The fifth, of the 4th magnitude. Which [is] in the right or lower shoulder blade of the upper [one] of ♊ [Quinta mag. 4tæ. Quæ in dextra ſeu inferiori ſcapula ſuperioris ♊$^{o^{rum}}$.]	
Right ascension from the heart of ♌ [Aſc. recta a corde ♌]	105° 1′ 5″
The other way round [Viceverſa]	105° 1′ 23″
True right ascension [Vera Aſcenſio recta]	105° 1¼′
Declination, north [Declinatio borea]	28° 32⅔′
Corresponding longitude [Reſp. Longitudo]	13° 13½′ ♋
Latitude [Latitudo]	5° 42½′ north [borea]

[3019] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. The longitude of row 6 is printed with a degree mark but no minute mark, and is given as degrees and minutes. On p. 363, under 3 January, in the list of declinations that numbers its stars by the figure on p. 362, not by this catalogue, the declination labelled *Brachij ſupremi* is printed 34 22⅓; on p. 365, under 9 February, in a list numbered by the same figure, the declination of the star numbered 15 there, labelled *In manu ſuperioris* ♊, is printed 34 23 and 34 23½. The declination here, 34° 22½′, is given as printed, and no identity is asserted.

[3020] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

3021

Reading	Value
The sixth, of the 5th magnitude. Which is in the neck of the lower [one] of ♊ [Sexta mag. 5tæ.] [Quæ eſt in collo inferioris ♊ᵒʳᵘᵐ.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	107° 34′ 30″
The other way round [Viceverſa]	107° 35′ 0″
Verified right ascension [Aſcenſio R. verificata]	107° 35′
Declination, north [Declinatio borea]	27° 44′
Corresponding longitude [Reſp. Longitudo]	15° 36⅔′ ♋ [15° 36⅔ ♋]
Latitude [Latitudo]	5° 10′ north [borea]

3022

Reading	Value
The seventh, of the 4th magnitude. In the southern elbow of the lower ♊ [Septima mag. 4tæ] [In cubito auſtrali inferioris ♊.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌.]	109° 52′ 33″
The other way round [Viceverſa]	109° 52′ 52″

3023

3021 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures; the sign ♊ is printed with the ending *orum* raised after it. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 5 is printed 28 32½; in the lists of 3 January (p. 363) and 9 February (p. 365), which number their stars by the figure on p. 362, not by this catalogue, the declination of the star numbered 18 there, labelled *Dorſi ſuperioris* and *In humero inferiori borealis* ♊, is printed 28 33, and 28 32 with both; the declination here, 28° 32⅔′, is given as printed, and no identity is asserted.

3022 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; the sign ♊ is printed with the ending *orum* raised after it. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. The longitude of row 6 is printed with a degree mark but no minute mark, and is given as degrees and minutes. In the lists of 3 January and 29 January (p. 363) and of 9 February (p. 365), which number their stars by the figure on p. 362, not by this catalogue, the declination of the star numbered 19 there — labelled *Eius quæ eſt in humero dextro* on 3 January, unlabelled on 29 January, *In humero meridionalis* ♊ on 9 February — is printed 27 45; 27 45 and 27 44¾; and 27 45 and 27 45½. Those lists' 25 is the hand of the lower Twin. The declination here, 27° 44′, is given as printed, and no identity is asserted.

3023 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, with no point after them, the description on the second, with no figures. In row 2 a point follows the sign ♌. Values printed as three bare figures are given as degrees, minutes and seconds. These three rows stand at the foot of the right column; the entry runs on at the head of the left column of p. 404.

Reading	Value
True right ascension [Vera aſcenſio recta]	109° 52′ 40″
Declination, north [Declinatio borea]	25° 19′ 30″
Corresponding longitude [Reſp. Longitudo]	17° 56′ ♋
Latitude [Latitudo]	3° 3′ north [borea]

3024

Reading	Value
The eighth, of the 6th magnitude. The little star between the 5th and the 12th [Octava mag. 6tæ.] [Stellula inter 5^{m} & 12^{m}.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	104° 35′ 14″
The other way round [Viceverſa]	104° 35′ 2″
True right ascension [Vera Aſcenſio recta]	104° 35′
Declination, north [Declinatio borea]	25° 47⅓′
Corresponding longitude [Reſp. Longitudo]	13° 8′ ♋
Latitude [Latitudo]	2° 56′ north [borea.]

3025

Reading	Value
The ninth, of the 6th magnitude. The little star in the left elbow of the upper Twin [Nona mag. 6tæ. Stellula in ſiniſtro cubito ſuperioris gemini.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	105° 52′
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	105° 57′ 30″
Corrected right ascension [Aſc. R. emendata]	105° 54′ 45″

3024 "Reading" and "Value" are this edition's heads; the page prints none. These four rows stand at the head of the left column, under no heading; they belong to the entry of the seventh star of ♊ (the one in the southern elbow), which begins on p. 403. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 7 is printed 25 19⅓; in the lists of 3 January (p. 363) and 9 February (p. 365), which number their stars by the figure on p. 362, not by this catalogue, the declination of the star numbered 20 there, labelled *Infimæ in cubito ſiniſtro verſus auſtrum* and *In cubito inferioris* ♊, is printed 25 19⅔, and 25 20 and 25 19¾; the declination here, 25° 19′ 30″, is given as printed, and no identity is asserted.

3025 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; 5^{m} and 12^{m} are printed with a small raised *m*. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 9 February, in the list that numbers its stars by the figure on p. 362, not by this catalogue, the declination of the star numbered 17 there is printed 25 47 and 25 48; that list labels it *In cubito inferiori ſuperioris* ♊, in the elbow of the upper Twin, which is the description this catalogue gives its ninth star (28° 45′). The declination here, 25° 47⅓′, is given as printed, and no identity is asserted.

Reading	Value
Declination, north [Declinatio borea]	28° 45′
Corresponding longitude [Reſp. Longitudo]	13° 59⅗′ ♋
Latitude [Latitudo]	6° 0⅓′ north [B.]

3026

Reading	Value
The tenth, of the 3rd magnitude. The northern and uppermost knee [Decima, mag. 3iæ.] [Boreale et ſupremum genu.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	94° 38′ 52″
The other way round [Viceverſa]	94° 38′ 51″
Verified right ascension [Aſc. recta verificata]	94° 38′ 50″
Declination, north [Declinatio borea]	25° 37′ 45″
Corresponding longitude [Reſp. Longitudo]	4° 11⅝′ ♋
Latitude [Latitudo]	2° 11′ north[1] [borea[1].]

3027

Reading	Value
The eleventh, of the 3rd magnitude. In the left knee of the following [one] [Vndecima mag. 3iæ.] [In ſiniſtro genu ſequentis.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	100° 4′ 52″
The other way round, from Aldebaran [Viceverſa ab Aldebora]	99° 55′ 0″
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	99° 54′ 28″
The right ascension was found [Inuenta eſt Aſcenſio R.]	99° 54¾′
Declination, north [Declinatio Borea]	21° 5½′
Corresponding longitude [Reſp. Longitudo]	9° 16′ ♋
Latitude [Latitudo]	2° 6⅓′ south [M.]

[3026] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

[3027] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. The footnote cue 1 stands after *borea* in row 7. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 10 is printed 25 27½; on p. 363, under 3 January, the declination labelled *Borealis in genu dextro* is printed 25 28, and on p. 364, under 9 February, that of the star numbered 9 there, labelled *Eius quæ eſt in ſuper. genu bor.* ♊, 25 28 and 25 27 — both lists number their stars by the figure on p. 362, not by this catalogue; the declination here, 25° 37′ 45″, is given as printed, and no identity is asserted.

3028

Reading	Value
The twelfth, of the 3rd magnitude. Which is in the southern belly [Duodecima mag. 3æ.] [Quæ eſt in ventre meridionali.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	103° 50′ 0″
The other way round [Viceverſa]	103° 51′ 33″
Averaged right ascension [Aſcenſio recta mediata]	103° 50¾′
Declination, north [Declinatio borea]	22° 40½′
Corresponding longitude [Reſp. Longitudo]	12° 46′ ♋
Latitude [Latitudo]	0° 13⅔′ south [Auſt.]

3029

Reading	Value
The thirteenth, of the 4th magnitude. The southern [star] of the three, or in the buttocks [Decima tertia mag. 4tæ.] [Auſtralis trium ſeu in natibus.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	103° 36′ 35″
The other way round [Viceverſa]	103° 35′ 44″ [103 35 44″]
Verified right ascension [Aſc. recta verificata]	103° 36′
Declination, north [Declinatio borea]	17° 13′
Corresponding longitude [Reſp. Longitudo]	13° 3′ ♋
Latitude [Latitudo]	5° 41′ south [Auſt.]

3028 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 363, under 3 January, the declination labelled *Mediæ in genu*, of the middle [star] in the knee, is printed 21 7⅓; on pp. 364–365, under 9 February, that of the star numbered 12 there, labelled *Femoris inferioris* ♊, of the thigh of the lower [Twin], is printed 21 6 and 21 6⅓, and on a line numbered 12 and marked *N. B.* 21 5 — both lists number their stars by the figure on p. 362, not by this catalogue. The declination here, 21° 5½′, is given as printed, and no identity is asserted.

3029 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur*., the declination of the star numbered 12 is printed 22 40; on p. 363, under 3 January, the declination labelled *Veníris inferioris* is printed 22 41½, and on p. 364, under 9 February, that of the star numbered 14 there, labelled *In ventre inferioris* ♊, 22 41¾ and 22 41⅝ — both lists number their stars by the figure on p. 362, not by this catalogue; the declination here, 22° 40½′, is given as printed, and no identity is asserted.

3030

Reading	Value
The fourteenth, of the 4th magnitude. The toe of the feet rather the sole of the foot[2][3031] [Decima quarta mag. 4tæ.] [Digitus pedum [Planta pedis potius][2].]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	87° 31′ 13″
The other way round [Viceverſa]	87° 32′ 24″
Corrected right ascension [Aſc. recta emendata]	87° 31′ 50″
Declination, north [Declinatio borea]	22° 32′ 30″
Corresponding longitude [Reſp. Longitudo]	27° 43′ ♊
Latitude [Latitudo]	0° 58′ south [Auſt.]

3032

Reading	Value
The fifteenth, of the 3rd magnitude. The sole of the northern foot (the heel of the foot) [Decima quinta mag. 3iæ.] [Planta pedis borej (Calx pedis).]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	89° 30′ 15″
The other way round [Viceverſa]	89° 32′ 7″
Verified right ascension [Aſc. recta verificata]	89° 31′
Declination, north [Declinatio borea]	22° 38⅔′
Corresponding longitude [Reſp. Longitudo]	29° 33¼′ ♊
Latitude [Latitudo]	0° 52¼′ south [Auſt.]

[3030] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 carries a second mark after its last figure and no other marks; it is given as degrees, minutes and seconds. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 363, under 3 January, in the list that numbers its stars by the figure on p. 362, not by this catalogue, the declination labelled *Infimæ in genu auſtrali*, of the lowest [star] in the southern knee, is printed 17 13⅓; the declination here, 17° 13′, is given as printed, and no identity is asserted.

[3031] the edition prints these words in square brackets.

[3032] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. In the description the words *Planta pedis potius* are printed within square brackets by the edition, and the English gives them as text, with a note that the edition prints them in square brackets; the footnote cue 2 follows them. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 363, under 3 January, in the list that numbers its stars by the figure on p. 362, not by this catalogue, the declination labelled *Plantæ pedis* is printed 22 33¾; under 11 January the declination of the toe of the foot, *Declin. digiti pedis*, is printed 22 33½ and 22 33. The declination here, 22° 32′ 30″, is given as printed, and no identity is asserted.

3033

Reading	Value
The sixteenth, of the 4th magnitude. Which [is] in the lower foot of the upper ♊ [Decima ſexta mag. 4tæ.] [Quæ in inferiori pede ♊ ſuperioris.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	91° 7′ 1″
The other way round [Viceverſa]	91° 7′ 19″
Verified right ascension [Aſcenſio R. verificata]	91° 7¼′
Declination, north [Declinatio borea]	20° 23¼′
Corresponding longitude [Reſp. Longitudo]	1° 4′ ♋
Latitude [Latitudo]	3° 8′ south [Auſt.]

3034

Reading	Value
The seventeenth, of the 2nd magnitude. The bright [star] of the feet of ♊ [Decima ſeptima mag. 2dæ.] [Lucida pedum ♊.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	93° 26′ 58″
Declination, north [Declinatio borea]	16° 40¼′
Corresponding longitude [Reſp. Longitudo]	3° 20½′ ♋
Latitude [Latitudo]	6° 48½′ south [Auſt.]

3033 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; the round brackets are printed. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur*., the declination of the star numbered 15 is printed 22 38½; on p. 363, under 3 January, in the list that numbers its stars by the figure on p. 362, not by this catalogue, the declination labelled *Calcis pedis* is printed 22 39¾, and under 11 January *Declin. Calcis* ♊ 22 40½ and 22 40⅙; on p. 364, under 9 February, after the meridian altitudes of the heel of the foot, *Declinatio* is printed 22 39 and 22 39⅙ and, after the altitude is set at 56 43 45, *Ideoque declinationem* 22 38 30; the declination here, 22° 38⅔′, is given as printed, and no identity is asserted.

3034 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur*., the declination of the star numbered 16 is printed 20 23½; on p. 363, under 3 January, the declination labelled *Sequentis pedis* is printed 20 24½, and on p. 364, under 9 February, that of the star numbered 4 there, labelled *Eius quæ eſt in pede auſtr. ſuperioris* ♊, 20 23, with both — both lists number their stars by the figure on p. 362, not by this catalogue; the declination here, 20° 23¼′, is given as printed, and no identity is asserted.

3035

Reading	Value
The eighteenth, of the 4th magnitude. The preceding [star] of the two in the lowest foot [Decima octava mag. 4tæ.] [Duarum in infimo pede præcedens.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	95° 33′ 3″
The other way round [Viceverſa]	95° 32′ 19″
Verified right ascension [Aſcenſio R. verificata]	95° 32⅔′
Declination, north [Declinatio borea]	13° 15½′

3036

[1] The declination is 11′ greater than the true [one]. The latitude therefore should have been 2° 0′. Cf. vol. III, p. 412. [Declinatio 11′ major eſt quam vera. Latitudo igitur eße debuit 2° 0′. Cf. T. III p. 412.]

[2] Thus in the codex. [Sic in codice.]

Reading	Value
Corresponding longitude [Reſp. Longitudo]	5° 19⅓′ ♋[1] [5° 19⅓ ♋[1]]
Latitude [Latitudo]	10° 9′ south [Auſt.]

3037

[3035] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. No reading the other way round and no verified or corrected right ascension is printed for this star. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 17 is printed 16 41; on p. 364, under 9 February, in the list that numbers its stars by the figure on p. 362, not by this catalogue, the declination of the star numbered 5 there, labelled *Lucidæ in ſuper. pede Merid.* ♊, is printed 16 39 and 16 40; the declination here, 16° 40¼′, is given as printed, and no identity is asserted.

[3036] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. Row 5 is the last line of the right column; the two footnotes stand below the columns. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 18 is printed 13 16; on p. 363, under 3 January, in the list that numbers its stars by the figure on p. 362, not by this catalogue, the declination labelled *Infimi pedis* is printed 13 16½; the declination here, 13° 15½′, is given as printed, and no identity is asserted.

[3037] "Reading" and "Value" are this edition's heads; the page prints none. These two rows stand at the head of the left column, under no heading; they belong to the entry of the eighteenth star of ♊ (the one preceding of the two in the lowest foot), which begins on p. 404. The longitude of row 1 is printed with a degree mark but no minute mark, and is given as degrees and minutes; the footnote cue 1 stands after the sign ♋. The latitude, printed as two bare figures, is given as degrees and minutes.

Reading	Value
The nineteenth, of the 6th magnitude. The heel of the same southern foot [Decima nona mag. 6tæ.] [Calx pedis eiusdem auſtrini.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	97° 52′ 25″
The other way round [Viceverſa]	97° 52′ 30″
True right ascension [Vera Aſcenſio Recta]	97° 52½′
Declination, north [Declinatio borea]	13° 37⅔′
Corresponding longitude [Reſp. Longitudo]	7° 46′ ♋
Latitude [Latitudo]	9° 41′ south [Auſt.]

3038

Reading	Value
The twentieth, of the 6th magnitude. Which [is] in the knee of the lower ♊ [Viceſima magn. 6tæ.] [Quæ in genu inferioris ♊.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	96° 42′ 25″
The other way round [Viceverſa]	96° 43′ 30″
True right ascension [Aſcenſio R. vera]	96° 43′
Declination, north [Declinatio borea]	22° 10½′
Corresponding longitude [Reſp. Longitudo]	6° 13½′ ♋
Latitude [Latitudo]	1° 12′ south [Auſt.]

3039

Reading	Value
The twenty-first, of the 6th magnitude. Which [is] in the thigh of the upper ♊ [Viceſima prima mag. 6tæ.] [Quæ in femore ♊ ſuperioris.]	

3038 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 19 is printed 13 37½; on p. 363, under 29 January, the declination of the star numbered 7 there, labelled *Paruulæ apud Auſtralem pedem* ♊, is printed 13 37½ and, with the other, 13 38, and on p. 364, under 9 February, that of the star numbered 7 there, labelled *Sequentis in auſtr. pede infer.* ♊, 13 37 and 13 38 — both lists number their stars by the figure on p. 362, not by this catalogue; the declination here, 13° 37⅔′, is given as printed, and no identity is asserted.

3039 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 20 is printed 22 10; the declination here, 22° 10½′, is given as printed, and no identity is asserted.

Reading	Value
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	99° 17′ 52″
The other way round [Viceverſa]	99° 19′ 21″
Verified right ascension [Aſcenſio R. verificata]	99° 18⅔′
Declination, north [Declinatio borea]	24° 45½′
Corresponding longitude [Reſp. Longitudo]	8° 27½′ ♋
Latitude [Latitudo]	1° 31′ north [borea]

3040

Reading	Value
The twenty-second, of the 6th magnitude. [The one] which [is] in the southern hand is immediately below the lower head [Viceſima ſecunda mag. 6tæ.] [Quæ in manu auſtrina, eſt proxime infra inferius caput.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	112° 4′
The other way round, from Aldebaran [Viceverſa ab Aldebora]	112° 3′ 50″ [112 3 50″]
Right ascension [Aſcenſio Recta]	112° 4′
Declination, north [Declinatio borea]	27° 45′
Corresponding longitude [Reſp. Longitudo]	19° 32′ ♋ [19° 32 ♋]
Latitude [Latitudo]	5° 44′ north [borea]

3041

3040 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. In row 1 the sign of the Twins is set as two separate upright stems, their arms curving outward, with no arcs joining them; elsewhere on this page the sign is set whole. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 21 is printed 24 45⅓; on p. 363, under 29 January, in the list that numbers its stars by the figure on p. 362, not by this catalogue, the declination of the star numbered 11 there, with no label, is printed 24 45 and, repeated and certain, 24 46; the declination here, 24° 45½′, is given as printed, and no identity is asserted.

3041 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description, with a comma after *auſtrina*, on the second and third, with no figures. Rows 1 and 2 stand at the foot of the left column; rows 3 to 7 stand at the head of the right column, under no heading. Row 3 carries a second mark after its last figure and no other marks; it is given as degrees, minutes and seconds. The longitude of row 6 is printed with a degree mark but no minute mark, and is given as degrees and minutes. Other values printed as two bare figures are given as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur.*, the declination of the star numbered 22 is printed 27 45½; the declination here, 27° 45′, is given as printed, and no identity is asserted.

Reading	Value
The twenty-third, of the 5th magnitude. Which is between both heads of ♊ [Viceſima tertia mag. 5tæ.] [Quæ eſt inter vtrumque ♊ caput.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	109° 24′ 48″
The other way round [Viceverſa]	109° 23′ 33″
Corrected right ascension [Aſc. recta emendata]	109° 24′
Declination, north [Declinatio borea]	29° 47′
Corresponding longitude [Reſp. Longitudo]	16° 54½′ ♋
Latitude [Latitudo]	7° 24′ north [borea]

3042

Reading	Value
The twenty-fourth, of the 5th magnitude. At the ears of the upper [one] of ♊ [Viceſima quarta mag. 5tæ.] [Ad aures ſuperioris ♊^{orum}.]	
Right ascension from the bright [star] of the neck of ♌ [Aſc. R. a luc. ceruicis ♌]	105° 39′ 30″
The other way round [Viceverſa]	105° 40′
Let the right ascension be set [Ponatur Aſcenſio recta]	105° 40′
Declination, north [Declinatio borea]	32° 30′
Corresponding longitude [Reſp. Longitudo]	13° 21⅔′ ♋
Latitude [Latitudo]	9° 42′ north [borea]

3043

Reading	Value
The twenty-fifth and last, of the 4th magnitude. [It] is the preceding [star] at the top of the foot of the upper ♊, and [it] is called πρόπους [Greek: πρόπους (propous, "fore-foot")] [Viceſima quinta et vltima mag. 4tæ.] [Eſt præcedens ad ſummum pedem ſuperioris ♊, diciturque πρόπους.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	84° 45′ 56″
The other way round, from Aldebaran [Viceverſa ab Aldeb.]	84° 47′ 30″ [84 47 30″]
Averaged right ascension [Aſcenſio recta mediata]	84° 46⅔′

3042 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

3043 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; the sign ♊ is printed with the ending *orum* raised after it. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 363, under 29 January, the declination of the star numbered 21 there, labelled *Stellulæ proximæ ſuperiori capiti*, is printed 32 31, with both, and on p. 365, under 9 February, that of the star numbered 21 there, labelled *Apud aurem ſuperioris* ♊, 32 29 and 32 29½ — both lists number their stars by the figure on p. 362, not by this catalogue. The declination here, 32° 30′, is given as printed, and no identity is asserted.

Reading	Value
Declination, north [Declinatio borea]	23° 12⅔′
Corresponding longitude [Reſp. Longitudo]	25° 12′ ♊
Latitude [Latitudo]	0° 13′ south [Auſt.]

3044

The constellation ♋ [ASTERISMUS ♋.]

All the stars in Cancer apart from that cloudy ring called Praesepe are 14 in number, of which [Omnes ſtellæ in Cancro præter nebuloſum illum gyrum Præſepe dictum ſunt numero 14 quarum]

of the magnitude [magni-] [tudinis]	are [ſunt]
	one nebulous [star] [nebuloſa vna]
third [tertiæ]	1
fourth [quartæ]	3
fifth [quintæ]	6
sixth [ſextæ]	4

3045

Reading	Value
The first. In the breast, the middle nebulous [star], which is called praesepe [Prima. In pectore nebuloſa media quæ præſepe vocatur.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	124° 9′
The other way round, from the lower head of ♊ [Viceverſa ab inf. cap. ♊]	124° 8′ 32″
Corrected right ascension [Aſcenſio recta emend.]	124° 9′

3044 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the second and third, with no figures; the Greek word is set in a Greek fount. Row 3 carries a second mark after its last figure and no other marks; it is given as degrees, minutes and seconds. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 365, under 7 March, in the list headed *Repetitæ Declinationes ſtellarum in* ♊ *vt ſequitur*., the declination of the star numbered 25 is printed 23 12½; on p. 363, under 3 January, in the list that numbers its stars by the figure on p. 362, not by this catalogue, the declination of the propus by the armillae is printed 23 12¾, and under 11 January that of the same propus 23 12½ and 23 13; on p. 364, under 9 February, *Propodis* ♊ is printed 23 12½ with one and 23 13 with the other; the declination here, 23° 12⅔′, is given as printed, and no identity is asserted.

3045 The heads are the page's own words, set not over the columns but beside braces: *magni-* / *tudinis* in two lines to the left of a brace enclosing the four ordinals, *ſunt* between a second brace after the ordinals and a third brace enclosing the right-hand column. In that column the words *nebuloſa vna* stand first, above the figure for the third magnitude and level with no ordinal; they are given as row 1, with the first cell empty.

Reading	Value
Declination, north [Declinatio borea]	21° 4¼′
Corresponding longitude [Reſp. Longitudo]	1° 36⅙′ ♌
Latitude [Latitudo]	1° 14′ north [borea]

3046

[1] [It] ought to be 5° 29′ (error of calculation). [Debet eße 5° 29′ (error calculi).]

Reading	Value
The second, of the 5th magnitude. The northern [star] of the preceding [stars] in the □ of ♋ [Secunda, mag. 5tæ.] [Præcedentium borea in □to ♋ri.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	122° 10′
The other way round, from the bright foot of ♊ [Viceverſa a luc. pede ♊]	122° 9½′
Declination, north [Declinatio borea]	21° 46¾′
Corresponding longitude [Reſp. Longitudo]	29° 39′ ♋
Latitude [Latitudo]	1° 31½′ north [borea.]

3047

Reading	Value
The third, of the 5th magnitude. The more southern [star] of the preceding [stars] in the □ [Tertia mag. 5tæ.] [Auſtralior præcedentium in □to.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	121° 59′
From the bright foot of ♊ [a luc. pede ♊]	122° 0′ 25″ [122 0 25″]
Right ascension, limited [Aſcenſio R. limitata]	122° 0′
Declination, north [Declinatio borea]	19° 26½′
Corresponding longitude [Reſp. Longitudo]	29° 59⅓′ ♋

[3046] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of two lines with no figures; no magnitude is printed for this star; *præſepe* is printed here with a lower-case initial. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 1 is printed 21 4 and 21 4½; on p. 367, under 10 February, in the list headed *Repetitæ Declinationes ſtellarum* ♋ *quotquot videri poterant* ☾ *ſplendente*., the declination of the star numbered 1 is printed 21 3½ and 21 5; the declination here, 21° 4¼′, is given as printed, and no identity is asserted.

[3047] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; the square is followed by a raised *to* and the sign ♋ by a raised *ri*. No verified, corrected or limited right ascension is printed for this star. Values printed as two bare figures are given as degrees and minutes. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 2 is printed 21 46½ and 21 47; the declination here, 21° 46¾′, is given as printed, and no identity is asserted.

Reading	Value
Latitude [Latitudo]	0° 47′ 36″ south [M.]

3048

Reading	Value
The fourth, of the 4th magnitude. The northern Asellus [Quarta, mag. 4tæ. Aſellus boreus.]	
Right ascension from the bright foot of ♊ [Aſc. R. a luc. pede ♊]	124° 47′ 53″
The other way round, from the heart of ♌ [Viceverſa a corde ♌]	124° 47′ 22″
Averaged right ascension [Aſcenſio R. mediata]	124° 47⅔′
Declination, north [Declinatio borea]	22° 54′
Corresponding longitude [Reſp. Longitudo]	1° 46½′ ♌
Latitude [Latitudo]	3° 9′ north [Borea]

3049

Reading	Value
The fifth, of the 4th magnitude. The southern Asellus [Quinta, mag. 4tæ. Aſellus auſtralis.]	
Right ascension from the bright foot of ♊ [Aſc. R. a luc. pede ♊]	125° 14′ 40″
The other way round, from the heart of ♌ [Viceverſa a corde ♌]	125° 19′ 26″
Averaged right ascension [Aſcenſio R. mediata]	125° 17′
Declination, north [Declinatio borea]	19° 37′
Corresponding longitude [Reſp. Longitudo]	2° 58′ ♌
Latitude [Latitudo]	0° 4′ south[1] [Auſt.[1]]

3048 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; the square is followed by a raised *to*. Row 3 is printed indented under row 2, with no word for "the other way round"; it carries a second mark after its last figure and no other marks, and is given as degrees, minutes and seconds. The latitude, printed as three bare figures, is given as degrees, minutes and seconds; other values printed as two bare figures, as degrees and minutes. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 3 is printed 19 26 and 19 27; the declination here, 19° 26½′, is given as printed, and no identity is asserted.

3049 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures; the star's name is given as printed. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 367, under 10 February, in the list headed *Repetitæ Declinationes ſtellarum* ♋ *quotquot videri poterant* ☾ *ſplendente*., the declination of the star numbered 4 is printed 22 54½ and 22 54⅙; the declination here, 22° 54′, is given as printed, and no identity is asserted.

3050

Reading	Value
The sixth, of the 3rd magnitude. The middle and brighter [star] in the southern claw [Sexta mag. 3æ.] [Media et lucidior in brancha auſtrali.]	
Right ascension from the bright foot [Aſc. R. a luc. pede]	128° 55′ 43″
The other way round, from the heart of ♌ [Viceverſa a corde ♌]	128° 58′ 8″
Corrected right ascension [Aſcenſio R. emendata]	128° 57′
Declination, north [Declinatio borea]	13° 24′
Corresponding longitude [Reſp. Longitudo]	7° 53½′ ♌
Latitude [Latitudo]	5° 8′ south [Auſt.]

3051

Reading	Value
The seventh, of the 5th magnitude. In the northern claws [Septima mag. 5tæ.] [In branchijs borealibus.]	
Right ascension from the bright foot of ♊ [Aſc. R. a luc. pede ♊]	125° 20′
The other way round [Viceverſa]	125° 24′ 40″
Mean right ascension [Aſcenſio R. media]	125° 22′
Declination, north [Declinatio borea]	30° 12′
Corresponding longitude [Reſp. Longitudo]	0° 34′ ♌
Latitude [Latitudo]	10° 23′ north [borea]

3050 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures; the star's name is given as printed. The footnote cue 1 stands after *Auſt.* in row 7. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 367, under 10 February, in the list headed *Repetitæ Declinationes ſtellarum* ♋ *quotquot videri poterant* ☾ *ſplendente.*, the declination of the star numbered 5 is printed 19 37½ and 19 38; the declination here, 19° 37′, is given as printed, and no identity is asserted.

3051 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. In row 2 no sign follows *pede*. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 6 is printed 13 24½ and 13 23½; on p. 367, under 10 February, in the list headed *Repetitæ Declinationes ſtellarum* ♋ *quotquot videri poterant* ☾ *ſplendente.*, the declination of the star numbered 6 is printed 13 24¼ and 13 24½; the declination here, 13° 24′, is given as printed, and no identity is asserted.

3052

Reading	Value
The eighth, of the 5th magnitude. The northern foot of Cancer [Octava mag. 5tæ. Borealis pes Cancri.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	115° 53′
The other way round, from the bright foot of ♊ [Viceverſa a luc. pede ♊]	115° 51′ 57″ [115 51 57″]
Right ascension, limited [Aſcenſio R. limit.]	115° 52½′
Declination, north [Declinatio borea]	22° 39½′
Corresponding longitude [Reſp. Longitudo]	23° 45¾′ ♋
Latitude [Latitudo]	1° 15⅔′ north [B.]

3053

Reading	Value
The ninth, of the 5th magnitude. The southern foot of Cancer [Nona mag. 5tæ.] [Pes auſtralis Cancri.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	115° 32′
The other way round, from the bright foot of ♊ [Viceverſa a luc. pede ♊]	115° 30′ 15″ [115 30 15″]
Declination, north [Declinatio borea]	14° 14½′
Corresponding longitude [Reſp. Longitudo]	24° 54′ ♋
Latitude [Latitudo]	7° 5′ south [Auſt.]

3052 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. Row 7 is the last line of the left column. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 7 is printed 30 13½ and 30 13; on p. 367, under 10 February, in the list headed *Repetitæ Declinationes ſtellarum* ♋ *quotquot videri poterant* ☾ *ſplendente*., the declination of the star numbered 7 is printed 30 13½ and 30 14; the declination here, 30° 12′, is given as printed, and no identity is asserted.

3053 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line at the head of the right column, with no figures. Row 3 carries a second mark after its last figure and no other marks; it is given as degrees, minutes and seconds. Values printed as two bare figures are given as degrees and minutes. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 8 is printed 22 40 and 22 39; the declination here, 22° 39½′, is given as printed, and no identity is asserted.

3054

Reading	Value
The tenth, of the lesser 4th magnitude. Which [is] the brighter in the tail [Decima mag. 4tæ minoris.] [Quæ in cauda lucidior.]	
Right ascension from the bright foot of ♊ [Aſc. R. a luc. ped. ♊]	117° 6′ 50″
The other way round [Viceverſa]	117° 7′ 52″
Corrected right ascension [Aſcenſio R. emendata]	117° 7⅓′
Declination, north [Declinatio borea]	18° 49⅔′
Corresponding longitude [Reſp. Longitudo]	25° 35½′ ♋
Latitude [Latitudo]	2° 18½′ south [Auſt.]

3055

Reading	Value
The eleventh, of the 6th magnitude. The immediately following [star] in the back [Vndecima mag. 6tæ.] [Proxime ſequens in dorſo.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	119° 55′
The other way round, from the bright foot of ♊ [Viceverſa a luc. pede ♊]	119° 54′ 15″
Right ascension, limited [Aſcenſio R. limitata]	119° 54′ 35″
Declination, north [Declinatio borea]	19° 33½′
Corresponding longitude [Reſp. Longitudo]	28° 2½′ ♋
Latitude [Latitudo]	1° 4′ south [Auſt.]

3054 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 carries a second mark after its last figure and no other marks; it is given as degrees, minutes and seconds. No verified, corrected or limited right ascension is printed for this star. Values printed as two bare figures are given as degrees and minutes. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 9 is printed 14 14 and 14 15; the declination here, 14° 14½′, is given as printed, and no identity is asserted.

3055 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 10 is printed 18 49 and 18 49⅚; on p. 367, under 10 February, in the list headed *Repetitæ Declinationes ſtellarum* ♋ *quotquot videri poterant* ☾ *ſplendente*., the declination of the star numbered 10 is printed 18 50 and 18 50⅓; the declination here, 18° 49⅔′, is given as printed, and no identity is asserted.

3056

Reading	Value
The twelfth, of the 6th magnitude. The uppermost of the three in the southern claw [Duodecima mag. 6tæ.] [Trium in auſtrali branchio ſuprema.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	128° 32′
The other way round, from the bright foot of ♊ [Viceverſa a luc. ped. ♊]	128° 30′
Therefore, right ascension, limited [Ergo Aſc. R. limitata]	128° 31′
Declination, north [Declinatio borea]	16° 50′
Corresponding longitude [Reſp. Longitudo]	6° 37¼′ ♌
Latitude [Latitudo]	1° 54¼′ south [M.]

3057

Reading	Value
The thirteenth, of the greater 5th magnitude. The lowest of the three in the southern claws [Decima tertia mag. 5tæ maioris.] [Infima trium in branchijs auſtralibus.]	
Right ascension from the bright foot of ♊ [Aſc. R. a lucid. pede ♊]	131° 18′ 40″
The other way round, from the heart of ♌ [Viceverſa a corde ♌]	131° 23′ 2″
Mean right ascension [Aſcenſio R. media]	131° 20⅔′
Declination, north [Declinatio borea]	12° 17′
Corresponding longitude [Reſp. Longitudo]	10° 26′ ♌
Latitude [Latitudo]	5° 36′ south [Auſt.]

3058

[1] [It] ought to be north. [Debet eße borealis.]

3056 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 367, under 29 January, in the list headed *Declinationes ſtellarum Aſterismi* ♋, the declination of the star numbered 11 is printed 19 33 and 19 34½; the declination here, 19° 33½′, is given as printed, and no identity is asserted.

3057 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes.

3058 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. Row 7 is the last line of the right column. On p. 367, under 10 February, in the list headed *Repetitæ Declinationes ſtellarum* ♋ *quotquot videri poterant* ☾ *ſplendente*., the declination of the star numbered 13 is printed 12 17⅓ and 12 18; the declination here, 12° 17′, is given as printed, and no identity is asserted.

Reading	Value
The fourteenth, of the 6th magnitude. The upper [star] in the beak [Decima quarta mag. 6tæ.] [Superior in roſtro.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	129° 37′
Then, from the bright foot of ♊ [Deinde a luc. ped. ♊]	129° 37⅙′
Declination, north [Declinatio borea]	26° 1′
Corresponding longitude [Reſp. Longitudo]	5° 17′ ♌
Latitude [Latitudo]	7° 14′ north [borea]

3059

Reading	Value
The fifteenth, of the 6th magnitude. The lower and southern [star] in the beak [Decima quinta mag. 6tæ.] [Inferior & auſtralis in roſtro.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	131° 20½′
The other way round, from the bright foot of ♊ [Viceverſa a luc. ped. ♊]	131° 21′ 9″ [131 21 9″]
Therefore, mean right ascension [Ergo Aſcenſio R. media]	131° 20⅔′
Declination, north [Declinatio borea]	23° 37′
Corresponding longitude [Reſp. Longitudo]	7° 26½′ ♌ [7° 26½ ♌]
Latitude [Latitudo]	5° 20⅙′ north [B.]

3060

The constellation ♌ [SIDUS ♌.]

All the stars in ♌ are thirty in number; of these [Omnes in ♌ ſtellæ ſunt numero triginta, harum]

of the magnitude [magni-] [tudinis]	are [ſunt]
first [primæ]	2
second [ſecundæ]	2
third [tertiæ]	5
fourth [quartæ]	11

3059 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. No corrected, verified, mean or limited right ascension is printed for this star: after the two readings the next line is the declination. Values printed as two bare figures are given as degrees and minutes.

3060 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 carries a second mark after its last figure and no other marks; it is given as degrees, minutes and seconds. In row 6 no minute mark follows 26½; the figure is given as minutes, the degree mark after 7 being printed. Values printed as two bare figures are given as degrees and minutes.

of the magnitude [magni-] [tudinis]	are [ſunt]
fifth [quintæ]	3
sixth [ſextæ]	7

3061

Reading	Value
The first, of the 4th magnitude. Which is in the nostrils [Prima, mag. 4tæ.] [Quæ eſt in naribus.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	135° 5′
From the tail of ♌ [a cauda ♌]	135° 5⅚′
Corrected right ascension [Aſcenſio R. emendata]	135° 5⅓′
Corresponding longitude [Reſp. Longitudo]	9° 31⅓′ ♌
Latitude [Latitudo]	10° 23⅙′ north [borea]

3062

Reading	Value
The second, of the 4th magnitude. Which is in the mouth [Secunda mag. 4tæ. Quæ eſt in ore.]	
Right ascension from the lower head of ♊ [Aſc. R. ab infer. cap. ♊]	136° 59′
The other way round, from the tail of ♌ [Viceverſa a cauda ♌]	137° 0⅙′
Therefore, corrected right ascension [Ergo Aſc. R. emendata]	136° 59½′
Declination, north [Declinatio borea]	24° 45′
Corresponding longitude [Reſp. Longitudo]	12° 6½′ ♌
Latitude [Latitudo]	7° 52¼′ north [borea]

3063

Reading	Value
The third, of the 4th magnitude. The northern [star] in the head [Tertia mag. 4tæ. Borealis in capite.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	142° 15′ 7″
The other way round [Viceverſa]	142° 16′ 21″

[3061] The heads are the page's own words, set not over the columns but beside braces: *magni-* / *tudinis* in two lines to the left of a brace enclosing the six ordinals, *ſunt* between a second brace after the ordinals and a third brace enclosing the column of figures.

[3062] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 is printed indented under row 2, with no word for "the other way round". No declination is printed for this star: after the corrected right ascension the next line is the longitude. Values printed as two bare figures are given as degrees and minutes.

[3063] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures. Values printed as two bare figures are given as degrees and minutes.

Reading	Value
Verified right ascension [Aſcenſio R. verificata]	142° 15⅔′
Declination, north [Declinatio borea]	27° 55′
Corresponding longitude [Reſp. Longitudo]	15° 41′ ♌
Latitude [Latitudo]	12° 21′ north [borea]

3064

Reading	Value
The fourth, of the 3rd magnitude. The southern [star] in the head [Quarta mag. 3æ. Auſtralis in capite.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	140° 29′ 57″
The other way round [Viceverſa]	140° 33′ 28″
Corrected right ascension [Aſcenſio R. emendata]	140° 31⅔′
Declination, north [Declinatio borea]	25° 38′
Corresponding longitude [Reſp. Longitudo]	14° 55′ ♌
Latitude [Latitudo]	9° 40′ north [borea]

3065

Reading	Value
The fifth, of the 3rd magnitude, the northern [star] in the neck [Quinta mag. 3æ in collo borealis.]	
Right ascension from Vindemiator [Aſc. R. a Vindemiatore]	148° 21′ 54″
The other way round [Viceverſa]	148° 23′ 39″
Verified right ascension [Aſcenſio R. verificata]	148° 22¾′
Declination, north [Declinatio borea]	25° 26⅓′
Corresponding longitude [Reſp. Longitudo]	21° 47½′ ♌
Latitude [Latitudo]	11° 50′ north [borea]

3064 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 369, under 12 February, in the list headed *Declinationes per Armillas*., the declination of the star numbered 3 is printed 27 54 and 27 54⅔; the declination here, 27° 55′, is given as printed, and no identity is asserted.

3065 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. Row 7 is the last line of the left column. On p. 370, under 13 February, the declination of the star numbered 4 is printed 25 39 and 25 38⅔; the declination here, 25° 38′, is given as printed, and no identity is asserted.

3066

Reading	Value
The sixth, of the 2nd magnitude. The middle and bright [star] in the neck [Sexta mag. 2dæ.] [Media et lucida in collo.]	
Right ascension from Vindemiator [Aſc. R. a Vindemiatore]	149° 15′ 54″
The other way round [Viceverſa]	149° 15′ 49″
True right ascension [Aſcenſio recta vera]	149° 15′ 50″
Declination, north [Declinatio borea]	21° 53′ 45″
Corresponding longitude [Reſp. Longitudo]	23° 48⅔′ ♌
Latitude [Latitudo]	8° 47½′ north [borea]

3067

Reading	Value
The seventh, of the 3rd magnitude. The lowest of the three in the neck [Septima mag. 3æ.] [Infima trium in collo.]	
Right ascension from Vindemiator [Aſc. R. a Vindem.]	146° 10′ 9″
The other way round, from the lower head of ♊ [Viceverſa ab inf. cap. ♊]	146° 12⅓′
Mean right ascension [Aſcenſio recta media]	146° 11¼′
Declination, north [Declinatio borea]	18° 45′
Corresponding longitude [Reſp. Longitudo]	22° 10′ ♌
Latitude [Latitudo]	4° 51½′ north [borea]

3068

3066 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line at the head of the right column of the lower block, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 370, under 13 February, the declination of the star numbered 5 is printed 25 26¾ and 25 26¼; the declination here, 25° 26⅓′, is given as printed, and no identity is asserted.

3067 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 369, under 10 February, in the list headed *Declinationes per Armillas*, the declination of the star numbered 6 is printed 21 53½ and 21 54; on p. 369, under 12 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 6 is printed 21 53 and 21 53½; the declination here, 21° 53′ 45″, is given as printed, and no identity is asserted.

3068 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 369, under 10 February, in the list headed *Declinationes per Armillas*, the declination of the star numbered 7 is printed 18 44¾ and 18 44⅚; the declination here, 18° 45′, is given as printed, and no identity is asserted.

Reading	Value
The eighth, of the 1st magnitude. The heart of ♌ [Octava magnit. iæ. Cor ♌.]	
Right ascension from Spica ♍ [Aſc. R. a Spica ♍]	146° 35′ 33″
The other way round [Viceverſa]	146° 36′ 11″
True right ascension [Aſcenſio recta vera]	146° 35′ 50″
Declination, north [Declinatio borea]	13° 57′ 0″
Corresponding longitude [Reſp. Longitudo]	24° 8⅓′ ♌ [24° 8⅓ ♌]
Latitude [Latitudo]	0° 27½′ north [borea]

3069

Reading	Value
The ninth, of the 5th magnitude. Which is a little below the heart [Nona mag. 5tæ.] [Quæ eſt paulo infra cor.]	
Right ascension from Canis Minor [Aſc. R. a Cane minori]	146° 29⅚′
The other way round, from the tail of ♌ [Viceverſa a cauda ♌]	146° 28′ 0″

3070

Reading	Value
Corrected right ascension [Aſcenſio R. emendata]	146° 29′
Declination, north [Declinatio Borea]	12° 0′
Corresponding longitude [Reſp. Longitudo]	24° 40½′ ♌
Latitude [Latitudo]	1° 25½′ south [M.]

3071

3069 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures; *Cor* ♌ is given as "the heart of ♌". In row 6 no minute mark follows 8⅓; the figure is given as minutes, the degree mark after 24 being printed. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

3070 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; *cor* is printed with a lower-case initial and no sign. Row 3, printed as three bare figures, is given as degrees, minutes and seconds. Row 3 is the last line of the right column and of p. 407; the rest of this star's entry stands at the head of p. 408.

3071 "Reading" and "Value" are this edition's heads; the page prints none. These four rows, at the head of the left column of p. 408, complete the entry of the ninth star of ♌ (which is a little below the heart), which begins at the foot of p. 407 with its label and two readings. Values printed as two bare figures are given as degrees and minutes. On p. 369, under 10 February, in the list headed *Declinationes per Armillas*, the declination of the star numbered 9 is printed 12 0½, with both; on p. 370, under 8 April, the declination of the star numbered 9 is printed 12 1 and 12 0½; the declination here, 12° 0′, is given as printed, and no identity is asserted.

Reading	Value
The tenth, of the 4th magnitude [Decima mag. 4tæ.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	143° 56⅔′
The other way round [it] corresponds [Viceverſa reſpondet.]	
Declination, north [Declinatio borea]	14° 22¼′
Corresponding longitude [Reſp. Longitudo]	21° 33⅓′ ♌
Latitude [Latitudo]	0° 0⅓′ north [Bor.]

3072

Reading	Value
The eleventh, of the 6th magnitude. In the middle of the body [Vndecima mag. 6tæ.] [In medio corpore.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	140° 17′ 30″
The other way round, from the bright foot of ♊ [Viceverſa a luc.pede ♊]	140° 15′ 10″
Right ascension, limited [Aſcenſio R. limitata]	146° 16′ 20″
Declination, north [Declinatio Borea]	15° 49′
Corresponding longitude [Reſp. Longitudo]	17° 44⅓′ ♌
Latitude [Latitudo]	0° 16′ north [B.]

3073

Reading	Value
The twelfth, of the 4th magnitude. Which is in the front foot [Duodecima mag. 4tæ.] [Quæ eſt in anteriore pede.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	137° 26⅚′
The other way round [Viceverſa]	137° 26⅔′
Mean right ascension [Aſcenſio R. media]	137° 26¾′
Declination, north [Declinatio borea]	13° 5′
Corresponding longitude [Reſp. Longitudo]	15° 56⅔′ ♌
Latitude [Latitudo]	3° 10′ south [M.]

3072 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures and no description. Row 3 is printed indented, with no figures; no adopted right ascension is printed for this star. Values printed as two bare figures are given as degrees and minutes. On p. 370, under 8 April, the declination of the star numbered 10 is printed 14 22½ and 14 22; the declination here, 14° 22¼′, is given as printed, and no identity is asserted.

3073 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. In row 4 the page prints 146 as the degrees of the limited right ascension, where both readings above it print 140; the figures are given as printed. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

3074

Reading	Value
The thirteenth, of the 4th magnitude. The immediately following [star] in the other foot [Decima tertia mag. 4tæ.] [Proxime ſequens in altero pede.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	139° 44′
The other way round [Viceverſa]	139° 45½′
Mean right ascension [Aſcenſio R. media]	139° 44¾′
Declination, north [Declinatio B.]	11° 43¾′
Corresponding longitude [Reſp. Longitudo]	18° 30⅙′ ♌
Latitude [Latitudo]	3° 47′ south [M.]

3075

Reading	Value
The fourteenth, of the 4th magnitude. Which is in the left *drace* [Decima quarta mag. 4tæ.] [Quæ eſt in drace ſiniſtra.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	144° 36⅔′
The other way round [Viceverſa]	144° 38⅔′
Right ascension, limited [Aſc. recta limitata]	144° 37′
Declination, north [Declinatio borea]	9° 59½′
Corresponding longitude [Reſp. Longitudo]	23° 36½′ ♌
Latitude [Latitudo]	3° 55⅓′ south [M.]

3076

Reading	Value
The fifteenth, of the 4th magnitude. Which [is] in the left armpit [Decima quinta mag. 4tæ.] [Quæ in axilla ſiniſtra.]	
Right ascension from Canis Minor [Aſc. R. a cane min.]	152° 46′ 37″

3074 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes.

3075 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 370, under 13 February, the declination of the star numbered 13 is printed 11 44 and 11 44½; the declination here, 11° 43¾′, is given as printed, and no identity is asserted.

3076 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. The word *drace* is so printed; it is not otherwise known, and it is left untranslated. Values printed as two bare figures are given as degrees and minutes. Row 7 is the last line of the left column. On p. 370, under 8 April, the declination of the star numbered 14 is printed 9 59 and 10 0; the declination here, 9° 59½′, is given as printed, and no identity is asserted.

Reading	Value
	better [melior]
The other way round [Viceverſa]	152° 43′ 36″
Mean right ascension [Aſc. Recta media]	152° 45′
Declination, north [Declinatio borea]	11° 24′
Corresponding longitude [Reſp. Longitudo]	0° 38′ ♍ [0 38 ♍]
Latitude [Latitudo]	0° 8′ north [borea]

3077

Reading	Value
The sixteenth, of the 6th magnitude. In the belly. The other way round [it] was not observed [Decima ſexta mag. 6tæ. In ventre.] [Viceverſa non eſt obſeruata.]	
Right ascension from Spica ♍ [Aſc. R. a Spica ♍]	145° 20′
Declination, north [Declinatio borea]	16° 12′
Corresponding longitude [Reſp. Longitudo]	22° 14′ ♌
Latitude [Latitudo]	2° 10′ north[1] [borea[1].]

3078

Reading	Value
The seventeenth, of the 6th magnitude. The following [star] in the belly [Decima ſeptima mag. 6tæ.] [Sequens in ventre.]	
Right ascension from the preceding [star] in Canis Minor [Aſc. R. a præcedente in Cane minore]	156° 10′ 15″
From Spica ♍ [a Spica ♍]	156° 9′
Right ascension, limited [Aſcenſio R. limitata]	156° 9′ 37″
Declination, north [Declinatio borea]	16° 21⅔′
Corresponding longitude [Reſp. Longitudo]	1° 56⅗′ ♍
Latitude [Latitudo]	5° 56⅓′ north [borea]

3077 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 is the word *melior*, printed alone on its own line in the value column, under the figures of row 2. In row 7 the longitude is printed as two bare figures with no degree or minute mark; it is given as degrees and minutes. Values printed as two bare figures are given as degrees and minutes.

3078 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal, magnitude and *In ventre* on the first, *Viceverſa non eſt obſeruata* on the second, with no figures. Only one reading is printed for this star, and no adopted right ascension. The footnote cue 1 stands after *borea* in row 5. Values printed as two bare figures are given as degrees and minutes.

3079

Reading	Value
The eighteenth, of the 6th magnitude [Decima octava mag. 6tæ.]	
Right ascension from Spica ♍ [Aſc. R. a Spica ♍]	156° 53′
The other way round [Viceverſa]	156° 51⅙′
Mean right ascension [Aſcenſio R. media]	156° 52′
Declination, north [Declinatio borea]	12° 43¾′
Corresponding longitude [Reſp. Longitudo]	3° 55′ ♍
Latitude [Latitudo]	2° 49⅓′ north [borea]

3080

Reading	Value
The nineteenth, of the 5th magnitude. The preceding [star] in the loins [Decima nona mag. 5tæ.] [Præcedens in lumbis.]	
Right ascension from Canis Minor [Aſc. R. a Cane minore]	160° 3′ 25″
The other way round [Viceverſa]	159° 59′ 15″
Mean right ascension [Aſcenſio R. media]	160° 1′
Declination, north [Declinatio borea]	22° 22′
Corresponding longitude [Reſp. Longitudo]	3° 4′ ♍
Latitude [Latitudo]	12° 53′ north [borea]

3081

3079 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. The label of row 2 fills its line; its figures stand alone on the line below. Row 3 is printed indented, with no word for "the other way round". In row 6 the fraction is printed as 3 over 5. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 370, under 8 April, the declination of the star numbered 17 is printed 16 22 and 16 21¼; the declination here, 16° 21⅔′, is given as printed, and no identity is asserted.

3080 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures and no description. Values printed as two bare figures are given as degrees and minutes. On p. 370, under 8 April, the declination of the star numbered 18 is printed 12 44 and 12 43½; the declination here, 12° 43¾′, is given as printed, and no identity is asserted.

3081 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 369, under 10 February, in the list headed *Declinationes per Armillas*, the declination of the star numbered 19 is printed 22 22⅓ and 22 23; the declination here, 22° 22′, is given as printed, and no identity is asserted.

Reading	Value
The twentieth, of the 2nd magnitude. The bright [star] in the loins [Viceſima mag. 2dæ.] [Lucida in lumbis.]	
Right ascension from Canis Minor [Aſc. R. a Cane minore]	163° 0′ 47″
The other way round [Viceverſa]	162° 59′ 9″

3082

[1] Tycho used a false right ascension. For he observed the distance from Spica on 1589 February 12: 49° 46′, 46¾′; from which the right ascension is found: 152° 30′.6. And from this are derived the longitude 28° 42½′ ♌ and the latitude 4° 31½′ (year 1589). [Falſa aſcenſione recta uſus eſt Tycho. Diſtantiam enim a Spica d. 12. Febr. 1589 obſervavit 49° 46′, 46¾, unde aſc. recta reperitur 152° 30′. 6. Ex hac autem eruitur long. 28° 42½′ ♌, lat. 4° 31½′ (a. 1589).][3083]

Reading	Value
Corrected right ascension [Aſcenſio R. emendata]	163° 0′ 0″
Declination, north [Declinatio borea]	22° 47′
Corresponding longitude [Reſp. Longitudo]	5° 30½′ ♍
Latitude [Latitudo]	14° 20′ north [borea]

3084

Reading	Value
The twenty-first, of the 6th magnitude. The following [star] toward the south [Viceſima prima mag. 6tæ.] [Sequens ad auſtrum.]	
Right ascension from the preceding [star] of Canis Minor [Aſc. R. a præcedente Canis min.]	163° 38′
The other way round, from Arcturus [Viceverſa ab Arcturo]	163° 36⅓′
Corrected right ascension [Aſcenſio R. emendata]	163° 37⅙′
Declination, north [Declinatio borea]	15° 29′

[3082] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3, printed as three bare figures, is given as degrees, minutes and seconds. Row 3 is the last line of the right column of p. 408.

[3083] In the footnote, 46¾ is printed with no mark and is given as minutes; the 6 printed after the minute mark of 152° 30′, between two points, is taken as a tenth of a minute. The footnote spells *obſervavit* with v.

[3084] "Reading" and "Value" are this edition's heads; the page prints none. These four rows, at the head of the left column of p. 409, complete the entry of the twentieth star of ♌ (the bright [star] in the loins), which begins at the foot of p. 408 with its label and two readings. Row 1, printed as three bare figures, is given as degrees, minutes and seconds; values printed as two bare figures are given as degrees and minutes. On p. 369, under 12 February, in the list headed *Declinationes per Armillas.*, the declination of the star numbered 20 is printed 22 46 and 22 46⅓; on p. 370, under 13 February, the declination of the star numbered 20 is printed 22 47¼ and 22 47½; the declination here, 22° 47′, is given as printed, and no identity is asserted.

Reading	Value
Corresponding longitude [Reſp. Longitudo]	8° 57⅗′ ♍
Latitude [Latitudo]	7° 50⅓′ north [B.]

3085

Reading	Value
The twenty-second, of the 3rd magnitude. The northern [star] in the haunch [Viceſima ſecunda mag. 3æ.] [Borealis in clune.]	
Right ascension from Canis Minor [Aſc. R. a Cane minore]	163° 8′ 17″
The other way round [Viceverſa]	163° 8′ 25″
Corrected right ascension [Aſcenſio R. emendata]	163° 8⅓′
Declination, north [Declinatio borea]	17° 41′
Corresponding longitude [Reſp. Longitudo]	7° 40′ ♍
Latitude [Latitudo]	9° 41½′ north [B.]

3086

Reading	Value
The twenty-third, of the 3rd magnitude. The southern [star] in the haunch [Viceſima tertia mag. 3æ.] [Auſtralis in clune.]	
Right ascension from Canis Minor [Aſc. R. a Cane minore]	165° 36′ 43″
The other way round [Viceverſa]	165° 37′ 15″
Corrected right ascension [Aſcenſio recta emend.]	165° 37′
Declination, north [Declinatio borea]	12° 48′
Corresponding longitude [Reſp. Longitudo]	11° 48½′ ♍
Latitude [Latitudo]	6° 7′ north [borea]

3087

[3085] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. The label of row 2 fills its line; its figures stand alone on the line below. In row 6 the fraction is printed as 3 over 5. Values printed as two bare figures are given as degrees and minutes.

[3086] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3, printed as three bare figures, is given as degrees, minutes and seconds; values printed as two bare figures are given as degrees and minutes. On p. 371, under 8 April, the declination of the star numbered 22 is printed 17 40½ and 17 40¾; the declination here, 17° 41′, is given as printed, and no identity is asserted.

[3087] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3, printed as three bare figures, is given as degrees, minutes and seconds; values printed as two bare figures are given as degrees and minutes.

Reading	Value
The twenty-fourth, of the 4th magnitude. Which [is] in the hind knee [Viceſima quarta mag. 4tæ.] [Quæ in genu poſteriori.]	
Right ascension from Spica ♍ [Aſc. R. a Spica ♍]	164° 56′
The other way round, from the heart of ♌ [Viceverſa a corde ♌]	164° 56¼′
Declination, north [Declinatio borea]	8° 15¼′
Corresponding longitude [Reſp. Longitudo]	12° 58⅙′ ♍
Latitude [Latitudo]	1° 40′ north [borea]

3088

Reading	Value
The twenty-fifth, of the 4th magnitude. The middle [star] in the foot [Viceſima quinta mag. 4tæ.] [Media in pede.]	
Right ascension from the heart of ♌ [Aſc. recta a corde ♌]	166° 41¼′
The other way round [Viceverſa]	166° 42½′
Corrected right ascension [Aſc. recta emendata]	166° 41¾′
Declination, north [Declinatio borea]	5° 7′
Corresponding longitude [Reſp. Longitudo]	15° 46⅔′ ♍
Latitude [Latitudo]	0° 32⅚′ south [M.]

3089

Reading	Value
The twenty-sixth, of the 4th magnitude. The lowest [star] in the foot of ♌ [Viceſima ſexta mag. 4tæ.] [Infima in pede ♌.]	
Right ascension from Spica ♍ [Aſc. R. a Spica ♍]	168° 56⅓′
The other way round [Viceverſa]	168° 57⅔′
Corrected right ascension [Aſcenſio R. emendata]	168° 57′
Declination, north [Declinatio borea]	1° 27½′
Corresponding longitude [Reſp. Longitudo]	19° 16⅚′ ♍
Latitude [Latitudo]	3° 2½′ south [M.]

3088 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. No corrected, verified, mean or limited right ascension is printed for this star: after the two readings the next line is the declination. In row 5 no minute mark follows 58⅙; the figure is given as minutes, the degree mark after 12 being printed. Values printed as two bare figures are given as degrees and minutes. On p. 371, under 8 April, the declination of the star numbered 24 is printed 8 15 and 8 15½; the declination here, 8° 15¼′, is given as printed, and no identity is asserted.

3089 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Rows 1–5 stand at the foot of the left column; rows 6 and 7 stand at the head of the right column. Values printed as two bare figures are given as degrees and minutes.

3090

Reading	Value
The twenty-seventh, of the 1st magnitude. The tail of ♌ [Viceſima ſeptima mag. 1æ.] [Cauda ♌.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	171° 58′ 25″
The other way round [Viceverſa]	171° 58′ 34″
True right ascension [Vera Aſcenſio Recta]	171° 58′ 30″
Declination, north [Declinatio borea]	16° 53′ 0″
Corresponding longitude [Reſp. Longitudo]	15° 53′ ♍
Latitude [Latitudo]	12° 18′ north [borea]

3091

Reading	Value
The twenty-eighth, of the 6th magnitude [Viceſima octava mag. 6tæ.]	
Right ascension [Aſcenſio recta]	137° 24′
The other way round [Viceverſa]	137° 19′
Corrected right ascension [Aſcenſio R. emendata]	137° 21½′
Declination, north [Declinatio borea]	11° 24′
Corresponding longitude [Reſp. Longitudo]	16° 21⅔′ ♌
Latitude [Latitudo]	4° 48′ south [M.]

3092

Reading	Value
The twenty-ninth, of the 6th magnitude. In the preceding foot of ♌ [Viceſima nona mag. 6tæ.] [In præcedente pede ♌.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	136° 35⅓′
The other way round [Viceverſa]	136° 35⅔′
Corrected right ascension [Aſcenſio R. emendata]	136° 35½′
Declination, north [Declinatio borea]	10° 40′
Corresponding longitude [Reſp. Longitudo]	15° 51⅓′ ♌
Latitude [Latitudo]	5° 43¼′ south [M.]

3090 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes.

3091 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

3092 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a single line with no figures and no description. Row 2 names no star from which the right ascension was taken. Values printed as two bare figures are given as degrees and minutes. On p. 370, under 8 April, the declination of the star numbered 28 is printed 11 23½; the declination here, 11° 24′, is given as printed, and no identity is asserted.

3093

Reading	Value
The thirtieth, of the 6th magnitude, lesser. Nearly in the middle of the body, dim [Triceſima mag. 6tæ minor.] [In medio corpore fere, obſcura.]	
Right ascension from the preceding [star] in Canis Minor [Aſc. R. a præcedente in cane minore]	156° 4′ 10″
The other way round, from Arcturus [Viceverſa ab Arcturo]	155° 59′ 30″
Right ascension, limited [Aſcenſio R. limitata]	156° 1′ 50″
Declination, north [Declinatio B.]	21° 4′ 40″
Corresponding longitude [Reſp. Longitudo]	0° 3¾′ ♏
Latitude [Latitudo]	10° 17¼′ north[1] [B. [1].]

3094

3095

[1] Added: "Corrected in latitude. N.B." [Adſcriptum eſt: »Correcta in Latit. N.B.«.]

The constellation ♏ *[ASTERISMUS* ♏*.]*

All the stars in ♏ are thirty-four in number; [they] stand thus, so that [they] are [Stellæ in ♏ ſunt omnes numero triginta quatuor, ita ſe habent vt ſint]

of the magnitude [magnitudinis]	Number
first [primæ]	1

3093 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. In row 6 a point follows ♌. Values printed as two bare figures are given as degrees and minutes. On p. 370, under 8 April, the declination of the star numbered 29 is printed 10 33½, its label carrying the footnote cue 1; the declination here, 10° 40′, is given as printed, and no identity is asserted.

3094 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; *minor* follows the magnitude in full-size type. The label of row 2 fills its line, *cane* with a lower-case initial; its figures stand alone on the line below. In row 6 no minute mark follows 3¾; the figure is given as minutes, the degree mark after 0 being printed. The footnote cue 1 stands after *B.* in row 7. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. Row 7 is the last line of the right column of p. 409. On p. 370, under 8 April, the declination of the star numbered 30 is printed 21 2 and 21 1½; the declination here, 21° 4′ 40″, is given as printed, and no identity is asserted.

3095 Counted over pp. 407–409, the thirty stars of ♌ are printed with these magnitudes: 1st, two (the eighth and the twenty-seventh); 2nd, two; 3rd, five; 4th, eleven; 5th, two (the ninth and the nineteenth); 6th, eight (the eleventh, sixteenth, seventeenth, eighteenth, twenty-first, twenty-eighth and twenty-ninth, and the thirtieth, printed *6tæ minor*). The count on p. 407 gives the fifth as 3 and the sixth as 7; the printed magnitudes therefore disagree with it for the 5th and the 6th magnitudes, and the totals agree at thirty.

of the magnitude [magnitudinis]	Number
third [tertiæ]	5
fourth [quartæ]	7
fifth [quintæ]	8
sixth [ſextæ]	13

3096

Reading	Value
The first, of the 5th magnitude. The northern [star] of the preceding [stars] in the head [Prima mag. 5tæ. Borealis in capite præcedentium.]	
Right ascension from Spica [Aſc. R. a Spica]	171° 1′ 20″
From the heart of ♌ [a corde ♌]	170° 59′ 38″
From the northern scale-pan of ♎ [a bor. lance ♎]	170° 59′ 31″
Set the true right ascension [Pone Aſcen. R. veram]	171° 0′ 0″
Declination, north [Declinatio borea]	10° 32′ 40″
Corresponding longitude [Reſp. Longitudo]	17° 34′ ♍
Latitude [Latitudo]	6° 6⅔′ north [Bor.]

3097

Reading	Value
The second, of the 5th magnitude. The southern preceding [star] in the □ of the head [Secunda mag. 5tæ. Auſtralis præcedens in □to capitis.]	
Right ascension from Spica [Aſc. R. a Spica]	171° 10′ 10″
The other way round, from the northern scale-pan [Viceverſa a bor. lance]	171° 8′ 9″
Corrected right ascension [Aſcenſio R. emend.]	171° 9′
Declination, north [Declinatio borea]	8° 51′
Corresponding longitude [Reſp. Longitudo]	18° 23′ ♍
Latitude [Latitudo]	4° 37′ north [Bor.]

3096 "Number" is this edition's head; the page prints none over the figures. The page's own word *magnitudinis* stands to the left of a single brace enclosing the five lines of ordinal and figure, level with the third of them; there is no second brace and no word between the ordinals and the figures. No count is printed for the second magnitude.

3097 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal, magnitude and the start of the description on the first, the end of the description on the second, with no figures. Rows 3 and 4 are printed indented under row 2, with no word for "the other way round". Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 14 March, in the list headed *Declinationes ſtellarum in* ♍, the declination of the star numbered 1 is printed 10 32½ north and 10 33; on p. 371, under 7 January, the declination of the northern [star] in the head, marked *dubia*, "doubtful", is printed 10 40 (the 14 March distances on p. 372 number the upper [star] in the head 1); the declination here, 10° 32′ 40″, is given as printed, and no identity is asserted.

3098

Reading	Value
The third, of the 5th magnitude. The northern [star] of the following [stars] in the head [Tertia mag. 5tæ.] [Sequentium in capite borealis.]	
Right ascension from Spica [Aſc. R. a Spica]	176° 5′ 0″
From the heart of ♌ [a corde ♌]	176° 3′ 3″
From the northern scale-pan of ♎ [a bor. lance ♎]	176° 3′ 52″
Corrected right ascension [Aſcenſio R. emendata]	176° 3′ 40″
Declination, north [Declinatio borea]	11° 2′ 40″
Corresponding longitude [Reſp. Longitudo]	21° 57′ ♍
Latitude [Latitudo]	8° 33½′ north [Bor.]

3099

Reading	Value
The fourth, of the 5th magnitude. The southern [star] of the following [stars] in the head of ♍ [Quarta mag. 5tæ.] [Auſtralis ſequentium in cap. ♍.]	
Right ascension from Spica [Aſc. R. a Spica]	174° 57′ 2″
From the heart of ♌ [a corde ♌]	174° 54′ 49″
From the northern scale-pan [a bor. lance]	174° 56′ 25″
Corrected right ascension [Aſcenſio R. emend.]	174° 56′
Declination, north [Declinatio borea]	8° 55½′
Corresponding longitude [Reſp. Longitudo]	21° 48′ ♍
Latitude [Latitudo]	6° 10′ north [Bor.]

3098 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description beginning after the magnitude and running on to the second line, with no figures. In row 3 no sign follows *lance*. Row 3, printed as three bare figures, is given as degrees, minutes and seconds; values printed as two bare figures are given as degrees and minutes. On p. 371, under 7 January, the declination of the more southern [star] in the head of ♍ is printed 8 48½ and, with the other, 8 48 (the 14 March distances on p. 372 number the more southern [star] in the head 2); the declination here, 8° 51′, is given as printed, and no identity is asserted.

3099 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Rows 3 and 4 are printed indented under row 2, with no word for "the other way round". Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 14 March, in the list headed *Declinationes ſtellarum in* ♍, the declination of the star numbered 3 is printed 11 2½ north and 11 2¾; on p. 371, under 7 January, the declination of the cheek, or the northern [star] in the face, is printed 11 5 north, twice (the 14 March distances on p. 372 number the more northern [star] in the face 3); the declination here, 11° 2′ 40″, is given as printed, and no identity is asserted.

3100

Reading	Value
The fifth, of the 3rd magnitude. The first extreme [star] of the southern wing [Quinta mag. 3æ.] [Prima extrema alæ auſtralis.]	
Right ascension from Spica [Aſc. R. a Spica]	172° 20′ 10″
From the heart of ♌ [a corde ♌]	172° 21′ 48″
From the northern scale-pan [a bor. lance]	172° 20′ 52″
Corrected right ascension [Aſcenſio R. emend.]	172° 21′
Declination, north [Declinatio borea]	4° 5¾′
Corresponding longitude [Reſp. Longitudo]	21° 22′ ♍
Latitude [Latitudo]	0° 43′ north [Bor.]

3101

Reading	Value
The sixth, of the 4th magnitude. The following [star] in the left wing [Sexta mag. 4tæ.] [Sequens in ſiniſtra ala.]	
Right ascension from Spica [Aſc. R. a Spica]	179° 43′ 57″
From the heart of ♌ [a corde ♌]	179° 44′ 21″
From the northern scale-pan [a bor. lance]	179° 43′ 7″
True right ascension [Aſcenſio Recta vera]	179° 44′ 0″
Declination, north [Declinatio borea]	1° 39′ 40″
Corresponding longitude [Reſp. Longitudo]	29° 5′ 50″ ♍
Latitude [Latitudo]	1° 25′ north [Borea]

3100 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Rows 3 and 4 are printed indented under row 2, with no word for "the other way round"; in row 4 no sign follows *lance*. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. Row 8 is the last line of the left column. On p. 373, under 14 March, in the list headed *Declinationes ſtellarum in* ♍, the declination of the star numbered 4 is printed 8 56 north and 8 55¼; on p. 371, under 7 January, the declination of the more southern [star] in the face of ♍ is printed 8 53½ north and 8 54 (the 14 March distances on p. 372 number the more southern [star] in the face 4); the declination here, 8° 55½′, is given as printed, and no identity is asserted.

3101 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Rows 3 and 4 are printed indented under row 2, with no word for "the other way round"; in row 4 no sign follows *lance*. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 14 March, in the list headed *Declinationes ſtellarum in* ♍, the declination of the star numbered 5 is printed 4 6 north and 4 5½; the declination here, 4° 5¾′, is given as printed, and no identity is asserted.

3102

Reading	Value
The seventh, of the 3rd magnitude. The third [star] in the wing; [it] is in a straight line with Vindemiator and the girdle of ♍ [Septima mag. 3æ. Tertia in ala, eſt in recta linea cum Vindemiatore et cingulo ♍.]	
Right ascension from Spica [Aſc. R. a Spica]	185° 11′ 28″
From the heart of ♌ [a corde ♌]	185° 11′ 33″
From the northern scale-pan [a bor. lance]	185° 11′ 40″
Verified right ascension [Aſcenſio R. verificata]	185° 11′ 30″
Declination, north [Declinatio borea]	0° 49′ 30″
Corresponding longitude [Reſp. Longitudo]	4° 26′ ♎
Latitude [Latitudo]	2° 49⅔′ north [B.]

3103

Reading	Value
The eighth, of magnitude 6, lesser or dim. Which is between the last and the next-to-last [star] of the southern wing [Octava mag. 6 minor ſeu obſcura.] [Quæ eſt inter vltimam et penultimam alæ Auſtralis.]	
Right ascension from the 6th [star] of the same wing [Aſc. R. a 6ta eiusdem alæ]	189° 26′
The other way round, from the northern scale-pan of ♎ [Viceverſa a Bor. lance ♎]	189° 30′ Let this right ascension be retained as the better, for [it] is found observed two or three times in distance from this [one][1] [Hæc Aſc. R. retineatur vtpote melior, nam bis terve ab hac in diſtantia obſeruata invenitur[1].]
Declination, south [Declinatio Auſt.]	1° 30′
Corresponding longitude [Reſp. Longitudo]	9° 18½′ ♎
Latitude [Latitudo]	2° 23⅔′ north [B.]

3102 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Rows 3 and 4 are printed indented under row 2, with no word for "the other way round"; in row 4 no sign follows *lance*. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two, as degrees and minutes. On p. 373, under 15 March, in the list headed *Declinationes*, the declination of the star numbered 6 is printed 1 39½ and 1 40 north, its label carrying the footnote cue 3; the declination here, 1° 39′ 40″, is given as printed, and no identity is asserted.

3103 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal, magnitude and the start of the description on the first, the description running on full width over the next two, with no figures. Rows 3 and 4 are printed indented under row 2, with no word for "the other way round"; in row 4 no sign follows *lance*. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 15 March, in the list headed *Declinationes*, the declination of the star numbered 7 is printed 0 50 and 0 49 north; the declination here, 0° 49′ 30″, is given as printed, and no identity is asserted.

Reading	Value

3104

Reading	Value
The ninth, of the 4th magnitude. The last [star] in the southern wing of ♍ [Nona, mag 4tæ.] [Vltima in auſtrali ala ♍.]	
Distance from the tail of ♌ [Diſtantia a cauda ♌]	28° 21′ 20″
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	192° 7′ 45″
The other way round, from the northern scale-pan of ♎ [Viceverſa a bor. lance ♎]	192° 10′ 20″

3105

[1] There is, however, an error in the right ascension. On 1589 March 14 [he] found the distance from the northern scale-pan: 34° 35½′, from which the right ascension is found: 189° 36′.3, from which are derived the longitude 9° 24′ ♎ and the latitude 2° 26′ north (1589). [Error tamen ſubeſt in aſcenſione recta. Die 14 Mart. 1589 diſtantiam a boreali lance invenit 34° 35½′, unde aſc. rect. invenitur 189° 36′. 3, ex qua eruitur Long. 9° 24′ ♎, Lat. 2° 26′ B. (1589).][3106]

Reading	Value
Right ascension, limited [Aſcenſ. R. limitata]	192° 9′ 0″
Declination, south [Declinatio Auſt.]	3° 19′
Corresponding longitude [Reſp. Longitudo]	12° 26¾′ ♎
Latitude [Latitudo]	1° 45¼′ north [B.]

[3104] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal, magnitude and *minor ſeu obſcura* on the first, the description on the next two, with no figures; the magnitude is printed as a bare figure 6 with no ending. In row 3 the sentence beginning *Hæc* starts on the same line, after the figures, and runs on full width over three further lines; it is given whole in that cell, after the figures, with the footnote cue 1 at its end. *Bor.* in row 3 has a capital. No adopted right ascension is printed as a figure of its own for this star. Values printed as two bare figures are given as degrees and minutes. On p. 373, under 8 April, the declination of the star numbered 8 is printed 2 28 south, with the footnote cue 4 after the degrees; the declination here, 1° 30′, is given as printed, and no identity is asserted.

[3105] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; no point follows *mag*. Values printed as three bare figures are given as degrees, minutes and seconds. Row 4 is the last line of the right column of p. 410.

[3106] In the footnote, the 3 printed after the minute mark of 189° 36′, after a point, is taken as a tenth of a minute.

3107

Reading	Value
The tenth, of the 3rd magnitude. The girdle, or below the girdle, on the right side [Decima mag. 3æ.] [Cingulum ſeu ſub cingulo in dextro latere.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	188° 44′ 15″
The other way round, from the northern scale-pan [Viceverſa a bor. lance]	188° 42′ 57″
Corrected right ascension [Aſcenſ. recta emend.]	188° 43½′
Declination, north [Declinatio borea]	5° 40⅔′
Corresponding longitude [Reſp. Longitudo]	5° 45′ ♎
Latitude [Latitudo]	8° 41′ north [Bor.]

3108

Reading	Value
The eleventh, of the 5th magnitude. [The star] preceding Vindemiator [Vndecima mag. 5tæ.] [Præcedens Vindemiatorem.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	185° 14′ 49″
The other way round, from the northern scale-pan [Viceverſa a bor. lance]	185° 16′ 34″
Corrected right ascension [Aſcenſio recta emend.]	185° 15⅔′
Declination, north [Declinatio borea]	12° 34¼′
Corresponding longitude [Reſp. Longitudo]	29° 43′ ♍
Latitude [Latitudo]	13° 36⅔′ north [Bor.]

3109

[3107] These four rows complete the entry for the ninth star of ♍, *Nona, mag 4tæ.*, the last star in the southern wing of ♍, which begins at the foot of the right column of p. 410 with its distance and two readings. "Reading" and "Value" are this edition's heads, as there; the page prints none. The rows stand at the head of the left column with no heading. Row 1, printed as three bare figures, is given as degrees, minutes and seconds; rows 2 and 4, printed as two, as degrees and minutes. On p. 373, under 15 March, in the list headed *Declinationes*, the declination of the star numbered 9 is printed 3 20 south and 3 21; the declination here, 3° 19′, is given as printed, and no identity is asserted.

[3108] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. In row 3 no sign follows *lance*. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 15 March, in the list headed *Declinationes*, the declination of the star numbered 10 is printed 5 40½ north and 5 40¾; the declination here, 5° 40⅔′, is given as printed, and no identity is asserted.

[3109] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. In row 3 no sign follows *lance*. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 8 April, the declination of the star numbered 11 is printed 12 34 north and 12 34½; the declination here, 12° 34¼′, is given as printed, and no identity is asserted.

Reading	Value
The twelfth, of the 6th magnitude. The upper of the two very small [stars] between Vindemiator and the girdle [Duodecima mag. 6tæ.] [Superior duarum paruularum inter Vindemiatorem et cingulum.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	186° 14′ 38″
The other way round, from the northern scale-pan [Viceverſa a bor. lance]	186° 13′ 38″
Verified right ascension [Aſcenſio R. verificata]	186° 14′
Declination, north [Declinatio borea]	9° 58¼′
Corresponding longitude [Reſp. Longitudo]	1° 41¾′ ♎
Latitude [Latitudo]	11° 37′ north [Bor.]

3110

Reading	Value
The thirteenth, of the 3rd magnitude. Vindemiator ♍ [Decima tertia mag. 3iæ.] [Vindemiator ♍.]	
Right ascension from the heart of ♌ [Aſc. R. a corde ♌]	190° 24′ 37″
The other way round, from the northern scale-pan [Viceverſa a bor. lance]	190° 29′ 17″
Mean right ascension [Aſcenſio R. media]	190° 27′
Declination, north [Declinatio borea]	13° 12½′
Corresponding longitude [Reſp. Longitudo]	4° 13½′ ♎
Latitude [Latitudo]	16° 15⅔′ north [Bor.]

3111

Reading	Value
The fourteenth, of the 1st magnitude. Spica itself [Decima quarta mag. 1æ.] [Ipſa Virginis Spica.]	
From observations of the year 86 and 87 there is presupposed here the true right ascension of Spica ♍ [Ex obſeruationibus A^{i} 86 et 87 præſupponitur hic vera Aſcenſio Recta Spicæ ♍]	195° 55′ 0″
Declination, south [Declinatio Auſt.]	8° 57′ 15″

3110 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. In row 3 no sign follows *lance*, and the seconds figure carries its mark, as in row 2. Values printed as three figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 8 April, the declination of the star numbered 12 is printed 9 58½ north and 9 58; the declination here, 9° 58¼′, is given as printed, and no identity is asserted.

3111 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. In row 3 no sign follows *lance*. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 397 the list of right ascensions used as foundations gives *Vindemiator* ♍ with 190 24 27; here the reading from the heart of ♌ is printed 190 24 37 and the mean right ascension 190 27. All are given as printed.

Reading	Value
Corresponding longitude [Reſp. Longitudo]	18° 6⅙′ ♎
Latitude [Latitudo]	1° 59⅙′ south [Auſt.]

3112

Reading	Value
The fifteenth, of the 3rd magnitude. Which is near the vertebra [Decima quinta mag. 3iæ.] [Quæ eſt iuxta vertebram.]	
Right ascension from the northern scale-pan [Aſc. recta a bor. lance]	198° 23⅔′
Declination, north [Declinatio Borea]	1° 32′
Let that right ascension from the northern scale-pan be retained, which [I] found to be true from observations in ♃ in the year 90, and let the longitude and latitude be corrected in the Catalogue of stars [Retineatur illa Aſc. recta a borea lance, quam veram eße ex obſeruationibus in ♃ anno 90 deprehendi, et corrigantur long. et latit. in Catalogo ſtellarum.]	
Corresponding longitude [Reſp. Long.]	16° 31′ ♎
Latitude [Lat.]	8° 39⅙′ north [B.[1]]

3113

Reading	Value
The sixteenth, of the 6th magnitude [Decima ſexta mag. 6tæ.]	
Right ascension from the first [star] of the southern wing of ♍ [Aſcenſio R. a prima auſtralis alæ ♍]	197° 40′
From the heart of ♌ [a corde ♌]	197° 36′
Corrected right ascension [Aſcenſ. R. emendata]	197° 38′
Declination, south [Declinatio auſt.]	4° 4′
Corresponding longitude [Reſp. Longitudo]	17° 48¼′ ♎

3112 "Reading" and "Value" are this edition's heads; the page prints none. Rows 1 and 2 are the last five lines of the left column: row 1 on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; row 2 a paragraph of three lines, its figures on the third, after *Spicæ* ♍. Rows 3 to 5 stand at the head of the right column with no heading; the entry runs across the column break and is given as one table. Values printed as three figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes. On p. 395 a declination of Spica is printed 8 57 20, *decl. Spicæ*; here the declination is printed 8 57 15. Both are given as printed. On p. 371, under 7 January, the declination of Spica by the armillae is printed 8 57 30 with one and 8 57 20 with the other; the declination here, 8° 57′ 15″, is given as printed, and no identity is asserted.

3113 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 4 is a paragraph of five lines with no figures. In row 2 no sign follows *lance*. Values printed as two bare figures are given as degrees and minutes. No adopted right ascension is printed as a figure of its own for this star.

Reading	Value
Latitude [Latitudo]	3° 10⅝′ north [B.]

3114

The seventeenth, of the 6th magnitude. [It] is not observable. [Decima ſeptima mag. 6æ.] [Non eſt obſeruabilis.]

Reading	Value
The eighteenth, of the 6th magnitude [Decima octava mag. 6tæ.]	
Right ascension from the first [star] of the southern wing [Aſc. R. a prima auſt. alæ]	200° 3′ 50″
The other way round, from the northern scale-pan of ♎ [Viceverſa a bor. lance ♎]	200° 2′ 0″
Right ascension, limited [Aſcenſ. R. limitata]	200° 2′ 50″
Declination, south [Declinatio auſt.]	6° 35′
Corresponding longitude [Reſp. Longitudo]	20° 59⅙′ ♎
Latitude [Latitudo]	1° 45⅔′ north [B.]

3115

Reading	Value
The nineteenth, of the 6th magnitude [Decima nona mag. 6tæ.]	
Right ascension from the first [star] of the southern wing [Aſc. R. a prima auſt. alæ]	197° 56′ 0″
The other way round, from the northern scale-pan of ♎ [Viceverſa a bor. lance ♎]	197° 54′ 30″
Right ascension, limited [Aſcenſio R. limitata]	197° 55¼′
Declination, south [Declinatio auſt.]	7° 58′ 30″
Corresponding longitude [Reſp. Longitudo]	19° 33¾′ ♎
Latitude [Latitudo]	0° 19½′ south [M.]

3116

Reading	Value
The twentieth, of the 6th magnitude, lesser [Viceſima mag. 6tæ minor.]	
Right ascension from the first [star] of the southern wing [Aſc. R. a prima auſt. alæ]	203° 38½′
The other way round, from the northern scale-pan of ♎ [Viceverſa a bor. lance ♎]	203° 35⅔′

3114 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no description. The label of row 2 runs the width of the column; its figures stand alone on the next line. Row 3 is printed indented under row 2, with no word for "the other way round". Values printed as two bare figures are given as degrees and minutes.

3115 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no description. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

3116 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no description. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

Reading	Value

3117

[1] These were added in the codex after the catalogue of a thousand stars had been completed. For these had previously been written down, but struck through with lines: “Right ascension from the tail of ♌ 197° 9⅓′, Corresponding longitude 15° 12⅓′ ♎ Latitude 8° 10⅙′ north.” This position is found in the Catalogue. Cf. vol. III p. 412. [Hæc in codice poſt confectum catalogum mille ſtellarum addita ſunt. Nam prius hæc conſcripta erant ſed lineis inducta: »Aſc. R. a cauda ♌ 197° 9⅓′, Reſp. Longitudo 15° 12⅓′ ♎ Latitudo 8° 10⅙′ B.«. Hic locus in Catalogo reperitur. Cf. T. III p. 412.]

Reading	Value
Right ascension, limited [Aſcenſ. R. limitata]	203° 37′
Declination, south [Declinatio auſt.]	7° 18′
Corresponding longitude [Reſp. Longitudo]	24° 34′ ♎
Latitude [Latitudo]	2° 24′ 25″ north [B.[1]]

3118

Reading	Value
The twenty-first, of the 5th magnitude. Which is in the upper hem [Viceſima prima mag 5tæ.] [Quæ eſt in ſuperiori fimbria.]	
Right ascension from the northern hand of Ophiuchus [Aſc. R. a bor. manu Oph.]	209° 37¼′
From the following and southern [star] in the left hand of Ophiuchus [a ſequenti & auſtrali in ſin. manu Ophiuchi]	209° 35¾′
Right ascension, limited [Aſcenſio R. limitata]	209° 36½′
Declination, south [Declinatio M.]	0° 21′
Corresponding longitude [Reſp. Longitudo]	27° 38⅔′ ♎
Latitude [Latitudo]	11° 2½′ north [B.]

[3117] ”Reading” and ”Value” are this edition's heads; the page prints none. Row 1 stands on one line, with no description. The label of row 3 stands on two lines, *Viceverſa a bor.* on the first and *lance* ♎ on the second, with the figures; it is given whole on one row. The value of row 3, printed as two bare figures, is given as degrees and minutes. Row 3 is the last line of the right column of p. 411.

[3118] These four rows complete the entry for the twentieth star of ♍, *Viceſima mag. 6tæ minor.*, which begins at the foot of the right column of p. 411 with two readings. ”Reading” and ”Value” are this edition's heads, as there; the page prints none. The rows stand at the head of the left column with no heading. Rows 1 and 2, printed as two bare figures, are given as degrees and minutes. The latitude in row 4 is printed as three bare figures, 2 24 25, and is given as degrees, minutes and seconds; the other latitudes on these pages are printed as two.

3119

Reading	Value
The twenty-second, of the 4th magnitude. The middle [star] of the three is in the hem [Viceſima ſecunda mag. 4tæ.] [Media trium eſt in fimbria.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	208° 34′
The other way round [Viceverſa]	208° 38′
Therefore, corrected right ascension [Ergo Aſc. R. emendata]	208° 36′
Declination, south [Declinatio auſtrina]	3° 57½′
Corresponding longitude [Reſp. Longitudo]	27° 58¾′ ♎
Latitude [Latitudo]	7° 18½′ north [B.]

3120

Reading	Value
The twenty-third, of the 4th magnitude. The lowest and southern [star] in the train [Viceſima tertia mag. 4tæ.] [Infima et auſtralis in ſyrmate.]	
Right ascension [Aſcenſio recta]	207° 42′ 46″
The other way round [Viceverſa]	207° 44′ 31″
Corrected right ascension [Aſcenſio recta emend.]	207° 43⅔′
Declination, south [Declinatio Auſt.]	8° 16⅚′
Corresponding longitude [Reſp. Longitudo]	28° 41′ ♎
Latitude [Latitudo]	2° 57½′ north [Bor.]

3121

3119 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; no point follows *mag*. Row 2 is printed with a degree mark and no minute mark, *209° 37¼*, and is given as degrees and minutes. The label of row 3 stands on two lines, indented under row 2, the figures on the second; it is given whole on one row. Values printed as two bare figures are given as degrees and minutes.

3120 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 373, under 15 March, in the list headed *Declinatio*, the declination of the star numbered 22 is printed 3 58 south and 3 57¾; on p. 374, under 8 April, the declination of the star numbered 22 is printed 3 56 south and 3 57; the declination here, 3° 57½′, is given as printed, and no identity is asserted.

3121 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 2 names no reference star. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 15 March, in the list headed *Declinatio*, the declination of the star numbered 23 is printed 8 17½ south and 8 17; on p. 374, under 8 April, the declination of the star numbered 23 is printed 8 17 south and 8 16¾; the declination here, 8° 16⅚′, is given as printed, and no identity is asserted.

Reading	Value
The twenty-fourth, of the 4th magnitude, lesser [Viceſima quarta mag. 4tæ minor.]	
Right ascension from the sixth [star] of the wing of ♍ [Aſc. R. a ſexta alæ ♍]	211° 47′
The other way round, from the left hand of Ophiuchus [Viceverſa a manu ſin. Oph.]	211° 44⅙′
Right ascension, limited [Aſcenſio R. limitata]	211° 45½′
Declination, south [Declinatio Auſt.]	0° 20½′
Corresponding longitude [Reſp. Longitudo]	29° 41½′ ♎
Latitude [Latitudo]	11° 48′ north [B.]

3122

Reading	Value
The twenty-fifth, of the 4th magnitude. The southern foot [Viceſima quinta mag. 4tæ.] [Auſtralis pes.]	
Right ascension [Aſcenſio recta]	209° 13′ 56″
The other way round [Viceverſa]	209° 14′ 40″
Corrected right ascension [Aſcenſio R. emend.]	209° 14′
Declination, south [Declinatio Auſtr.]	11° 26′
Corresponding longitude [Reſp. Longitudo]	1° 11¾′ ♏
Latitude [Latitudo]	0° 31⅔′ north [Bor.]

3123

Reading	Value
The twenty-sixth, of the 4th magnitude. The northern or right foot [Viceſima ſexta mag. 4tæ.] [Borealis ſeu dexter pes.]	
Right ascension [Aſcenſio recta]	215° 20′ 8″
The other way round [Viceverſa]	215° 24′ 45″
Mean right ascension [Aſcenſio R. media]	215° 22½′
Declination, south [Declinatio Auſt.]	3° 45¼′
Corresponding longitude [Reſp. Longitudo]	4° 20′ ♏
Latitude [Latitudo]	9° 49′ north [Bor.]

3122 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no description. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two bare figures are given as degrees and minutes.

3123 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 2 names no reference star. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. Row 7 is the last line of the left column. On p. 373, under 15 March, in the list headed *Declinatio*, the declination of the star numbered 25 is printed 11 26½ south and 11 26¼; on p. 374, under 8 April, the declination of the star numbered 25 is printed 11 23½ south and 11 23; the declination here, 11° 26′, is given as printed, and no identity is asserted.

3124

Reading	Value
The twenty-seventh, of the 6th magnitude [Viceſima ſeptima mag. 6tæ.]	
Right ascension from the first [star] of the southern wing of ♍ [Aſc. R. a prima auſtralis alæ ♍]	203° 26′ 20″
The other way round, from the northern scale-pan of ♎ [Viceverſa a bor. lance ♎]	203° 27′ 10″
Right ascension, limited [Aſcenſio R. limitata]	203° 26′ 45″
Declination, north [Declinatio borea]	0° 35′
Corresponding longitude [Reſp. Longitudo]	21° 27⅓′ ♎
Latitude [Latitudo]	9° 40½′ north [B.]

3125

Reading	Value
The twenty-eighth, of the 6th magnitude. The lower of the two [stars] between Vindemiator and the girdle of ♍ [Viceſima octava mag. 6tæ.] [Inferior duarum inter Vindemiatorem et cingulum ♍.]	
Right ascension [Aſcenſio recta]	185° 17′ 18″
Observed only once [Semel tantum obſeruata.]	
Right ascension [Aſcenſio recta]	185° 17′
Declination, north [Declinatio borea]	9° 5′
Corresponding longitude [Reſp. Longitudo]	1° 11′ ♎
Latitude [Latitudo]	10° 26′ north [Bor.]

3126

3124 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 2 names no reference star. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 15 March, in the list headed *Declinatio*, the declination of the star numbered 26 is printed 3 45 south and 3 45½; the declination here, 3° 45¼′, is given as printed, and no identity is asserted.

3125 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no description. The label of row 2 runs the width of the column; its figures stand alone on the next line. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes.

3126 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. Row 3 is a line of text with no figures. Row 2 names no reference star. Values printed as two bare figures are given as degrees and minutes. On p. 373, under 8 April, the declination of the star numbered 28 is printed 9 4¾ north and 9 5¼; the declination here, 9° 5′, is given as printed, and no identity is asserted.

Reading	Value
The twenty-ninth, of the 6th magnitude. Which [is] in the neck [Viceſima nona mag. 6tæ.] [Quæ in ceruice.]	
Right ascension from the northern scale-pan of ♎ [Aſc. R. a boreali lance ♎]	179° 48′ 10″
From Spica ♍ [a Spica ♍]	179° 46′ 40″
Right ascension, limited [Aſcenſ. R. limitata]	179° 47′ 20″
Declination, north [Declinatio borea]	5° 32′
Corresponding longitude [Reſp. Longitudo]	27° 35½′ ♍
Latitude [Latitudo]	4° 59⅓′ north [B.]

3127

Reading	Value
The thirtieth, of the 6th magnitude. The very small [star] following Vindemiator [Triceſima mag. 6tæ.] [Paruula ſequens Vindemiatorem.]	
Right ascension [Aſcenſio recta]	194° 2′ 3″
The other way round [Viceverſa]	194° 6′ 11″
Mean right ascension [Aſcenſ. recta media]	194° 4′
Declination, north [Declinatio borea]	11° 37½′
Corresponding longitude [Reſp. Longitudo]	8° 15′ ♎
Latitude [Latitudo]	16° 14′ north [Bor.]

3128

Reading	Value
The thirty-first, of the 5th magnitude [Triceſima prima mag. 5tæ.]	
Right ascension from the tail of ♌ [Aſc. R. a cauda ♌]	194° 11′ 50″
From the bright [star] of the neck of ♌ [a luc. ceruicis ♌]	194° 12′ 50″

3127 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 is printed indented under row 2, with no word for "the other way round". Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 8 April, the declination of the star numbered 29 is printed 8 5¾ north and 8 6, and the values differ by about 2½° from the declination here; the declination here, 5° 32′, is given as printed, and no identity is asserted.

3128 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 2 names no reference star. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 8 April, the declination of the star numbered 30 is printed 11 37 north and 11 38; the declination here, 11° 37½′, is given as printed, and no identity is asserted.

3129

[1] This star is B. D. — 8°. 3667, magnitude 6.4. In Argelander's *Uranometria nova*, of the 6th magnitude. [Hæc ſtella eſt B. D. — 8°. 3667, mag. 6. 4. In Uranometria nova Argelandri 6tæ mag.][3130]

Reading	Value
Right ascension, limited [Aſcenſ. R. limitata]	194° 12′ 20″
Declination, north [Declinatio borea]	7° 40′ 30″
Corresponding longitude [Reſp. Longitudo]	10° 1′ ♎
Latitude [Latitudo]	12° 40⅓′ north [B.]

3131

Reading	Value
The thirty-second, of the 6th magnitude. The middle [star] of the three in a straight line of the upper wing [Triceſima ſecunda mag. 6tæ.] [Media trium in recta linea alæ ſuperioris.]	
Right ascension [Aſcenſio recta]	198° 17′ 44″
The other way round [Viceverſa]	198° 21′ 17″
Corrected right ascension [Aſcenſio R. emend.]	198° 19′
Declination, north [Declinatio borea]	5° 49½′
Corresponding longitude [Reſp. Longitudo]	14° 36′ ♎
Latitude [Latitudo]	12° 34½′ north [Bor.]

3132

[3129] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no description. Row 3 is printed indented under row 2, with no word for "the other way round". Values printed as three bare figures are given as degrees, minutes and seconds. Row 3 is the last line of the right column of p. 412.

[3130] In the footnote, *6. 4*, a figure, a point and a figure, is given as 6.4, the point taken as a decimal point. *B. D. — 8°. 3667* is given as printed; *Argelandri* is given as "Argelander's", the Latin ending dropped.

[3131] These four rows complete the entry for the thirty-first star of ♍, *Triceſima prima mag. 5tæ.*, which begins at the foot of the right column of p. 412 with two readings. "Reading" and "Value" are this edition's heads, as there; the page prints none. The rows stand at the head of the left column with no heading. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes.

[3132] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. Row 2 names no reference star. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. Row 7 is the last line of the left column above the title. On p. 374, under 8 April, the declination of the star numbered 32 is printed 5 49 north and 5 50; the declination here, 5° 49½′, is given as printed, and no identity is asserted.

Reading	Value
The thirty-third, of the 6th magnitude. Which is between the fourth and fifth [stars] of ♍ [Triceſima tertia mag. 6tæ.] [Quæ eſt inter quartam & quintam ♍.]	
Right ascension [Aſcenſio recta]	174° 43′ 26″
The other way round [Viceverſa]	174° 42′ 0″
Corrected right ascension [Aſcenſio recta emend.]	174° 42⅔′
Declination, north [Declinatio borea]	5° 58½′
Corresponding longitude [Reſp. Longitudo]	22° 46½′ ♍
Latitude [Latitudo]	3° 22½′ north [Bor.]

3133

Reading	Value
The thirty-fourth, of the 5th magnitude. The last [star] in the upper wing of ♍ [Triceſima quarta mag. 5tæ.] [Vltima in ſuperiori ala ♍.]	
Right ascension from the northern [star] in the left hand of Ophiuchus [Aſc. R. a bor. in ſiniſtra manu Ophiuchi]	205° 15′ 40″
Likewise from the northern scale-pan of ♎ [Item a boreali lance ♎]	205° 12′ 40″
Right ascension, limited [Aſcenſ. R. limitata]	205° 14′ 0″
Declination, north [Declinatio borea]	3° 35′
Corresponding longitude [Reſp. Longitudo]	22° 0¾′ ♎[1]
Latitude [Latitudo]	13° 7⅓′ north [B.]

3134

[The constellation] of Libra ♎ [LIBRÆ ♎.]

All the stars in this constellation are ten in number [Omnes ſtellæ in hoc ſidere ſunt numero decem.]

3133 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 2 names no reference star. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. On p. 373, under 8 April, the declination of the star numbered 33 is printed 5 59 north and 5 58; the declination here, 5° 58½′, is given as printed, and no identity is asserted.

3134 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. The label of row 2 stands on two lines, the figures on the second; it is given whole on one row. Values printed as three bare figures are given as degrees, minutes and seconds; those printed as two, as degrees and minutes. This is the last star of ♍ on these pages; the next line of the page is the title of Libra. On p. 374, under 8 April, the declination of the star numbered 34 is printed 5 39 north and 5 39½; the declination here, 3° 35′, is given as printed, and no identity is asserted.

of which [quarum]	are of the magnitude [ſunt] [magni-] [tudinis]
2	second [ſecundæ]
1	third, lesser [tertiæ minor.]
4	fourth [quartæ]
2	fifth [quintæ]
1	sixth [ſextæ]

3135

Reading	Value
The first. The bright [star] of the two at the far end of the southern claw, and [it] is called the southern scale-pan, and [it] is of the 2nd magnitude [Prima. In extrema auſtrina chele duarum lucens et dicitur Auſtralis lanx, eſtque mag. 2dæ.]	
Right ascension [Aſcenſio recta]	217° 5′ 6″
	217° 4′ 53″
Verified right ascension [Aſcenſio R. verificata]	217° 5′ 0″
Declination, south [Declinatio Auſtrina]	14° 14′ 40″
Corresponding longitude [Reſp. Longitudo]	9° 20¾′ ♏
Latitude [Latitudo]	0° 26′ north [Bor.]

3136

Reading	Value
The second, of the 5th magnitude. Which is above the southern scale-pan [Secunda mag. 5tæ.] [Quæ eſt ſupra Auſtralem lancem.]	
Right ascension from Spica ♍ [Aſc. R. a Spica ♍]	216° 49⅓′
The other way round [Viceverſa]	216° 44½′
Corrected right ascension [Aſcenſ. R. emendata]	216° 46½′
Declination, south [Declinatio Auſt.]	12° 34¾′
Corresponding longitude [Reſp. Longitudo]	8° 32′ 0″ ♏
Latitude [Latitudo]	1° 55′ north [B.]

3135 The heads are the page's own words, set not over the columns but beside braces: *quarum* to the left of a brace enclosing the five figures, level with the third; *ſunt* / *magni-* / *tudinis* in three lines between a second brace after the figures and a third brace enclosing the five ordinals. *minor.* follows *tertiæ* on the second line.

3136 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 is a paragraph of three lines with no figures. Row 3 is a line of figures with no label, set under those of row 2. Values printed as three bare figures are given as degrees, minutes and seconds; the latitude, printed as two bare figures, as degrees and minutes.

3137

Reading	Value
The third, of the 2nd magnitude. The following, brighter [star], and [it] is the northern scale-pan [Tertia mag. 2dæ.] [Sequens lucidior, eſtque lanx borealis.]	
Corrected right ascension [Aſcenſ. recta emend.]	223° 45′
Declination, south [Declinatio Auſtralis]	7° 46′ 45″
Corresponding longitude [Reſp. Longitudo]	13° 38⅚′ ♏
Latitude [Latitudo]	8° 35⅓′ north [Borea]

3138

Reading	Value
The fourth, of the fourth magnitude. Above the northern scale-pan, inclining toward the west [Quarta mag. quartæ. Supra borealem lancem ad occaſum vergens.]	
Right ascension from Spica ♍ [Aſc. R. a Spica ♍]	219° 43½′
The other way round [Viceverſa]	219° 47′
Corrected right ascension [Aſcenſio recta emendata]	219° 45′
Declination, south [Declinatio Auſt.]	6° 48¾′
Corresponding longitude [Reſp. Longitudo]	9° 30½′ ♏
Latitude [Latitudo]	8° 18⅔′ north [B.]

3139

3137 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes. Row 7 is the last line of the left column. On p. 375, under 30 March, the declination of the star numbered 2 is printed 12 34⅓ and 12 35; the declination here, 12° 34¾′, is given as printed, and no identity is asserted.

3138 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. No reading precedes the corrected right ascension of row 2. Row 3 is printed as three figures with a seconds mark after the third; the latitude, printed as two bare figures, is given as degrees and minutes. p. 374 prints, for *Bor. lancis* ♎, the declinations 7 47⅔ and 7 47¾; row 3 here gives 7° 46′ 45″.

3139 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description following the magnitude on the first and running on to the second, with no figures. Row 2 is printed with a degree mark and no minute mark, *219° 43½*, and is given as degrees and minutes. Values printed as two bare figures are given as degrees and minutes. On p. 374, under 21 March, the declination of the star numbered 4 is printed 6 48½ and 6 49; the declination here, 6° 48¾′, is given as printed, and no identity is asserted.

Reading	Value
The fifth, of the sixth magnitude. The second [star] from the southern scale-pan toward the east [Quinta magnitudinis ſextæ.] [Secunda ab auſtrali lance ad ortum.]	
Right ascension from Spica [Aſc. R. a Spica]	224° 33¼′
The other way round is not available [Viceverſa non habetur.]	
Corrected right ascension [Aſcenſio recta emendata]	224° 33′
Declination, south [Declinatio Auſtrina]	13° 52½′
Corresponding longitude [Reſp. Longitudo]	16° 8⅚′ ♏
Latitude [Latitudo]	2° 58⅓′ north [B.]

3140

[1] The codex has 20° 0¾′. 22° [stands] correctly in the *Progymnasmata* and in the catalogue of a thousand stars. [Codex habet 20° 0¾′. 22° recte in Progymnasmatis et in catalogo mille ſtellarum.]

Reading	Value
The sixth, of the 5th magnitude. The first [star] from the southern scale-pan toward the east [Sexta magn. 5tæ.] [Prima ab Auſtrali lance ad ortum.]	
Right ascension from Spica [Aſc. R. a Spica]	220° 59′
The other way round [Viceverſa]	221° 1½′
Corrected right ascension [Aſcenſ. recta emendata]	221° 0′
Declination, south [Declinatio Auſtrina]	14° 38⅙′
Corresponding longitude [Reſp. Longitudo]	12° 16½′ ♏[1]
Latitude [Latitudo]	1° 14⅙′ north [B.]

3141

Reading	Value
The seventh, of the 3rd magnitude, lesser. The third [star] in a straight line toward the east from the southern scale-pan [Septima mag. 3tiæ minor.] [Tertia in recta linea ad ortum ab Auſtrali lance.]	
Right ascension from Spica ♍ [Aſc. R. a Spica ♍]	228° 9′
The other way round [Viceverſa]	228° 11′
Verified right ascension [Aſcenſ. R. verificata]	228° 10′

3140 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 is a line of text with no figures. Values printed as two bare figures are given as degrees and minutes. Row 7 is the last line of the right column. On p. 375, under 30 March, the declination of the star numbered 5 is printed 13 55 and 13 50; the declination here, 13° 52½′, is given as printed, and no identity is asserted.

3141 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 375, under 30 March, the declination of the star numbered 6 is printed 14 38⅓ and 14 38; the declination here, 14° 38⅙′, is given as printed, and no identity is asserted.

Reading	Value
Declination, south [Declinatio Auſtrina]	13° 19⅔′
Corresponding longitude [Reſp. Longitudo]	19° 22¾′ ♏
Latitude [Latitudo]	4° 28′ north [Borea]

3142

Reading	Value
The eighth, of the 4th magnitude. Below the seventh, and the last [star] toward the east [Octava mag. 4tæ.] [Infra ſeptimam, vltimaque ad ortum.]	
Right ascension from Spica [Aſc. R. a Spica]	230° 17⅔′
The other way round [Viceverſa]	230° 18½′
Corrected right ascension [Aſcenſio R. emendata]	230° 18′
Declination, south [Declinatio Auſtrina]	14° 18½′
Corresponding longitude [Reſp. Longitudo]	21° 38⅓′ ♏
Latitude [Latitudo]	4° 3¾′ north [borea]

3143

Reading	Value
The ninth, of the fourth magnitude. Which is below the 7th [star], toward the west [Nona magnitudinis quartæ.] [Quæ eſt infra 7timam ad occaſum.]	
Right ascension from Spica [Aſc. R. a Spica]	227° 29¾′
The other way round [Viceverſa]	227° 28⅓′
Right ascension, limited [Aſcenſ. R. limitata]	227° 29′
Declination, south [Declinatio Auſtr.]	15° 20½′
Corresponding longitude [Reſp. Longitudo]	19° 17′ ♏
Latitude [Latitudo]	2° 21′ north [Borea]

3144

3142 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 375, under 30 March, the declination of the star numbered 7 is printed 13 20⅓ and 13 19½; the declination here, 13° 19⅔′, is given as printed, and no identity is asserted.

3143 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. Rows 1 to 3 stand at the foot of the left column, rows 4 to 7 at the head of the right column. Values printed as two bare figures are given as degrees and minutes.

3144 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes.

Reading	Value
The tenth, of the 4th magnitude, lesser. Which is a little below the northern scale-pan, toward the east [Decima magnit. 4tæ minor.] [Quæ eſt paulo infra borealem lancem ad ortum.]	
Right ascension from Spica [Aſc. R. a Spica]	225° 30½′
Exactly the same the other way round [Eadem omnino viceverſa]	
Declination, south [Declinatio Auſtrina]	8° 47′
Corresponding longitude [Reſp. Longitudo]	15° 36′ ♏
Latitude [Latitudo]	8° 7¼′ north [borea]

3145

The constellation of Scorpius ♏ [SIDUS SCORPIJ ♏.]

All the stars of Scorpius that rise above our horizon are 12 in number, of which [Stellæ omnes Scorpij quæ noſtrum conſcendunt horizontem numero ſunt 12, quarum]

of the magnitude [magni-] [tudinis]	are [ſunt]
first [primæ]	1
second [ſecundæ]	1, lesser [minor.]
third [tertiæ]	2
fourth [quartæ]	5
fifth [quintæ]	1, lesser [minor.]
sixth [ſextæ]	2

3146

Reading	Value
The first, of the 2nd magnitude, lesser. The uppermost [star] in the forehead of ♏ [Prima mag. 2dæ minor.] [Suprema in fronte ♏.]	
Right ascension from the southern scale-pan of ♎ [Aſc. R. ab auſtrali lance ♎]	235° 24′
The other way round, almost the same [Viceverſa eadem fere]	
Declination, south [Declinatio Auſtrina]	18° 35½′
Corresponding longitude [Reſp. Longitudo]	27° 25⅔′ ♏

3145 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. Row 3 is a line of text with no figures; no corrected or limited right ascension is printed for this star. Values printed as two bare figures are given as degrees and minutes. Row 6 is the last line of the right column above the title. On p. 374, under 21 March, the declination of the star numbered 10 is printed 8 47⅓ south and 8 46⅚; the declination here, 8° 47′, is given as printed, and no identity is asserted.

3146 The heads are the page's own words, set not over the columns but beside braces: *magni- / tudinis* in two lines to the left of a brace enclosing the six ordinals, *ſunt* between a second brace after the ordinals and a third brace enclosing the column of figures. *minor.* follows the figure in rows 2 and 5.

Reading	Value
Latitude [Latitudo]	1° 5′ north [B.]

3147

Reading	Value
The second, of the 3rd magnitude. The middle [star] in the forehead [Secunda mag. 3tiæ. Media in fronte.]	
Right ascension from the southern scale-pan [Aſc. R. ab Auſt. lance]	234° 1′ 32″
The other way round, this [is] better [Viceverſa, hæc melior]	234° 2¾′
Corrected right ascension [Aſcen. R. emendata]	234° 2′
Declination, south [Declinatio Auſtrina]	21° 22′
Corresponding longitude [Reſp. Longitudo]	26° 49′ ♏
Latitude [Latitudo]	1° 54⅔′ south [M.]

3148

Reading	Value
The third, of the 3rd magnitude. The southern [star] in the forehead of ♏, or the lowest of the three bright [stars] [Tertia mag. 3tiæ. Meridionalis in fronte ♏ ſeu infima trium lucidarum.]	
Right ascension from the southern scale-pan [Aſc. R. ab Auſt. lance]	233° 35⅔′
The other way round [Viceverſa]	233° 35⅓′
Right ascension, limited [Aſcenſ. R. limitata]	233° 35½′
Declination, south [Declinatio Auſtr.]	24° 50′
Corresponding longitude [Reſp. Longitudo]	27° 14⅔′ ♏
Latitude [Latitudo]	5° 22½′ south [M.]

3149

[3147] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 is a line of text with no figures; no corrected or limited right ascension is printed for this star. Values printed as two bare figures are given as degrees and minutes.

[3148] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, the description following the magnitude. Rows 1 to 3 stand at the foot of the left column, rows 4 to 7 at the head of the right column. Values printed as two bare figures are given as degrees and minutes.

[3149] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description following the magnitude on the first and running on to the second, with no figures. Values printed as two bare figures are given as degrees and minutes.

Reading	Value
The fourth, of the 4th magnitude. Which is more toward the south in the foot [Quarta magnitud. 4tæ.] [Quæ magis ad auſtrum eſt in pede.]	
Right ascension from star 17 in the tail of Serpens [Aſc. R. a 17 ſtella in cauda Serpentis Ophiuchi]	233° 6′, once [ſemel]
Declination, south [Declinatio Auſtrina]	27° 54′
Corresponding longitude [Reſp. Longitudo]	27° 33⅙′ ♏
Latitude [Latitudo]	8° 27½′ south [M.]

3150

[1] The longitude ought to be 13° 5′, the latitude 1° 14½′. The error is due to the calculations; the right ascension and the declination are correct. [Longitudo eße debet 13°5′, latitudo 1° 14½′. Error calculis debetur, aſc. recta et declinatio recte ſe habent.]

Reading	Value
The fifth, of the fourth magnitude, lesser. The northernmost [star] of the forehead of ♏, in the point of the triangle [Quinta, quartæ magnit. minor.] [Borealißima frontis ♏, in cuſpide trianguli.]	
Right ascension from the southern scale-pan [Aſc. R. ab Auſtrali lance]	237° 3′
The other way round [Viceverſa]	237° 4⅔′
Corrected right ascension [Aſcenſio R. emendata]	237° 3½′
Declination, south [Declinatio Auſt.]	18° 19′
Corresponding longitude [Reſp. Longitudo]	28° 53½′ ♏
Latitude [Latitudo]	1° 42⅙′ north [B.]

3151

Reading	Value
The sixth, of the 5th magnitude. The very small [star] in a triangle with the bright [star] of the forehead of ♏ and the fifth [Sexta mag. 5tæ. Paruula in triangulo cum lucida frontis ♏ et quinta.]	
Right ascension from the southern scale-pan [Aſc. R. ab Auſtrali lance]	235° 42⅔′

3150 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. The label of row 2 stands on two lines, the figures on the second; it is given whole on one row; *ſemel* follows the figures in smaller type. No corrected or limited right ascension is printed for this star. Values printed as two bare figures are given as degrees and minutes. Row 5 is the last line of the right column. p. 375 prints, under *Declinatio 4* ♏, 27 49½ and, with the other pinnule, 27 48⅔; row 3 here gives 27° 54′.

3151 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the ordinal and magnitude on the first, the description on the next two, with no figures. Values printed as two bare figures are given as degrees and minutes. The entry opens the page.

Reading	Value
The other way round [Viceverſa]	235° 46′
Corrected right ascension [Aſcenſio R. emendata]	235° 44′
Declination, south [Declinatio Auſtrina]	19° 32½′
Corresponding longitude [Reſp. Longitudo]	27° 57′ ♏
Latitude [Latitudo]	0° 13¾′ north [B.]

3152

Reading	Value
The seventh, of the 4th magnitude. The [star] preceding the heart in the breast toward the north [Septima mag. 4tæ. Præcedens cor in pectore ad Boream.]	
Right ascension from the southern scale-pan [Aſc. R. ab Auſt. lance]	239° 3½′
The other way round [Viceverſa]	239° 3¼′
Let the right ascension be put [Ponatur Aſcenſio Recta]	239° 3′
Declination, south [Declinatio Auſt.]	24° 28′
Corresponding longitude [Reſp. Longitudo]	2° 0¾′ ♐
Latitude [Latitudo]	3° 55′ south [A.]

3153

Reading	Value
The eighth, of the first magnitude. The heart of Scorpius [Octava magnit. primæ. Cor Scorpij.]	
The right ascension is gathered from observations of several preceding years [Aſcenſio recta colligitur ex obſeruationibus præcedentium aliquot annorum]	241° 8′
Declination, south [Declinatio Auſt.]	25° 24½′
Corresponding longitude [Reſp. Longitudo]	4° 3½′ ♐
Latitude [Latitudo]	4° 27¾′ south [M.]

3154

3152 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description following the magnitude on the first and running on to the second, with no figures. Values printed as two bare figures are given as degrees and minutes.

3153 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description following the magnitude on the first and running on to the second, with no figures. Values printed as two bare figures are given as degrees and minutes. Row 7 is the last line of the left column of the upper block.

3154 "Reading" and "Value" are this edition's heads; the page prints none. The label of row 2 stands on three lines, the figures on the third; it is given whole on one row. No second reading is printed for this star. Values printed as two bare figures are given as degrees and minutes.

Reading	Value
The ninth, of the fourth magnitude. Which follows the heart toward Eurus [Nona mag. quartæ.] [Quæ cor ſequitur ad eurum.]	
Right ascension from the southern scale-pan [Aſc. R. ab Auſt. lance]	242° 37′
The other way round [Viceverſa]	242° 37½′
Right ascension that should be retained [Aſcenſ. R. quæ retineatur]	242° 37′
Declination, south [Declinatio Auſtrina]	27° 14′
Corresponding longitude [Reſp. Longitudo]	5° 43′ ♐
Latitude [Latitudo]	5° 50¼′ south[1] [M.[1]]

3155

Reading	Value
The tenth, of the 6th magnitude, greater. The preceding [star] of the two very small [stars] in the lower feet [Decima mag. 6tæ maior. Præcedens duarum paruularum in inferioribus pedibus.]	
Right ascension from 17 of Serpens [Aſc. R. a 17 Serp. Oph.]	236° 53′
Not the other way round [Non viceverſa]	
Declination, south [Declinatio Auſt.]	26° 49′
Corresponding longitude [Reſp. Longitudo]	0° 36⅙′ ♐
Latitude [Latitudo]	6° 37⅔′ south [M.]

3156

3157

3155 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes. The footnote cue 1 in row 7 refers to the first footnote at the foot of this page.

3156 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, the description following the magnitude on the first and running on to the next two, with no figures. Row 3 is a line of text with no figures; no corrected or limited right ascension is printed for this star. Values printed as two bare figures are given as degrees and minutes. Row 6 is the last line of the right column above the title. p. 375 prints, under *Declinatio 10* ♏, 26 43 and, with the other pinnule, 26 42⅔; row 4 here gives 26° 49′.

3157 With this star the entries of ♏ end; the next line is the title of ♐. The ten stars of ♏ on p. 414 and this page are printed with these magnitudes: first 1 (the eighth); second 1, *minor* (the first); third 2 (the second and third); fourth 4 (the fourth, fifth, seventh and ninth, the fifth *minor*); fifth 1 (the sixth); sixth 1, *maior* (the tenth). The count printed on p. 414 gives twelve stars: first 1, second 1 *minor*, third 2, fourth 5, fifth 1 *minor*, sixth 2. The fourth and the sixth magnitude each have one star fewer here than in that count, and the fifth-magnitude star is printed without *minor*.

Positions of the stars of ♐, of those that could be observed [STELLARUM ♐ LOCA EARUM QUÆ OBSERUARI POTERANT.][3158]

Reading	Value
The 4th, of the 5th magnitude, greater. Which is in the bow of ♐ [4ta mag. 5tæ mai.] [Quæ eſt in arcu ♐rii.]	
Right ascension from the lower [star] in the horn of ♑ [Aſc. R. ab infer. in cornu ♑]	270° 39′ 37″
The other way round, from the bright [star] of the tail of ♑ [Viceverſa a luc. caudæ ♑]	270° 43½′
Corrected right ascension [Aſcenſio R. emendata]	270° 41⅓′
Declination, south [Declinatio Auſtrina]	25° 31′
Corresponding longitude [Reſp. Longitudo]	0° 37⅖′ ♑
Latitude [Latitudo]	2° 0⅙′ south [M.]

3159

Reading	Value
The 5th, of the 4th magnitude.[2] In the upper extension of the bow [5ta mag. 4tæ[2].] [In ſuperiori extenſione arcus.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab infer. cornu ♑]	267° 21′
The other way round, from 14 of the Serpent[3] [Viceverſa a 14 Serpentis[3].]	
Declination corrected for refraction [Declinatio pro refractione emendata]	21° 2⅔′
Corresponding longitude [Reſp. Longitudo]	27° 31⅓′ ♐
Latitude [Latitudo]	2° 27½′ north [B.]

3160

Reading	Value
The 6th, magnitude 4. Which is in the left shoulder [6ta mag. 4.] [Quæ eſt in ſiniſtro humero.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab infer. cornu ♑]	277° 32′ 14″

[3158] No count of the stars of ♐ is printed under the title; the first entry is numbered 4.

[3159] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. p. 376 prints, under a 27 July heading, for *4 num. in* ♐ (magnitude 5 *mai.*) 25 25⅔ and 25 26½, with 9′ under *Adde pro Refract.*; row 5 here gives 25° 31′.

[3160] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Row 3 is a line of text with no figures; no corrected or limited right ascension is printed for this star. Rows 1 to 3 stand at the foot of the left column of the lower block, rows 4 to 6 at the head of the right column; the label of row 4 stands on two lines, the figures on the second. Values printed as two bare figures are given as degrees and minutes. The footnote cues 2 and 3 refer to the footnotes at the foot of this page.

Reading	Value
From the right shoulder of ♒ [a dextro humero ♒]	277° 29′ 54″
Verified right ascension [Aſcenſio R. verificata]	277° 31′
Declination, south [Declinatio Auſtrina]	26° 41½′
Corresponding longitude [Reſp. Longitudo]	6° 40⅔′ ♑
Latitude [Latitudo]	3° 31′ south[4] [Merid.[4].]

3161

[1] The latitude ought to be 5° 59½′. An error of calculation or a slip of the pen. [Latitudo debet eße 5° 59½′. Error calculi vel lapſus calami.]

[2] Placed in the codex between stars 14 and 15. In the margin is added: "The following [stars] of ♐ observed in the year 1590, but reduced to the beginning of 89." [In codice inter ſtellas 14 et 15 poſita. In margine adſcriptum eſt: »Sequentes ♐ Anno 1590 obſeruatæ, ſed ad initium 89 reductæ«.]

[3] Added in the margin: "Let the position of 14 of Serpens be investigated." [Adſcriptum eſt in margine: »Inquiratur locus 14 Serpentis«.]

[4] The longitude ought to be 6° 43½′, the latitude 3° 21′ south. [Longitudo debet eße 6° 43½′, latitudo 3° 21′ M.]

Reading	Value
The 7th, of the 6th magnitude, greater. In the dart, which is the following [star] [7a mag. 6tæ mai.] [In iaculo quæ ſequens eſt.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab inf. cornu ♑]	275° 1′ 13″
The other way round [Viceverſa]	275° 4⅓′
Right ascension, limited [Aſcenſio R. limitata]	275° 2¾′
Declination, south [Declinatio Auſtrina]	27° 16′
Corresponding longitude [Reſp. Longitudo]	4° 29¾′ ♑
Latitude [Latitudo]	3° 49¾′ south [M.]

3162

3161 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures; the magnitude is printed as a bare figure 4. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. Row 7 is the last line of the right column. p. 376 prints, under a 27 July heading, for *Lucidæ eius in humero* numbered 6 (magnitude 4) 26 35½ and 26 35⅙, with 9 under *Adde pro Refract.*; row 5 here gives 26° 41½′.

3162 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two bare figures are given as degrees and minutes. p. 376 prints, under a 27 July heading, for *Sequentis in Sagitta* numbered 7, magnitude 5 *min.* and 27 8, with 9 under *Adde pro Refract.*; the 25 July list on the same page also gives the star numbered 7 magnitude 5 *min.* This entry gives the 6th magnitude, *mai.*, and in row 5 27° 16′. The next entry on this page is numbered 9; none numbered 8 is printed.

Reading	Value
The 9th, of the 4th magnitude. The preceding [star] of the three in the head of ♐ [9na mag. 4tæ.] [Trium in capite ♐ præcedens.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab inf. cornu ♑]	278° 21′ 27″
From the right shoulder of ♒ [a dextro humero ♒]	278° 21′ 19″
Right ascension of the 9th [Aſenſio Recta 9æ] [recte: Aſcenſio]	278° 21⅓′
Declination, south [Declinatio Auſtrina]	21° 33′
Corresponding longitude [Reſp. Longitudo]	7° 46½′ ♑
Latitude [Latitudo]	1° 44½′ north [B.]

3163

Reading	Value
The 10th, of the 5th magnitude. The middle [star] of the head of ♐ [10a mag. 5tæ. Media capitis ♐.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab inf. cornu ♑]	280° 2′ 0″
From the right shoulder of ♒ [a dextro humero ♒]	280° 2′ 55″
Right ascension of the 10th [Aſcenſio recta 10æ]	280° 2½′
Declination, south [Declinatio Auſtrina]	22° 13⅔′
Corresponding longitude [Reſp. Longitudo]	9° 17½′ ♑
Latitude [Latitudo]	0° 58′ north [Bor.]

3164

Reading	Value
The 11th, of the 4th magnitude. The last [star] of the head of ♐ [11a mag. 4tæ. Vltima capitis ♐.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab inf. cornu ♑]	281° 21′ 34″
From the right shoulder of ♒ [a dextro humero ♒]	281° 20′ 8″
Right ascension of the 11th [Aſcenſio Recta 11æ]	281° 21′
Declination, south [Declinatio Auſtrina]	21° 35⅓′
Corresponding longitude [Reſp. Longitudo]	10° 33′ ♑

[3163] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. p. 376 prints, under a 27 July heading, for *Primæ in capite* numbered 9 (magnitude 4) 21 30 and 21 29½, with 8¼ under *Adde pro Refract.*; row 5 here gives 21° 33′.

[3164] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, the description following the magnitude. In row 2 the final 0 is printed with no seconds mark, and in row 6 the 17½ with no minute mark; they are given as seconds and minutes. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. p. 376 prints, under a 27 July heading, for *Mediæ in capite* numbered 10 (magnitude 5) 22 10½ and 22 10¾, with 8 under *Adde pro Refract.*; row 5 here gives 22° 13⅔′.

Reading	Value
Latitude [Latitudo]	1° 31⅙′ north [B.]

3165

Reading	Value
The 12th,[1] dim. The first [star] in the contact of ♐ [12ma [1] obſcura. Prima in contactu ♐.]	
Right ascension from the bright [star] of the tail [Aſc. R. a lucida caudæ]	283° 25½′
The other way round, from 10 in the hand of Ophiuchus [Viceverſa a 10 in manu Oph.]	283° 15′
Mean right ascension [Aſcenſio recta media]	283° 20′
Declination, south [Declinatio Auſt.]	19° 50′
Corresponding longitude [Reſp. Longitudo]	12° 33⅔′ ♑
Latitude [Latitudo]	3° 6⅔′ north [B.]

3166

Reading	Value
The 13th, of the 4th magnitude. The middle [star] in the northern contact [13a mag. 4tæ.] [In boreo contactu media.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab inf. cornu ♑]	284° 27′
The other way round, from 10 in the hand of Ophiuchus [Viceverſa a 10 in manu Oph.]	284° 28⅔′
Right ascension, limited [Aſcen. R. limitata]	284° 27⅚′
Declination, south [Declinatio Auſtrina]	18° 32½′
Corresponding longitude [Reſp. Longitudo]	13° 44½′ ♑
Latitude [Latitudo]	4° 17′ north [B.]

3167

3165 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, the description following the magnitude. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. p. 376 prints, under a 27 July heading, for *Vltimæ in capite* numbered 11 (magnitude 4) 21 32⅔ and 21 32¾, with 8 under *Adde pro Refract.*; row 5 here gives 21° 35⅓′.

3166 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, the description following *obſcura*; no magnitude is printed. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two bare figures are given as degrees and minutes. The footnote cue 1 in row 1 refers to the footnote at the foot of this page.

3167 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two bare figures are given as degrees and minutes. Row 7 is the last line of the left column. p. 376 prints, under a 27 July heading, for *Mediæ in contactu* numbered 13 (magnitude 4) 18 30 and 18 29½, with 8 under *Adde pro Refract.*; row 5 here gives 18° 32½′.

Reading	Value
The 14th, of the 5th magnitude. The following and upper [star] in the contact [14ta mag. 5tæ.] [Sequens & ſuperior in contactu.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab inf. cornu ♑]	284° 31′
The other way round, from 10 in the hand of Ophiuchus [Vice verſa a 10 in manu Oph.]	284° 35′
Corrected right ascension [Aſcenſ. R. emendata]	284° 33′
Declination, south [Declinatio Auſtrina]	16° 39¼′
Corresponding longitude [Reſp. Longitudo]	14° 0⅚′ ♑
Latitude [Latitudo]	6° 9½′ north (good) [Bor. (bona).]

3168

Reading	Value
15, of the 6th magnitude, lesser. The eastern and lowest [star] in the small triangle in the middle of the upper contact (but the others in the said triangle are unobservable) [15 magnitudinis 6tæ minor.] [Orientalis et infima in paruo triangulo in medio ſuperioris contactus (cæteræ autem inobſeruabiles ſunt in dicto triangulo).]	
Right ascension from the bright [star] of the tail of ♑ [Aſc. R. a luc. caudæ ♑]	289° 47′ 58″
The other way round, from the penultimate [star] of the tail of Serpens [Viceverſa a penultima caudæ Serpentis]	289° 47′ 54″
Declination, south [Declinatio Auſt.]	17° 5′
Corresponding longitude [Reſp. Longitudo]	18° 58½′ ♑
Latitude [Latitudo]	5° 8′ north [Borea.]

3169

Reading	Value
16, of the 6th magnitude, lesser. The eastern and last [star] in the upper contact [16 mag. 6tæ min. Orientalis & vltima in ſuperiori contactu.]	
Right ascension from the bright [star] of the tail of Ophiuchus [Aſc. R. a luc. caudæ Oph.]	293° 40′
The other way round, from the penultimate [star] of the tail of Serpens [Viceverſa a penult. caud. Serp.]	293° 35½′
Corrected right ascension [Aſcenſio R. emendata]	293° 37¾′

[3168] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the ordinal and magnitude on the first, the description on the second, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two bare figures are given as degrees and minutes. The entry opens the right column.

[3169] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on five lines, the number and magnitude on the first, the description on the next four, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. No corrected or limited right ascension is printed for this star. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

Reading	Value
Declination, south [Declinatio Auſt.]	16° 28′
Corresponding longitude [Reſp. Longitudo]	22° 42½′ ♍
Latitude [Latitudo]	5° 12′ north [B.]

3170

Reading	Value
17, dim, namely in the lower contact, toward the east [17 obſcura ſcilicet in inferiori contactu ad ortum.]	
Right ascension from the bright [star] of the tail of ♍ [Aſc. R. a luc. caudæ ♍]	290° 39⅙′
The other way round, from the 10th of Ophiuchus [Viceverſa a 10ma Ophiuchi]	290° 34⅓′
Corrected right ascension [Aſc. R. emendata]	290° 36¾′
Declination, south [Declinatio Auſt.]	20° 44′
Corresponding longitude [Reſp. Longitudo]	19° 14⅙′ ♍
Latitude [Latitudo]	1° 24⅔′ north [B.]

3171

Reading	Value
19, dim, in the right elbow of ♐ [19 obſcura in dextro cubito ♐.]	
[It] is distant from the bright [star] of the tail [Diſtat a luc. caudæ]	31° 34⅓′
Hence right ascension [Hinc. Aſc. R.]	287° 53⅙′
The other way round, from the western [star] of the head of ♐, [it] is distant 9° 37½′; hence right ascension [Viceverſa ab occident. cap. ♐ diſtat. 9° 37½, hinc Aſc. R.]	288° 15′ 50″
Right ascension, limited [Aſcenſ. recta limit.]	288° 4′
Declination, south, corrected for refraction [Decl. Auſt. pro refractione emendata]	25° 39′
Corresponding longitude [Reſp. Longitudo]	16° 15⅔′ ♍
Latitude [Latitudo]	3° 8⅓′ south [M.]

[3170] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description following the magnitude on the first and running on to the second, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two bare figures are given as degrees and minutes. The page prints *Oph.* after *caudæ* in row 2 (the word confirmed on a native-resolution crop), where the same formula in the rows of the fifteenth and seventeenth stars prints *a luc. caudæ* ♍; given as printed, and no correction is made.

[3171] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. In row 6 the 14⅙ is printed with no minute mark; it is given as minutes. Values printed as two bare figures are given as degrees and minutes. The next entry on this page is numbered 19; none numbered 18 is printed.

3172

[1] Placed in the codex between 17 and 19. [In codice inter 17 et 19 poſita.]

Capricornus ♑ *[CAPRICORNUS ♑.]*[3173]

Reading	Value
The first, of the 3rd magnitude. The northern [star] of the three in the horn of ♑. The upper horn. [Prima, mag. 3æ. Borealis trium in cornu ♑. Superius cornu.]	
Right ascension from the right shoulder of ♒ [Aſc. R. a dextro hum. ♒]	298° 46′ 32″
The other way round, from the head of Ophiuchus [Viceverſa a capite Oph.]	298° 46′ 54″
Corrected right ascension [Aſcenſio R. emendata]	298° 46¾′
Declination, south [Declinatio Auſtrina]	13° 42′
Corresponding longitude [Reſp. Longitudo]	28° 7⅔′ ♑
Latitude [Latitudo]	7° 2½′ north [Bor.]

3174

Reading	Value
The second, of the 6th magnitude. The middle [star] in the same horn. [Secunda mag. 6tæ. Media in eodem cornu.]	
Right ascension from the 1st of the wing of Pegasus [Aſc. R. a 1ma alæ Peg.]	299° 21⅔′
Declination, south [Declinatio Auſtrina]	13° 45¼′
Right ascension from the bright [star] of the shoulder of Ophiuchus [Aſc. R. a luc. hum. Oph.]	299° 32½′
There is more doubt about this right ascension. [De hac Aſc. R. magis dubitatur.]	
Corrected right ascension [Aſcenſio R. emendata]	299° 25′[1]

[3172] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, the description following *obſcura*; no magnitude is printed. Row 2 gives a distance, not a right ascension. The label of row 4 stands on two lines, the distance 9° 37½ within the label on the second, printed with a degree mark and no minute mark, given as minutes, and the right ascension at the end of that line; it is given whole on one row. The label of row 6 stands on two lines, the figures on the second. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. Row 8 is the last line of the right column.

[3173] No count of stars or of magnitudes is printed under this title.

[3174] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description following the magnitude on the first and running on to the second, with no figures. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3175

Reading	Value
The third, of the 3rd magnitude. The southern [star] of the same [stars] in the same horn. The lower horn. [Tertia mag. 3æ. Earundem in eodem cornu auſtralis. Inferius cornu.]	
Right ascension from the lower horn of ♑ [Aſc. R. ab inf. cornu ♑]	299° 29′ 19″
The other way round, from the head of Ophiuchus [Viceverſa a cap. Oph.]	299° 27′ 42″[2]
Corrected right ascension [Aſcenſio R. emendata]	299° 28½′
Declination, south [Declinatio Auſtrina]	15° 58¼′
Corresponding longitude [Reſp. Longitudo]	28° 20⅔′ ♑
Latitude [Latitudo]	4° 41′ north [Bor.]

3176

Reading	Value
The fourth, nebulous, in the preceding horn [Quarta, nebuloſa in præcedente cornu.]	
Right ascension from the 10th of Ophiuchus (namely in the right hand) [Aſc. R. a 10ma Oph. (ſcil. in dextra manu)]	297° 16′ 0″
Declination, south [Declinatio Auſtrina]	13° 42½′
Right ascension from the bright [star] of the tail of ♑ [Aſc. R. a lucida caudæ ♑]	297° 35½′ [297 35½,]
this seems better[3] [hæc videtur melior[3].]	

3177

[3175] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the magnitude on the first and the description on the second, with no figures. The edition encloses rows 4–6 in square brackets: the opening one stands before *Aſc.* in row 4, the closing one after the figures of row 6, and the footnote cue 1 follows the closing one. The brackets are described here rather than reproduced. Values printed as two bare figures are given as degrees and minutes. On p. 376, under 1 August, the declination of the star numbered 2, *Mediæ in cornu* ♑, is printed 13 45½ and, with the other, 13 45, with the magnitude 5 (5 *min.* in the distances of the same day); the declination here, 13° 45¼′, and the magnitude, 6, are given as printed, and no identity is asserted.

[3176] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description following the magnitude on the first and running on to the second, with no figures. In row 3 the footnote cue 2 follows the last figure. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

[3177] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. The label of row 2 stands on two lines, the parenthesis and the figures on the second; it is given whole on one row. The figures of row 4 are followed by a comma, and the words of row 5 stand on the next line, indented. No longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes.

Reading	Value
The fifth, nebulous, in the western base of the small triangle in the forehead of ♉ [Quinta, nebuloſa in baſi occidentali parui trianguli in fronte ♉.]	
Right ascension from the right hand of Ophiuchus [Aſc. R. a dextra manu Ophiuchi]	300° 51⅙′
Declination, south[4] [Declinatio Auſtrina[4]]	19° 41′
The other way round, from the lower horn of ♉ [Viceverſa ab inf. cornu ♉]	300° 36′ 20″
Set the right ascension [Pone Aſcenſionem rectam]	300° 45′

3178

Reading	Value
The sixth, nebulous. In the base of the same triangle, the more eastern [star]. [Sexta nebuloſa. In baſi eiuſdem trianguli orientalior.]	
Right ascension from the right hand of Ophiuchus [Aſc. R. a dextra manu Oph.]	301° 44′ 0″
from the bright tail of ♉ [a luc. cauda ♉]	301° 27′ 26″
Set the right ascension [Pone Aſcenſ. rectam]	301° 35′
Declination, south [Declinatio Auſt.]	19° 52′ 0″

3179

Reading	Value
The seventh, of the 6th magnitude. The eastern [star] of the three in the head. [Septima, mag. 6tæ. Orientalis trium in capite.]	
Right ascension from the 1st of the wing of Pegasus [Aſc. R. a 1ma alæ Peg.]	301° 17⅔′
The other way round, from the 10th of the hand of Ophiuchus [Viceverſa a 10ma manus Oph.]	301° 21′
Therefore right ascension, limited [Ergo Aſcenſ. R. limitata]	301° 19⅓′
Declination, south [Declinatio Auſtrina]	19° 2′
Corresponding longitude [Reſp. Longitudo]	29° 26⅚′ ♉
Latitude [Latitudo]	1° 19⅔′ north [B.]

[3178] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. The figures of row 2 stand alone on the line below its label. The label of row 4 stands on two lines, the figures on the second; it is given whole on one row. The declination stands before the reading the other way round, as printed. No longitude or latitude is printed for this star. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. Row 5 is the last line of the left column.

[3179] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. Row 3 begins with *a luc.*; no "the other way round" is printed, and none is supplied. Row 3 prints *cauda*, not *caudæ*. No longitude or latitude is printed for this star. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3180

Reading	Value
The eighth, nebulous. The preceding [star] in the forehead of ♉. [Octava nebuloſa. Præcedens in fronte ♉.]	
Right ascension from the 10th in the hand of Ophiuchus [Aſc. R. a 10ma in manu Oph.]	298° 54′
The other way round, from the bright tail of ♉ [Viceverſa a luc. cauda ♉]	299° 10½′
Declination, south [Declinatio Auſtrina]	20° 26′
Mean right ascension [Aſcenſio recta media]	299° 2′

3181

Reading	Value
The ninth, nebulous. In the upper part of the neck of ♉. [Nona nebuloſa. In ſuperiori parte colli ♉.]	
Right ascension from the penultimate [star] in the tail of Serpens [Aſc. R. a penultima in cauda Serpentis]	304° 7½′
The other way round, from the tail of ♉ [Viceverſa a cauda ♉]	304° 7′ 27″
Therefore right ascension [Ergo Aſcenſio recta]	304° 7½′
Declination, south [Declinatio Auſtrina]	16° 18¼′
Corresponding longitude [Reſp. Longitudo]	2° 38⅚′ ♒
Latitude [Latitudo]	3° 24⅚′ north [B.]

3182

Reading	Value
The tenth, of the 6th magnitude, lesser. [The star] which is in the lower part of the neck of ♉. [Decima magnitud. 6tæ minor. Quæ eſt in inferiori parte colli ♉.]	
Right ascension from the penultimate [star] of the tail of Serpens [Aſc. R. a penult. caud. Serp.]	304° 9′ 38″

3180 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two bare figures are given as degrees and minutes. On p. 376, under 1 August, the declination of the star numbered 7, labelled *Trium in capite Auſtralis* (in the distances of the same day *Orientaliorem trium in capite* ♉), is printed 19 4 and 19 5, with the magnitude 6; the declination here, 19° 2′, is given as printed, and no identity is asserted.

3181 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. Row 3 prints *cauda*, not *caudæ*. The mean right ascension stands after the declination, as printed. No longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes.

3182 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. The label of row 2 stands on two lines, the figures on the second; it is given whole on one row. In row 3 the 7 is printed with no minute mark and the 27 with a second mark; given as minutes and seconds. In row 6 the 2 is printed with no degree mark; given as degrees. Values printed as two bare figures are given as degrees and minutes.

Reading	Value
The other way round, from the bright [star] of the tail of ♑ [Viceverſa a luc. caudæ ♑]	304° 5′ 35″
Right ascension, limited [Aſcenſio R. limitata]	304° 7′ 36″
Declination, south [Declinatio Auſtrina]	19° 32¾′
Corresponding longitude [Reſp. Longitudo]	1° 55½′ ♒
Latitude [Latitudo]	0° 15¼′ north [B.]

[3183]

[1] Added afterwards in the margin. Long. 28° 40½′ ♑, lat. 6° 52⅔′ north (which are also found in the catalogue of stars) have been struck through with lines. The declination, which was observed on 1589 August 1, is wrong; it ought to be 13° 58½′. [Poſtea in margine adſcripta. Long. 28° 40½′ ♑, lat. 6° 52⅔ B. (quæ etiam in catalogo ſtellarum reperiuntur) lineis inductæ ſunt. Declinatio, quæ die 1 Aug. 1589 obſervata eſt, falſa eſt; debet eße 13° 58½′.]

[2] In the margin is added: "This right ascension is better than the other, which is still 1′ greater than it should be." [Adſcriptum eſt in margine: »Hæc Aſc. R. eſt melior altera, quæ adhuc 1 Min. maior juſto eſt«.]

[3] In the catalogue there are (reduced to the year 1589) long. 26° 58′ ♑, lat. 7° 16′ north. The distance of this star from the right hand of Ophiuchus was observed on 1590 August 13 as 32° 46′, on 1590 September 22 from the bright [star] of the tail of ♑ as 22° 59¼′. In this [one] there must be an error, since [it] gives a right ascension (in the year 1590) of 297° 35′, which Tycho used. But the former gives 297° 20′, hence long. 26° 42½′, lat. 7° 18½′ north (1589). [In catalogo ſunt (ad annum 1589 reductæ) long. 26° 58′ ♑, lat. 7° 16′ B. Diſtantia hujus ſtellæ d. 13 Aug. 1590 a dextra manu Ophiuchi obſervata eſt 32° 46′, d. 22 Sept. 1590 a lucida caudæ ♑ 22° 59¼′. In hac errorem ſubeße oportet, cum aſc. rect. (a. 1590) det 297° 35′, qua Tycho uſus eſt. Prior autem dat 297° 20′, unde long. 26° 42½′, lat. 7° 18½ B. (1589).]

[4] [It] should have been 19° 29′, an error of 10′ (on 1590 August 13). The right ascension 300° 51′ is not far from the true one. [Debuit eße 19° 29′, error 10′ (d. 13. Aug. 1590). Aſc. recta 300° 51′ non multum a vera abeſt.][3184]

Reading	Value
The eleventh, dim. [The star] which precedes in the right knee. [Vndecima obſcura. Quæ præcedit in dextro genu.]	
Right ascension from the eastern [star] of the head of ♐ [Aſc. R. ab orient. cap. ♐]	305° 37′

[3183] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. Row 7 is the last line of the right column.

[3184] In footnotes 1 and 3 the latitudes 6° 52⅔ and 7° 18½ are printed with no minute mark; given as minutes.

Reading	Value
The other way round, from the first of the wing of Pegasus [Viceverſa a prima alæ Peg.]	305° 34½′
Right ascension, limited [Aſcens. R. limitata]	305° 35′ 45″
Declination, south [Declinatio Auſtrina]	26° 39′
Corresponding longitude [Reſp. Longitudo]	1° 36¾′ ♒[1]
Latitude [Latitudo]	6° 58⅙′ south [M.]

3185

Reading	Value
The twelfth, dim. [The star] which follows in the left knee. [Duodecima obſcura. Quæ ſequitur in genu ſiniſtro.]	
Right ascension from the eastern [star] of the head of ♐ [Aſc. R. ab orient. cap. ♐]	306° 32′
Declination, south[2] [Declinatio Auſtrina[2]]	28° 30′
The other way round, from the 18th of ♒ [Viceverſa a 18va ♒]	306° 54′
N.B. This is better, for [it] was observed twice in distance from this star of ♒. [N. B. Hæc melior eſt, nam bis ab hac ſtella ♒ in diſtantia obſeruata eſt.]	

3186

Reading	Value
The thirteenth, of the 6th magnitude, lesser. In the left shoulder. [Decima tertia magnit. 6tæ minor. In ſiniſtro armo.]	
Right ascension [Aſcenſio Recta]	310° 41′ 0″
The other way round, from the 18th of ♒ [Viceverſa a 18a ♒]	310° 40′ 30″
Right ascension, limited [Aſcenſio R. limitata]	310° 40¾′
Declination, south [Declinatio Auſtrina]	26° 41′
Corresponding longitude [Reſp. Longitudo]	6° 2⅔′ ♒
Latitude [Latitudo]	8° 7⅚′ south [M.]

3187

[3185] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Row 4 prints *Aſcens.* with a round final s. In row 6 the footnote cue 1 follows the sign. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

[3186] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. The declination stands between the two readings of the right ascension, as printed. The note of row 5 stands on two lines, with no figures; *Hæc*, "This", is given as printed, and the page does not name its referent. No adopted right ascension, longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes.

[3187] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Row 2 names no star from which the right ascension is taken. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

Reading	Value
The fourteenth, of the 5th magnitude. The lowest [star] in the belly. [Decima quarta magn. 5tæ. Infima in ventre.]	
Right ascension from Marchab [Aſc. R. a Marchab]	315° 49′
The other way round [Viceverſa]	315° 47′ 5″
Mean right ascension [Aſcenſio recta media]	315° 48′
Declination, south [Declinatio Auſtrina]	24° 7′
Corresponding longitude [Reſp. Longitudo]	11° 14½′ ♒
Latitude [Latitudo]	6° 56¼′ south [M.]

3188

Reading	Value
The fifteenth, of the 6th magnitude. The following northern [star] of the two adjacent [stars] under the belly. [Decima quinta mag. 6tæ. Sequens borealis duarum contiguarum ſub aluo.]	
Right ascension from 1 of the wing of Pegasus [Aſc. R. a 1 alæ Peg.]	316° 20½′
The other way round, from the lower horn of ♉ [Viceverſa ab inf. cornu ♉]	316° 12′ 50″
Corrected right ascension [Aſcenſ. R. emendata]	316° 16⅔′
Declination, south [Declinatio auſt.]	23° 31′

3189

Reading	Value
The sixteenth, of magnitude …, lesser[3]. The more eastern [star] of the three in the middle of the belly. [Decima ſexta magn....minor[3]. Trium in medio ventre orientalior.]	
Right ascension from the lower horn of ♉ [Aſc. R. ab infer. cornu ♉]	312° 55′ 30″
Declination, south [Declinatio Auſt.]	22° 16½′

3190

[3188] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 377, under 30 October, the declination of the star numbered 14 is printed 24 2½ and 24 3, with the magnitude 5; the declination here, 24° 7′, is given as printed, and no identity is asserted.

[3189] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures; the word *contiguarum* is divided between the second and third. In row 3 the 12 is printed with no minute mark and the 50 with a second mark; given as minutes and seconds. No longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes. On p. 377, under 30 October, the declination of the star numbered 15 is printed 23 27 and 23 28, with the magnitude 6; the declination here, 23° 31′, is given as printed, and no identity is asserted. Row 5 is the last line of the left column.

[3190] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. After *magn.* the page prints three further points and no magnitude figure, then *minor*; the points are given as an ellipsis. No other reading of the right ascension, and no longitude or latitude, is printed for this star. Values printed as two bare figures are given as degrees and minutes.

Reading	Value
The seventeenth, of the 6th magnitude, lesser. The lowest [star] of the three toward the west. [Decima ſeptima mag. 6tæ minor. Infima trium ad occaſum.]	
Right ascension from the lower horn of ♉ [Aſc. R. ab infer. cornu ♉]	310° 50′ 24″
The other way round, from the 18th of ♒ [Viceverſa a 18va ♒]	311° 10½′
Declination, south [Declinatio Auſtrina]	22° 47½′
Set the right ascension [Aſcenſ. R. pone]	311° 0′[4]

3191

Reading	Value
The eighteenth, of the 5th magnitude. The northern [star] of those three which are in the middle of the body. [Decima octava mag. 5tæ. Septentrionalis earum trium quæ in medio corpore ſunt.]	
Right ascension from 1 of the wing of Pegasus [Aſc. R. a 1 alæ Peg.]	310° 23′
The other way round, from the 18th of ♒ [Viceverſa a 18v[?] ♒]	310° 21′
Right ascension, limited [Aſcenſ. R. limitata]	310° 22′
Declination, south [Declinatio Auſtrina]	21° 28′
Corresponding longitude [Reſp. Longitudo]	7° 8′ ♒
Latitude [Latitudo]	3° 1⅙′ south [M.]

3192

Reading	Value
The nineteenth, of the 5th magnitude. The more forward [star] of the two in the back. [Decima nona mag. 5tæ. Duarum in dorſo anterior.]	
Right ascension from the 1st of the wing of Pegasus [Aſc. R. a 1a alæ Peg.]	310° 44⅔′
The other way round, from the lower horn of ♉ [Viceverſa ab inf. cornu ♉]	310° 44′ 3″
Corrected right ascension [Aſcenſ. R. emendata]	310° 44⅓′
Declination, south [Declinatio Auſtrina]	18° 45⅔′

[3191] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. The right ascension to be put stands after the declination, as printed, and the footnote cue 4 follows its figures. No longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes.

[3192] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures. In row 3 the second raised letter after *18v* is not clear on the scan; the figure 18 is clear. Values printed as two bare figures are given as degrees and minutes. On p. 377, under 30 October, the declination of the star numbered 18 is printed 21 25 and 21 24¾, with the magnitude 5; the declination here, 21° 28′, is given as printed, and no identity is asserted.

3193

Reading	Value
The twentieth, of the 5th magnitude. The following [star] of the same in the back. [Viceſima mag. 5tæ. Sequens earundem in dorſo.]	
Right ascension from Marcab [Aſc. R. a Marcab]	314° 48′
The other way round, from the lower horn of ♒ [Viceverſa ab inf. cornu ♒]	314° 46′ 45″
Right ascension, limited [Aſcenſ. R. limitata]	314° 47′ 20″
Declination, south (good) [Declinatio Auſtr. (bona)]	18° 29′
Corresponding longitude [Reſp. Longitudo]	11° 57⅙′ ♒
Latitude [Latitudo]	1° 16½′ south [Merid.]

3194

Reading	Value
The twenty-first, of the 5th magnitude, greater. The preceding [star] of the two at the flanks, or the bend. [Viceſima prima mag. 5tæ maior. Antecedens duarum ad ilia ſeu flexuram.]	
Right ascension from the first of the wing of Pegasus [Aſc. R. a prima alæ Peg.]	318° 31¼′
from the lower horn of ♒ [ab infer. cornu ♒]	318° 31½′
Right ascension, limited [Aſcenſio R. limitata]	318° 31⅓′
True declination, south[5] [Declinatio Auſtrina vera[5]]	21° 14¾′

3195

[1] Although the two right ascensions agree well, the longitude is nevertheless 10′ greater than the true one, because the correction for refraction was neglected.

3193 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 3 the 3 stands alone in the place of the seconds, with no mark; given as seconds. No longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes. On p. 376, under 1 August, the declination of the star numbered 19 is printed 18 45¼ and 18 46, with the magnitude 6 (5 in the distances of the same day); the declination here, 18° 45⅔′, and the magnitude, 5, are given as printed, and no identity is asserted.

3194 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 376, under 1 August, the declination of the star numbered 20 is printed 18 29½ and 18 28⅚, with the magnitude 6 (5 in the distances of the same day); the declination here, 18° 29′, and the magnitude, 5, are given as printed, and no identity is asserted.

3195 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, the description following *maior* on the first and running on to the second, the word *Antecedens* divided between them, with no figures. Row 3 begins with *ab infer.*; no "the other way round" is printed, and none is supplied. No longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes. On p. 377, under 30 October, the declination of the star numbered 21 is printed 21 10¼ and, with the other, 21 10, with the magnitude 5; the declination here, 21° 14¾′, is given as printed, and no identity is asserted. Row 5 is the last line of the right column.

[Etſi duæ aſcenſiones rectæ bene concordant, tamen longitudo 10′ maior vera eſt ob neglectam refractionis correctionem.]

[2] This declination is 7′ greater than the true one. [It] was observed on 1589 August 15 — 28° 22′ 3 (correctly); [he] seems to have applied the correction for refraction twice. That [he] calls the star "dim", although [its] true magnitude is 4½, shows that it, so near the horizon, was very faint. [Hæc declinatio 7′ maior vera eſt. Die 15 Auguſti 1589 obſervata eſt — 28° 22′ 3 (recte); refractionis correctionem bis intuliße videtur. Quod ſtellam »obſcuram« vocat, etſi vera magnitudo 4½ eſt, eam Horizonti tam vicinam debilißimam fuiße oſtendit.]

[3] The catalogue has magnitude 6. [Catalogus habet mag. 6.]

[4] Tycho used this, and the longitude so found is about 13′ smaller than the true one. But if we use 311° 10½′, we find long. 7° 30½′ ♒ (1589), lat. 4° 29′ south, which are not far from the truth. [Hac Tycho uſus eſt, et longitudo ſic reperta circiter 13′ minor vera eſt. Si vero 311° 10½ utimur, long. reperimus 7° 30½′ ♒ (1589), lat. 4° 29′ A. quæ a veritate non multum abſunt.]

[5] Although the long. and lat. have been struck through with lines in the codex, they have nevertheless been entered in the catalogue without any correction. They ought to be (for the year 1589) long. 14° 30½′, lat. 4° 55½′ south. [Long. et lat., etſi in codice lineis inductæ ſunt, tamen in catalogo ſine ulla correctione inſertæ ſunt. Debent eße (pro a. 1589) Long. 14° 30½′, Lat. 4° 55½′ A.][3196]

Reading	Value
The twenty-second, of the 5th magnitude. The following [star]. [Viceſima ſecunda mag.5tæ. Sequens.]	
Right ascension from the first of the wing of Pegasus [Aſc. R. a prima alæ Peg.]	319° 56′
The other way round, from the lower horn of ♉ [Viceverſa ab inf. cornu ♉]	319° 50′
Right ascension, limited [Aſcenſ. R. limitata]	319° 53′
Declination, south [Declinatio Auſtrina]	20° 42′
Corresponding longitude [Reſp. Longitudo]	15° 55¾′ ♒
Latitude [Latitudo]	4° 49′ south [M.]

[3197]

[3196] In footnote 2 the 3 after 28° 22′ is printed with no mark and is given without a unit. In footnote 4 the 10½ after 311° is printed with no minute mark; given as minutes.

[3197] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. In row 6 no minute mark is printed after 55¾; given as minutes. Values printed as two bare figures are given as degrees and minutes. On p. 377, under 30 October, the declination of the star numbered 22 is printed 20 38 and 20 39, with the magnitude 5; the declination here, 20° 42′, is given as printed, and no identity is asserted.

Reading	Value
The twenty-third, of the 4th magnitude. The preceding [star] of the two brighter [stars] in the lead-out of the tail. [Viceſima tertia mag. 4tæ. Duarum lucidiorum in eductione caudæ præcedens.]	
Right ascension from the 1st of the wing [Aſc. R. a 1ma alæ]	319° 18′
Declination, south [Declinatio Auſtr.]	18° 23⅔′
The right ascension of this [star] for the completed year 85 was 319° 15½′, therefore, reduced to the end of the year 88, the right ascension becomes 319° 18′. [Huius Aſcenſio recta ad annum 85 completum fuit 319 15½, ergo reducta ad finem anni 88 fit Aſcenſio R. 319° 18′.]	

3198

Reading	Value
The twenty-fourth, of the 4th magnitude, greater. The following [star] of the same, which is the bright [star] in the tail of ♈. [Viceſima quarta mag. 4tæ mai. Sequens earundem, quæ eſt lucida in cauda ♈.]	
Right ascension 321° 5⅙′ limited and reduced to the beginning of 89. [Aſcenſio recta 321° 5⅙′ limitata & ad initium 89 reducta.]	
Declination, south [Declinatio Auſt.]	17° 54′

3199

Reading	Value
The twenty-fifth, of the 6th magnitude. The preceding [star] in the tail. [Viceſima quinta mag. 6tæ. Antecedens in cauda.]	
Right ascension from the upper horn [Aſc. R. a ſuperiori cornu]	319° 46′ 0″
Declination, south [Declinatio A.]	13° 13′[1]

[3198] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures. The label of row 2 ends with *alæ*, "of the wing"; no constellation is printed, and none is supplied. Row 4 is a paragraph of three lines with its figures in the text, none in the figure column; there 319 15½ is printed bare and is given as degrees and minutes. No longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes. On p. 376, under 1 August, the declination of the star numbered 23 is printed 18 24 and 18 23¼, with the magnitude 4; the declination here, 18° 23⅔′, is given as printed, and no identity is asserted.

[3199] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures. Row 2 runs over two lines as text, its figures standing after *recta*, none in the figure column. In row 3 the figures follow the label directly, with a point after them. No longitude or latitude is printed for this star. Values printed as two bare figures are given as degrees and minutes. On p. 376, under 1 August, the declination of the star numbered 24 is printed 17 50½ and 17 51¼, with the magnitude 4; the declination here, 17° 54′, is given as printed, and no identity is asserted.

3200

Reading	Value
The twenty-sixth, of the 5th magnitude. The southern [star] of the remaining four in the tail. [Viceſima ſexta mag. 5tæ. Reliquarum quatuor in cauda Auſtralis.]	
Right ascension from the upper horn of ♑ [Aſc. R. a ſuperiori cornu ♑]	322° 57¾′
The other way round [Viceverſa]	322° 58¼′
Right ascension, limited [Aſcenſio R. limitata]	322° 58′ 0″
Declination, south [Declinatio Auſtrina]	15° 34′[2]
Corresponding longitude [Reſp. Longitudo]	20° 16¾′ ♒
Latitude [Latitudo]	0° 14⅓′ south [M.]

3201

Reading	Value
The twenty-seventh, of the 6th magnitude, lesser. [The star] which [is] above the 26th. [Viceſima ſeptima mag. 6tæ minor. Quæ ſupra 26tam.]	
Right ascension from the upper horn of ♑ [Aſc. R. a ſuper. cornu ♑]	322° 42¼′
The other way round, from the 2nd of ♓ [Viceverſa a 2da ♓]	322° 43½′
Right ascension, limited [Aſcenſio R. limitata]	322° 43′
Declination, south [Declinatio Auſt.]	15° 25′
Corresponding longitude [Reſp. Longitudo]	20° 5⅚′ ♒
Latitude [Latitudo]	0° 10⅓′ south[3] [M.[3]]

3202

[3200] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 2 no sign is printed after *cornu*, and none is supplied. In row 3 the footnote cue 1 follows the figures. No longitude or latitude is printed for this star (see footnote 1). Values printed as two bare figures are given as degrees and minutes. On p. 377, under 30 October, the declination of the star numbered 25 is printed 13 11½ and 13 10, with *neb.* in the place of the magnitude; the declination here, 13° 13′, and the magnitude, 6, are given as printed, and no identity is asserted. Row 3 is the last line of the left column of the upper block.

[3201] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures; the word *Auſtralis* is divided between the second and third. In row 4 the 58 is printed bare and the 0 with a second mark. In row 5 the footnote cue 2 follows the figures. Values printed as two bare figures are given as degrees and minutes. On p. 377, under 30 October, the declination of the star numbered 26 is printed 15 32¼ and 15 31; the declination here, 15° 34′, is given as printed, and no identity is asserted.

[3202] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 7 the footnote cue 3 follows *M.* Values printed as two bare figures are given as degrees and minutes. On p. 377, under 30 October, the declination of the star numbered 27 is printed 17 12½, with *neb.* in the place of the magnitude and the remark that either the numbering or the declination is wrong; the declination here, 15° 25′, and the magnitude, 6, are given as printed, and no identity is asserted.

Reading	Value
The twenty-eighth, of the 6th magnitude. The extreme [star] in the tail. [Viceſima octava mag. 6tæ. Extrema in cauda.]	
Right ascension from the 2nd of ♓, southern [Aſc. R. a 2da ♓ Auſtr.]	320° 47′ 15″
The other way round, from the upper horn of ♉ [Viceverſa a ſuper. cornu ♉]	320° 46′ 25″
Corrected right ascension [Aſcenſio R. emendata]	320° 46⅔′
Declination, south [Declinatio Auſt.]	10° 52½′
Corresponding longitude [Reſp. Longitudo]	19° 43⅚′ ♒
Latitude [Latitudo]	4° 17⅙′ north [B.]

3203

[The constellation] of Aquarius ♒ [AQUARIJ ♒.][3204]

Reading	Value
The 1st. In the head of ♒, of the 6th magnitude. [1a In capite ♒ mag. 6tæ.]	
Right ascension from the right shoulder [Aſc. R. a dext. hum.]	319° 41′ 45″
The other way round, from the Vulture [Viceverſa a Vulture]	319° 41′ 5″
Verified right ascension [Aſcenſio recta verific.]	319° 41⅓′
Declination, north [Declinatio borea]	0° 27′
Corresponding longitude [Reſp. Longitudo]	22° 16⅓′ ♒
Latitude [Latitudo]	15° 23′ north [B.]

3205

Reading	Value
The 2nd. In the right shoulder, [the star] which [is] brighter, of the 3rd magnitude, lesser. [2da In humero dextro quæ clarior, mag. 3æ min.]	
Right ascension from the upper horn of ♉ [Aſc. R. a ſupri cornu ♉]	326° 9′ 43″
The other way round, from the Vulture [Viceverſa a Vulture]	326° 10′ 32″
Corrected right ascension [Aſcenſio R. emend.]	326° 10′ 0″

[3203] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. The label of row 3 stands on two lines, the figures on the second; it is given whole on one row. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 377, under 30 October, the declination of the star numbered 28 is printed 10 51½ and 10 51¾, with the magnitude 6; the declination here, 10° 52½′, is given as printed, and no identity is asserted. This is the last star of Capricornus; no summary count of its stars or magnitudes is printed.

[3204] No count of stars or of magnitudes is printed under this title.

[3205] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. In row 2 no constellation is printed after *dext. hum.*, "right shoulder", and none is supplied. In row 3 the 5 stands in the place of the seconds, with no mark; given as seconds. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 378, under 4 September, the declination of the head of ♒, with the magnitude 6, is printed 0 27⅙ by the armillary and, with the other, 0 28; the declination here, 0° 27′, is given as printed, and no identity is asserted.

Reading	Value
Declination, south [Declinatio Auſt.]	2° 16′ 0″
Corresponding longitude [Reſp. Longitudo]	27° 39⅙′ ♒
Latitude [Latitudo]	10° 42′ north [B.]

3206

Reading	Value
The 3rd, of the 5th magnitude. [The star] which [is] dimmer and more southern. [3a mag. 5tæ. Quæ obſcurior et auſtralior.]	
Right ascension from the lower horn of ♉ [Aſc. R. ab infer. cornu ♉]	325° 32′ 27″
from the far end of the wing of Pegasus [ab ext. alæ Peg.]	325° 30′ 12″
from the 8th of ♒ [ab 8va ♒]	325° 33′ 4″
Corrected right ascension [Aſcenſio R. emendata]	325° 32′
Declination, south [Declinatio merid.]	4° 5½′
Corresponding longitude [Reſp. Longitudo]	26° 25½′ ♒
Latitude [Latitudo]	9° 11½′ north [B.]

3207

[1] The codex gives long. 19° 18⅚′ ♒, lat. 1° 57½′ north, but these have been struck through with lines. Which right ascension Tycho used to find this place, which is entirely true, we have not been able to find. The place given in the catalogue was found from right ascension 319° 46′. [Codex præbet long. 19° 18⅚′ ♒, lat. 1° 57½′ B., ſed hæ lineis inductæ ſunt. Qua aſcenſione recta uſus hunc locum, qui prorſus verus eſt, Tycho repererit, invenire non potuimus. Locus in catalogo datus repertus eſt ex aſc. rect. 319° 46′.]

[2] [It] ought to be about 15° 24′. On 1589 October 30 the declination 15° 32′ was observed. [Debet eße circiter 15° 24′. Die 30 Oct. 1589 decl. 15° 32′ obſervata eſt.]

3206 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 2 the letters *ri* of *ſupri* are raised. Rows 1–4 are the last lines of the left column of the lower block; rows 5–7 stand at the head of the right column, under no entry heading, and are given here in the page's order. In rows 4 and 5 the 0 stands in the place of the seconds, with no mark; given as seconds. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3207 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; the word *auſtralior* is divided between them. Rows 3 and 4 begin with *ab*; no "the other way round" is printed, and none is supplied. In row 4 the 4 stands in the place of the seconds, with no mark; given as seconds. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 3, with the magnitude 5, described as the one under the bright [star] in the right shoulder, is printed 4 5¾ and 4 5½, the second the same as the declination here; the declination here, 4° 5½′, is given as printed, and no identity is asserted. Row 8 is the last line of the right column of the lower block.

[3] This place is wrong, since there is no star in this place. Perhaps the star B. D.— 13°. 6027 = P. XXI. 291 was observed, whose declination in the year 1589, however, was about 14° 36′. [Hic locus falſus eſt, cum nulla ſtella in hoc loco ſit. Forſitan ſtella B. D.— 13°. 6027 = P. XXI. 291 obſervata ſit, cujus tamen declinatio anno 1589 erat circiter 14° 36′.]

Reading	Value
The 4th, of the 3rd magnitude. [The star] which [is] in the left shoulder. [4a mag. 3æ. Quæ in humero ſiniſtro.]	
Right ascension from the Vulture [Aſc. R. a Vulture]	317° 28′ 43″
From the observations of the year 86 [Ex obſeruat. Ai 86]	317° 27′ 35″
Corrected right ascension [Aſcenſio R. emendata]	317° 28⅙′
Declination, south [Declinatio Auſtr.]	7° 19′
Corresponding longitude [Reſp. Longitudo]	17° 41′ ♒
Latitude [Latitudo]	8° 40′ north [B.]

3208

Reading	Value
The 5th, of the 5th magnitude. [The star] which [is] from there in the back, as if under the armpit. [5 mag. 5tæ. Quæ inde in dorſo tanquam ſub axilla.]	
Right ascension from the lower horn of ♉ [Aſc. R. ab infer. cornu ♉]	319° 0′ 52″
from the far end of the wing of Pegasus [ab ext. alæ Peg.]	318° 57′ 31″
from the 8th of ♒ [ab 8va ♒]	319° 1′ 0″
Corrected right ascension [Aſcenſio R. emendata]	319° 1′ 0″
Declination, south [Declinatio Merid.]	9° 37½′
Corresponding longitude [Reſp. Longitudo]	18° 27½′ ♒
Latitude [Latitudo]	6° 0⅓′ north [Bor.]

3209

3208 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. In row 3 the *i* of *Ai* is raised; the abbreviation is rendered "of the year". Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3209 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; the word *tanquam* is divided between them. The figure 5 opening row 1 is printed with no raised ending; it is given as "The 5th". Rows 3 and 4 begin with *ab*; no "the other way round" is printed, and none is supplied. In rows 4 and 5 the 0 stands in the place of the seconds, with no mark; given as seconds. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 5, described as the one under the left shoulder blade, is printed 9 38 and 9 37, with no magnitude; the declination here, 9° 37½′, is given as printed, and no identity is asserted.

Reading	Value
The 6th, of the 6th magnitude, greater. In the left hand. [6ta mag. 6tæ maior. In ſiniſtra manu.]	
Right ascension from the 8th of ♒ [Aſc. R. ab 8va ♒]	311° 47′ 22″
from the lower horn of ♑ [ab infer. cornu ♑]	311° 48′ 12″
from the far end of the wing of Pegasus [ab ext. alæ Peg.]	311° 50′ 15″
Mean and corrected right ascension [Aſc. R. media & emend.]	311° 48′
Declination, south [Declinatio Merid.]	12° 57⅓′
Corresponding longitude [Reſp. Longitudo]	10° 41⅔′ ♒
Latitude [Latitudo]	4° 50′ north [Bor.]

3210

Reading	Value
The 7th, of the 6th magnitude, greater. The middle [star] of the three in the left hand. [7a mag. 6tæ maior. Media trium in ſiniſtra manu.]	
Right ascension from the left shoulder of ♒ [Aſc. R. a ſin. hum. ♒]	307° 32′ 55″
The other way round, from the far end of the wing [Viceverſa ab extr. alæ]	307° 35′ 43″
Verified right ascension [Aſcenſio R. verificata]	307° 34′
Declination, south [Declinatio Merid.]	10° 27′
Corresponding longitude [Reſp. Longitudo]	7° 18¼′ ♒
Latitude [Latitudo]	8° 19⅙′ north [Bor.]

3211

Reading	Value
The 8th. The brighter or upper [star] of the three in the left hand. [8va Lucidior ſeu ſuperior trium in ſiniſtra manu.]	
Right ascension from the right shoulder [Aſc. R. a dext. humero]	306° 22′ 49″
The other way round, from the Vulture [Viceverſa a Vulture]	306° 20′ 13″

3210 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Rows 3 and 4 begin with *ab*; no "the other way round" is printed, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 6, with the magnitude 6, described as the one in the convex [part] of the left hand, is printed 12 57½ and 12 57; the declination here, 12° 57⅓′, is given as printed, and no identity is asserted.

3211 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 3 the label ends with *alæ*, "of the wing"; no constellation is printed, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 7, with the magnitude 6, greater, described as the middle one in the left hand, is printed 10 27 and 10 27¼, the first the same as the declination here; the declination here, 10° 27′, is given as printed, and no identity is asserted.

Reading	Value
Corrected right ascension [Aſcenſio R. emend.]	306° 21½′
Declination, south [Declinatio Auſtrina]	10° 54½′
Corresponding longitude [Reſp. Longitudo]	6° 1⅔′ ♒
Latitude [Latitudo]	8° 9¾′ north [B.]

3212

Reading	Value
The 9th. In the right elbow, of the 3rd magnitude. [9na In cubito dextro mag. 3æ.]	
Right ascension from the Vulture [Aſc. recta a Vulture]	330° 6′ 28″
The other way round, from the far end of the wing [Viceverſa ab ext. alæ]	330° 7′ 43″
Verified right ascension [Aſc. R. verificata]	330° 7′
Declination, south [Declinatio Auſt.]	3° 23½′
Corresponding longitude [Reſp. Longitudo]	0° 59¾′ ♓
Latitude [Latitudo]	8° 17⅓′ north [B.]

3213

Reading	Value
The 10th. In the right hand, [the star] which [is] northern, of the 4th magnitude, lesser. [10a in dextra manu quæ borea, mag. 4tæ min.]	
Right ascension from the far end of the wing of Pegasus [Aſc. R. ab extr. alæ Peg.]	331° 5′ 15″
The other way round, from the Vulture [Viceverſa a Vulture]	331° 4′ 36″
Corrected right ascension [Aſcenſio recta emend.]	331° 5′ 0″
Declination, south [Declinatio Auſtr.]	0° 39′ 0″
Corresponding longitude [Reſp. Longitudo]	2° 54½′ ♓
Latitude [Latitudo]	10° 30⅚′ north [B.]

[3212] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed. In row 2 no constellation is printed after *dext. humero*, "right shoulder", and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

[3213] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. In row 3 the label ends with *alæ*, "of the wing"; no constellation is printed, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 378, under 4 September, the declination of the star numbered 9, with the magnitude 5, greater, described as the preceding one in the urn of ♒ or in the right elbow, is printed 3 23½, south, with both, the same as the declination here; on p. 377, under 8 January, the declination of the preceding one of the three in the urn of ♒ is printed 3 21 and, with the other, 3 20½. The declination here, 3° 23½′, and the magnitude, 3, are given as printed, and no identity is asserted. Row 7 is the last line of the left column.

3214

Reading	Value
The 11th, of the 3rd magnitude. The preceding [star] of the remaining two southern [stars]. [11a mag. 3æ. Reliquarum duarum auſtralium præcedens.]	
Right ascension from the far end of the wing [Aſc. recta ab extr. alæ]	332° 1′ 41″
The other way round, from the Vulture [Viceverſa a Vulture]	331° 54′ 55″
Averaged right ascension [Aſcenſio R. mediata]	331° 57′
Declination, south [Declinatio auſtr.]	2° 4⅔′
Corresponding longitude [Reſp. Longitudo]	3° 13′ ♓
Latitude [Latitudo]	8° 52⅓′ north [B.]

3215

Reading	Value
The 12th, of the 3rd magnitude. [The star] which follows. [12a mag. 3æ. Quæ ſequitur.]	
Right ascension from the far end of the wing [Aſc. recta ab ext. alæ]	333° 36′ 18″
The other way round, from the Vulture [Viceverſa a Vulture]	333° 34′ 15″
Corrected right ascension [Aſcenſio recta emend.]	333° 35′ 15″
Declination, south [Declinatio Auſtrina]	2° 12′ 0″
Corresponding longitude [Reſp. Longitudo]	4° 42⅚′ ♓
Latitude [Latitudo]	8° 10¼′ north [B.]

3214 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; *in* is printed in lower case. In rows 4 and 5 the 0 stands in the place of the seconds, with no mark; given as seconds. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 378, under 4 September, the declination of the star numbered 10, with the magnitude 5, described as the uppermost one in the urn of ♒, is printed 0 39, south, with both, the same as the declination here; the declination here, 0° 39′ 0″, and the magnitude, 4, are given as printed, and no identity is asserted.

3215 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; the word *auſtralium* is divided between them. In row 2 the label ends with *alæ*, "of the wing"; no constellation is printed, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 378, under 4 September, the declination of the star numbered 11, with the magnitude 5, described as the following and middle one in the urn, is printed 2 4⅔, south, and 2 4⅚, the first the same as the declination here; on p. 381, under 20 November, the declination of the star numbered 11 is printed 2 1 and 2 1⅔; on p. 377, under 8 January, the declination of the middle one in the urn of ♒ is printed 2 2 and 2 1⅔; the declination here, 2° 4⅔′, and the magnitude, 3, are given as printed, and no identity is asserted.

3216

Reading	Value
The 13th, of the 5th magnitude, greater. In the right hollow, the preceding [star] of the two. [13a mag. 5tæ maior. In cotyla dextra duarum præcedens.]	
Right ascension from the 8th of ♒ [Aſc. R. ab 8va ♒]	328° 50′ 32″
from the lower horn of ♑ [ab infer. cornu ♑]	328° 47′ 49″
from the far end of the wing of Pegasus [ab ext. alæ Peg.]	328° 45′ 45″
Mean right ascension [Aſcenſio R. media]	328° 48′ 40″
Declination, south [Declinatio Merid.]	9° 45′ 15″
Corresponding longitude [Reſp. Longitudo]	27° 35′ ♒
Latitude [Latitudo]	2° 45⅚′ north [Bor.]

3217

Reading	Value
The 14th, of the 6th magnitude. The following [star]. [14a mag. 6tæ. Sequens.]	
Right ascension from the 8th [Aſcenſio R. ab 8va]	329° 37′ 43″
Let its right ascension be set [Ponatur eius Aſc. R.]	329° 38′
Declination, south [Declinatio Merid.]	9° 45′
Corresponding longitude [Reſp. Longitudo]	28° 20¾′ ♒
Latitude [Latitudo]	2° 29½′ north [B.]

3218

3216 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. In row 2 the label ends with *alæ*, "of the wing"; no constellation is printed, and none is supplied. In row 5 the 0 stands in the place of the seconds, with no mark; given as seconds. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 378, under 4 September, the declination of the star numbered 12, with the magnitude 5, described as the last of the three toward the east, is printed 2 11⅓, south, and, marked as better, 2 12, the second the same as the declination here; at the head of p. 378, continuing the 8 January entry of p. 377, the declination of the third in the hand of ♒ is printed 2 9⅔ and 2 9¾. The declination here, 2° 12′ 0″, and the magnitude, 3, are given as printed, and no identity is asserted.

3217 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Rows 3 and 4 begin with *ab*; no "the other way round" is printed, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 13, with the magnitude 5, described as the other one in the urn, is printed 9 45½ and 9 45; the declination here, 9° 45′ 15″, is given as printed, and no identity is asserted.

3218 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. In row 2 no sign is printed after *8va*, "the 8th", and none is supplied. Values printed as two bare figures are given as degrees and minutes. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the star numbered 14 is entered with the words "in the urn has the same declination" and no figure, so that list prints no value to set beside the declination here; no identity is asserted.

Reading	Value
The 15th, of the 5th magnitude, lesser. In the right thigh. [15 mag. 5tæ min. In dextro fæmore.]	
Right ascension from the 8th of ♒ [Aſc. R. ab 8va ♒]	332° 15′ 11″
The other way round, from the left shoulder of ♒ [Viceverſa ab hum. ſin. ♒]	332° 13′ 55″
Corrected right ascension [Aſcenſio R. emend.]	332° 14½′
Declination, south [Declinatio auſt.]	12° 42′
Corresponding longitude [Reſp. Longitudo]	29° 42⅔′ ♒
Latitude [Latitudo]	1° 10′ south [Auſtr.]

3219

Reading	Value
The 16th, of the 4th magnitude, lesser. [The star] which is at the buttocks. [16ta mag. 4tæ minor. Quæ eſt ad clunes.]	
Right ascension from the 8th of ♒ [Aſc. R. ab 8va ♒]	326° 4′ 41″
from the lower horn of ♉ [ab infer. cornu ♉]	326° 4′ 5″
Corrected right ascension [Aſcenſio R. emend.]	326° 4⅓′
Declination, south [Declinatio Merid.]	15° 46⅓′
Corresponding longitude [Reſp. Longitudo]	23° 2⅚′ ♒
Latitude [Latitudo]	2° 0¼′ south [Merid.]

3220

The 17th is not observable. [17a non eſt obſeruabilis.]

Reading	Value
The 18th, of the 3rd magnitude, lesser. The southern [star] in the right shin. [18va mag. 3æ minor. Auſtralis in dextra tibia.]	
Right ascension from the 8th of ♒ [Aſc. R. ab 8va ♒]	338° 11′ 39″[1]

3219 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. The figure 15 opening row 1 is printed with no raised ending; it is given as "The 15th". In row 6 no minute mark is printed after 42⅔; given as minutes. Values printed as two bare figures are given as degrees and minutes. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 15, described as the one at the bottom of the urn in the right thigh, is printed 12 42 and 12 42¼, with no magnitude, the first the same as the declination here; the declination here, 12° 42′, is given as printed, and no identity is asserted. Row 7 is the last line of the right column.

3220 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Row 3 begins with *ab*; no "the other way round" is printed, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 16, with no magnitude, described as the one at the end of the back, is printed 15 46¼ and 15 46½; the declination here, 15° 46⅓′, is given as printed, and no identity is asserted.

Reading	Value
from the lower horn of ♉ [ab infer. cornu ♉]	338° 16′ 22″[2]
from the far end of the wing of Pegasus [ab ext. alæ Peg.]	338° 14′ 22″
Corrected right ascension [Aſcenſio R. emend.]	338° 14½′
Declination, south [Declinatio Merid.]	17° 57⅓′
Corresponding longitude [Reſp. Longitudo]	3° 11⅚′ ♓
Latitude [Latitudo]	8° 10′ south [Merid.]

3221

Reading	Value
The 19th, of the 5th magnitude. The northern [star] or in the right knee. [19a mag. 5tæ. Borea ſeu in genu dextro.]	
Right ascension from the 8th of ♒ [Aſc. R. ab 8va ♒]	336° 58′ 51″
from the extreme wing of Pegasus [ab extr. ala Peg.]	336° 58′ 55″
from the lower horn of ♉ [ab infer. cornu ♉]	336° 56′ 50″
Corrected right ascension [Aſcenſio R. emendata]	336° 58½′
Declination, south [Declinatio Merid.]	15° 42′
Corresponding longitude [Reſp. Longitudo]	2° 55′ ♓
Latitude [Latitudo]	5° 37⅙′ south [Auſt.]

3222

Reading	Value
The 21st, of the 5th magnitude. The more southern [star] of the two in the left shin. [21a 5tæ mag. Duarum auſtralior in ſiniſtra tibia.]	

[3221] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Rows 3 and 4 begin with *ab*; no "the other way round" is printed, and none is supplied. In row 2 the footnote cue 1 follows the second mark; in row 3 the footnote cue 2 follows *22*, which carries no second mark. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 18, with no magnitude, described as the one in the shin of the right knee, is printed 17 57½ and 17 57; the declination here, 17° 57⅓′, is given as printed, and no identity is asserted.

[3222] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; *ſeu*, "or", is kept. Rows 3 and 4 begin with *ab*; no "the other way round" is printed, and none is supplied. In row 3 the page prints *ala*, where the 18th star's table above prints *alæ*; it is given as printed, "the extreme wing". Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 19, with the magnitude 4, lesser, described as the one in the right knee, is printed 15 41¾ and 15 42, the second the same as the declination here; the declination here, 15° 42′, and the magnitude, 5, are given as printed, and no identity is asserted.

Reading	Value
Ascension from the lower horn of ♉ and the bright [star] of the tail of Cetus, limited [Aſcenſio ab inferiori cornu ♉ et Lucida caudæ Ceti limitata]	332° 58½′
Declination, south [Declinatio Auſt.]	22° 45⅓′
Corresponding longitude [Reſp. Longitudo]	26° 45⅓′ ♒
Latitude [Latitudo]	10° 48⅓′ south [M.]

3223

Reading	Value
The 23rd, of the 6th magnitude, greater. The first or uppermost [star] in the outpouring of the water. [23ia magnitud. 6tæ maior. Prima ſeu ſuprema in effuſione aquæ.]	
Right ascension from the bright [star] in the knot of ♓ [Aſc. R. a Lucida in nodo ♓]	334° 6½′
The other way round, from the right shoulder of ♒ [Viceverſa a dext. hum. ♒]	334° 6′
Right ascension, limited [Aſcenſio R. limitata]	334° 6¼′
Declination, south [Declinatio Auſt.]	6° 19⅔′

3224

Reading	Value
The 24th, of the 4th magnitude, lesser. The following brighter [star] in the pouring forth of the water. [24ta mag. 4tæ min. Sequens lucidior in profuſione aquæ.]	
Right ascension from the 8th of ♒ [Aſc. R. ab 8va ♒]	337° 47′ 45″
The other way round, from the left shoulder of ♒ [Viceverſa a ſin. hum.♒]	337° 49′ 30″
Corrected right ascension [Aſcenſio R. emendata]	337° 48⅔′
Declination, south [Declinatio Merid.]	9° 41′
Corresponding longitude [Reſp. Longitudo]	5° 53⅚′ ♓
Latitude [Latitudo]	0° 19⅔′ south [Auſt.]

3223 "Reading" and "Value" are this edition's heads; the page prints none. No entry numbered 20 stands on this page: the entry of the 19th is followed directly by that of the 21st. Row 1 stands on two lines, with no figures; the magnitude figure is printed before *mag.* Row 2 stands on two lines, with the figures on the second; the page prints *Aſcenſio* with no *R.*, and "Ascension" is given without "right". Values printed as two bare figures are given as degrees and minutes.

3224 "Reading" and "Value" are this edition's heads; the page prints none. No entry numbered 22 stands on this page: the entry of the 21st is followed directly by that of the 23rd. The ordinal is printed *23ia*, with the raised letters *ia*; it is given as "The 23rd". Row 1 stands on two lines, with no figures. Row 3 stands on two lines, with the figures on the second. No longitude or latitude is printed for this star; row 5 is the last line of the left column. Values printed as two bare figures are given as degrees and minutes. On p. 381, under 20 November, the declination of 23 of ♒ is printed 6 19⅚ and 6 19½; the declination here, 6° 19⅔′, is given as printed, and no identity is asserted.

3225

The 25th does not correspond in declination [it] is in doubt[3] [25 non reſpondet in declinatione ambigitur [3]][3226]

Reading	Value
The 26th, of the 5th magnitude. The following [star] in the first bend of the water of the outpouring. [26 mag. 5tæ. Sequens in primo flexu aquæ effuſionis.]	
Right ascension from the bright [star] in the junction of the cord of ♓ [Aſc. recta a lucida in connexu lini ♓]	343° 15′ 12″
The other way round [Viceverſa]	343° 17′ 44″
Corrected right ascension [Aſcenſio R. emendata]	343° 16½′
Declination, south [Declinatio Auſtrina]	8° 12⅔′
Corresponding longitude [Reſp. Longitudo]	11° 27⅔′ ♓
Latitude [Latitudo]	0° 59⅔′ south [M.]

3227

Reading	Value
The 27th, of the 6th magnitude, greater. In the other southern bend. [27 mag. 6tæ maior. In altero flexu auſtrali.]	
Right ascension from the bright [star] in the knot of ♓ [Aſc. R. a luc. in nodo ♓]	343° 55⅚′

[3225] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; *profuſione*, given as "pouring forth", is a different word from *effuſione*, "outpouring", in the 23rd star's description. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 24, with no magnitude, described as the brighter one at the beginning of the outpouring, is printed 9 41 and 9 41¼, the first the same as the declination here; the declination here, 9° 41′, is given as printed, and no identity is asserted.

[3226] The figure 25, with no raised ending, stands at the head of this entry; the words after it are printed in smaller type to its right, over three lines, with no point anywhere among them and none at the end, and footnote 3 is keyed to them. "In declination" may go with either verb. No magnitude, description or figures are printed for this star. On p. 381, under 20 November, the declination of the star numbered 25, with the magnitude 6, described as the one that follows in the first stream of the water, is printed 9 35 and 9 35½; no identity is asserted.

[3227] "Reading" and "Value" are this edition's heads; the page prints none. The figure 26 opening row 1 is printed with no raised ending; it is given as "The 26th". Row 1 stands on two lines, with no figures. Row 2 stands on two lines, with the figures on the second. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 381, under 16 November, among the southern declinations of the stars of ♒, the declination of the star numbered 26, with the magnitude 6, greater, described as the following one in the first bend of the water, is printed 8 12½ and 8 12⅔, the second the same as the declination here; under 20 November the declination of 26 of ♒ is printed 8 12⅔ and 8 13, the first the same as the declination here. The declination here, 8° 12⅔′, and the magnitude, 5, are given as printed, and no identity is asserted.

Reading	Value
The other way round [Viceverſa]	343° 54′
Corrected right ascension [Aſcenſio R. emendata]	343° 55′ 0″
Declination, south [Declinatio Auſt.]	9° 55′ 0″
Corresponding longitude [Reſp. Longitudo]	11° 22⅚′ ♓
Latitude [Latitudo]	2° 48⅚′ south [M.]

3228

Reading	Value
The 28th, of the 5th magnitude, lesser. The preceding and more northern [star] of the two following [stars] in the bend of the water. [28va mag. 5tæ min. Præcedens et borealior duarum ſequentium in flexu aquæ.]	
Right ascension from the bright [star] in the knot of the cord of ♓ [Aſc. R. a luc. in nodo lini ♓]	343° 34′ 30″
The other way round [Viceverſa]	343° 35′ 30″
Corrected right ascension [Aſcenſio R. emendata]	343° 35′
Declination, south [Declinatio Auſtrina]	11° 18½′
Corresponding longitude [Reſp. Longitudo]	10° 32⅗′ ♓
Latitude [Latitudo]	3° 58⅓′ south [M.]

3229

Reading	Value
The 29th, of the 5th magnitude, lesser. The following more southern [star]. [29a magnitudinis 5tæ min. Sequens auſtralior.]	
Right ascension from the bright [star] in the knot of ♓ [Aſc. R. a luc. in nodo ♓]	344° 5⅙′
The other way round [Viceverſa]	344° 7⅚′

3230

3228 "Reading" and "Value" are this edition's heads; the page prints none. The figure 27 opening row 1 is printed with no raised ending; it is given as "The 27th". Row 1 stands on two lines, with no figures. In rows 4 and 5 the 0 stands in the place of the seconds, with no mark; given as seconds. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 381, under 20 November, the declination of the star numbered 27, with the magnitude 6, described as in the other, southern stream, is printed 9 55 and 9 54¾, the first the same as the declination here; the declination here, 9° 55′ 0″, is given as printed, and no identity is asserted.

3229 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures; the word *borealior* is divided between the first and second. In row 6 the fraction is printed three-fifths. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3230 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Values printed as two bare figures are given as degrees and minutes. Row 3 is the last line of the right column of this page; the rest of this star's entry stands at the head of the left column of p. 422.

[1] [It] has been added in the margin: »Best, which I afterwards found in the observations of ♂«. [Adſcriptum eſt in margine: »Optima, quod poſtea in obſeruationibus ♂ compertus ſum«.]

[2] [It] has been added: »Best«. [Adſcriptum eſt: »Optima«.]

[3] Written in the margin in tiny letters. In cod. G, from an observation made on 1589 November 20, right ascension 340° 59′, declination — 9° 35′ are found. Since this declination is 18′ less than the true [one], the latitude is 16′ less than the true [one]. [In margine litteris exiguis ſcripta. In cod. G inueniuntur ex obſeruatione d. 20 Nov. 1589 facta aſc. recta 340° 59′, declinatio — 9° 35′. Quia hæc decl. 18′ minor vera eſt, latitudo minor vera eſt 16′.]

Reading	Value
Corrected right ascension [Aſcenſio R. emendata]	344° 6′ 20″
Declination, south [Declinatio Auſtrina]	11° 19′
Corresponding longitude [Reſp. Longitudo]	11° 0¾′ ♓
Latitude [Latitudo]	4° 10⅗′ south [M.]

3231

Reading	Value
The 30th, of the 5th magnitude. The following [star] and inclining toward the south. [30a magnitudinis 5tæ. Sequens & ad auſtrum declinans.]	
Right ascension from the bright [star] in the knot of ♓ [Aſc. R. a luc. in nodo ♓]	344° 22′ 3″
The other way round [Viceverſa]	344° 23½′
Right ascension corrected for refraction [Aſcenſio recta emendata pro refractione]	344° 22⅔′
Declination, south [Declinatio Auſtrina]	11° 48⅓′
Corresponding longitude [Reſp. Longitudo]	11° 4¼′ ♓
Latitude [Latitudo]	4° 43¾′ south [M.]

[3231] "Reading" and "Value" are this edition's heads; the page prints none. These four rows open the left column under no ordinal or description; they belong to the entry of the 29th star of ♒, the following more southern star, of the 5th magnitude, lesser, which begins at the foot of the right column of p. 421 with its two readings of right ascension. Row 1 is printed as three bare figures and is given as degrees, minutes and seconds; the other values printed as two bare figures are given as degrees and minutes. In row 4 the fraction is printed three-fifths. On p. 381, under 16 November, among the southern declinations of the stars of ♒, the declination of the star numbered 29, with the magnitude 5, lesser, described as the northern and middle one of the following two, is printed 11 18½ and 11 19, the second the same as the declination here; the declination here, 11° 19′, is given as printed, and no identity is asserted.

3232

Reading	Value
The 31st, of the 5th magnitude. After the 30th the preceding [star] of the two contiguous [stars]. [31ma magnitudinis 5tæ. Poſt 30mam duarum contiguarum præcedens.]	
Right ascension from the bright knot of ♓ [Aſc. recta a luc. nodo ♓]	349° 35′
The other way round [Viceverſa]	349° 39⅓′
Corrected right ascension [Aſcenſio R. emendata]	349° 37′
Declination, south [Declinatio Auſtrina]	16° 26′
Corresponding longitude [Reſp. Longitudo]	13° 56⅚′ ♓
Latitude [Latitudo]	10° 58⅚′ south [M.]

3233

Reading	Value
The 32nd, of the 5th magnitude. The following [star] of the two contiguous [stars]. [32da magnitudinis 5tæ. Sequens duarum contiguarum.]	
Right ascension from the bright [star] in the knot of ♓ [Aſc. R. a luc. in nodo ♓]	350° 20′ 49″
The other way round [Viceverſa]	350° 19′ 22″
Corrected right ascension [Aſcenſio R. emendata]	350° 20′
Declination, south [Declinatio Auſtrina]	16° 45′
Corresponding longitude [Reſp. Longitudo]	14° 28′ ♓
Latitude [Latitudo]	11° 32⅔′ south [M.]

3232 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Row 4 stands on two lines, with the figures on the second. Values printed as two bare figures are given as degrees and minutes. On p. 381, under 16 November, among the southern declinations of the stars of ♒, the declination of the star numbered 30, with the magnitude 6, greater, described as the one that is more toward the south, is printed 11 48½ and 11 48; the declination here, 11° 48⅓′, and the magnitude, 5, are given as printed, and no identity is asserted.

3233 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures; the word *præcedens* is divided between the second and third. In row 2 no *in* is printed before *nodo*, and the words are given in the page's order. Values printed as two bare figures are given as degrees and minutes. On p. 381, under 16 November, among the southern declinations of the stars of ♒, the declination of the star numbered 31, with the magnitude 6, greater, and no description, is printed 16 26¼ and 16 25½; the declination here, 16° 26′, and the magnitude, 5, are given as printed, and no identity is asserted.

3234

Reading	Value
The 33rd, of the 5th magnitude, lesser. In the third stream of the water the northern [star] of the three. [33ta magnitudinis 5tæ min. In tertio aquæ fluxu borea trium.]	
Right ascension from the bright tail of ♉ [Aſc. R. a luc. cauda ♉]	350° 4⅔′
The other way round, from the bright tail of Cetus [Viceverſa a luc. cauda Ceti]	350° 6⅙′
Corrected for refraction [Emendata pro refractione]	350° 5⅓′
Declination, south [Declinatio Auſtrina]	20° 4′
Corresponding longitude [Reſp. Longitudo]	12° 52½′ ♓
Latitude [Latitudo]	14° 29$\frac{1}{12}$′ south [M.]

3235

Reading	Value
The 34th, of the 6th magnitude. The middle [star] in the third stream of the water. [34ta magnitudinis 6tæ. Media in tertio aquæ fluxu.]	
Right ascension from the bright tail of ♉ [Aſc. R. a luc. cauda ♉]	351° 5¼′
The other way round [Viceverſa]	351° 8⅚′
Corrected right ascension [Aſcenſio R. emendata]	351° 7′
Declination, south [Declinatio Auſtrina]	20° 30′
Corresponding longitude [Reſp. Longitudo]	13° 36⅙′ ♓
Latitude [Latitudo]	15° 16½′ south [M.]

3234 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 2 the 20 is printed with no minute mark, between a degree mark and a second mark; given as minutes. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 381, under 16 November, among the southern declinations of the stars of ♒, the declination of the star numbered 32, with the magnitude 5, lesser, and no description, is printed 16 44¾ and 16 45, the second the same as the declination here; the declination here, 16° 45′, is given as printed, and no identity is asserted.

3235 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Row 3 stands on two lines, with the figures on the second. Row 4 begins *Emendata*, with no noun printed. In row 7 the fraction is printed one-twelfth. Values printed as two bare figures are given as degrees and minutes. On p. 380, under 28 October, the declination of the star numbered 33 is printed 20 2¼ and 20 3; on p. 381, under 16 November, that of the star numbered 33, with the magnitude 6, greater, described as in the third stream of the water, the northern of the three, 20 3 and 20 3⅔; and under 20 November that of 33 of ♒, with the magnitude 6, 20 5 and 20 4, the second the same as the declination here. The declination here, 20° 4′, and the magnitude, 5, lesser, are given as printed, and no identity is asserted.

3236

Reading	Value
The 35th, of the 6th magnitude, lesser. The following [star] of the three and southern. [35ta magnitudinis 6tæ min. Sequens trium & auſtralis.]	
Right ascension from the bright tail of ♈ [Aſc. R. a luc. cauda ♈]	352° 31′ 4″
The other way round [Viceverſa]	352° 30′
Right ascension, limited [Aſcenſio R. limitata]	352° 30½′
Declination, south [Declinatio Auſtrina]	21° 8′
Corresponding longitude [Reſp. Longitudo]	14° 34′ ♓
Latitude [Latitudo]	16° 23$\frac{1}{12}$′ south [M.]

3237

Reading	Value
The 36th, of the 5th magnitude. The northern [star] of the three following [stars]. [36ta magnitudinis 5tæ. Sequentium trium borealis.]	
Right ascension from the bright tail of ♈ [Aſc. R. a luc. cauda ♈]	345° 21′ 7″
The other way round [Viceverſa]	345° 17′ 26″
Right ascension corrected for refraction [Aſcenſio recta pro refractione emendata]	345° 19¼′
Declination, south [Declinatio Auſtrina]	22° 19′
Corresponding longitude [Reſp. Longitudo]	7° 44$\frac{1}{6}$′ ♓
Latitude [Latitudo]	14° 45¼′ south [M.]

3238

3236 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 381, under 20 November, the declination of the star numbered 34, with the magnitude 6, lesser, described as the middle one of the three in the northern stream, is printed 20 29½ and 20 30½; the declination here, 20° 30′, is given as printed, and no identity is asserted. Row 7 is the last line of the left column.

3237 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 7 the fraction is printed one-twelfth. Values printed as two bare figures are given as degrees and minutes. On p. 381, under 20 November, the declination of the star numbered 35, with the magnitude 6, lesser, described as the following one of the three in the northern stream, is printed 21 7 and 21 7¾; the declination here, 21° 8′, is given as printed, and no identity is asserted.

3238 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Row 4 stands on two lines, with the figures on the second. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, the declination of the star numbered 36, with no magnitude, described as in the outpouring, is printed 22 18¼ and 22 19, the second the same as the declination here; on p. 381, under 16 November, that of the star numbered 36, with the magnitude 5, lesser, described as the more western of the following three intermediate ones, 22 16½ and 22 17¼. The declination here, 22° 19′, is given as printed, and no identity is asserted.

Reading	Value
The 37th, of the 5th magnitude. The middle [star] of the same three. [37ma magnitudinis 5tæ. Media trium earundem.]	
Right ascension from the bright tail of ♍ [Aſc. R. a luc. cauda ♍]	346° 5′ 29″
The other way round [Viceverſa]	346° 1¾′
Right ascension, limited [Aſcenſio R. limitata]	346° 3⅔′
Declination, south [Declinatio Auſtrina]	22° 49½′
Corresponding longitude [Reſp. Longitudo]	8° 10½′ ♓
Latitude [Latitudo]	15° 29⅔′ south [M.]

3239

Reading	Value
The 38th, of the 5th magnitude, lesser. The more southern [star] of the three. [38va magnitudinis 5tæ min. Auſtralior trium.]	
Right ascension from the tail of ♍, the bright [star] [Aſc. R. a cauda ♍ luc.]	347° 56½′
The other way round [Viceverſa]	347° 55′
Corrected right ascension [Aſcenſio R. emendata]	347° 55⅔′
Declination, south [Declinatio Auſtrina]	23° 10¾′
Corresponding longitude [Reſp. Longitudo]	9° 39½′ ♓
Latitude [Latitudo]	16° 30⅚′ south [M.]

3240

Reading	Value
The 39th, of the 5th magnitude. In the last bend the upper [star] of the three. [39na magnit. 5tæ. In vltima flexura trium ſuperior.]	
Right ascension from the bright [star] of the tail of ♍ [Aſc. R. a luc. caudæ ♍]	341° 48′ 47″
The other way round [Viceverſa]	341° 49′ 26″
Mean right ascension [Aſcenſio R. media]	341° 49⅙′

3239 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Values printed as two bare figures are given as degrees and minutes. On p. 380, under 28 October, the declination of the star numbered 37 is printed 22 46½ and 22 47¼; on p. 381, under 16 November, that of the star numbered 37, with the magnitude 6, described as the middle one of the same, 22 46 and 22 47. The declination here, 22° 49½′, and the magnitude, 5, are given as printed, and no identity is asserted.

3240 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 2 *luc.* is printed after the sign; it is given with "tail", as in the rows that print *a luc. cauda* ♍. Values printed as two bare figures are given as degrees and minutes. On p. 380, under 28 October, the declination of the star numbered 38, described as in the outpouring, is printed 23 9¼ and, with the better pinnule twice, 23 9⅔; on p. 381, under 16 November, that of the star numbered 38, with the magnitude 6, greater, described as the lowest and more eastern of these, and followed by the word "uncertain", 23 7 and 23 7½. The declination here, 23° 10¾′, and the magnitude, 5, lesser, are given as printed, and no identity is asserted.

Reading	Value
Declination, south [Declinatio Auſtrina]	23° 21′
Corresponding longitude [Reſp. Longitudo]	4° 14′ 54″ ♓
Latitude [Latitudo]	14° 25⅗′ south [M.]

3241

Reading	Value
The 40th, of the 5th magnitude. The middle [star]. [40a magnitudinis 5tæ. Media.]	
Right ascension from the bright [star] in the tail of ♑ [Aſc. R. a luc. in cauda ♑]	341° 58¼′
The other way round, from the bright tail of Cetus [Viceverſa a luc. cauda Ceti]	341° 58′

3242

Reading	Value
Averaged right ascension [Aſcenſio R. mediata]	341° 58$\frac{1}{12}$′
Declination, south [Declinatio Auſtrina]	24° 38′
Corresponding longitude [Reſp. Longitudo]	3° 51½′ ♓
Latitude [Latitudo]	15° 39⅚′ south [M.]

3243

3241 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 6 the longitude is printed with degree, minute and second marks. In row 7 the fraction is printed three-fifths. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, the declination of the star numbered 39, with no description, is printed 23 17 and 23 16⅔; on p. 381, under 16 November, that of the star numbered 39, with the magnitude 5, lesser, described as the highest of the three, 23 17¾ and 23 18⅓. The declination here, 23° 21′, and the magnitude, 5, are given as printed, and no identity is asserted.

3242 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. Row 3 stands on two lines, with the figures on the second. Values printed as two bare figures are given as degrees and minutes. Row 3 is the last line of the right column and of this page.

3243 "Reading" and "Value" are this edition's heads; the page prints none. These four rows open the left column under no ordinal or description; they belong to the entry of the 40th star of ♒, the middle star, of the 5th magnitude, which begins on p. 422, at the foot of its right column, with its two readings of right ascension. In row 1 the fraction is printed one-twelfth. Values printed as two bare figures are given as degrees and minutes. On p. 381, under 16 November, among the southern declinations of the stars of ♒, the declination of the star numbered 40, with the magnitude 6, described as the middle one of the three lowest, is printed 24 33 and 24 33¾; the declination here, 24° 38′, and the magnitude printed on p. 422, 5, are given as printed, and no identity is asserted.

Reading	Value
The 41st, of the 5th magnitude. The lowest [star] of the three and the nearest to Fomahant. [41a magnitudinis 5tæ. Trium infima proximaque Fomahant.]	
Right ascension from the bright [star] in the tail of Capricornus [Aſc. R. a luc. in cauda Capr.]	341° 21⅓′
The other way round, freed from refraction [Viceverſa a refractione liberata]	341° 18⅚′
Mean right ascension [Aſcenſio R. media]	341° 20′
Declination, south[1] [Declinatio Auſtrina[1]]	25° 7′
Corresponding longitude [Reſp. Longitudo]	3° 6½′ ♓
Latitude [Latitudo]	15° 52¾′ south [M.]

3244

Reading	Value
The 42nd, of the 1st magnitude. The last [star] of the outpouring of the water which is called Fomahant. [42da mag. 1æ. Vltima effuſionis aquæ quæ Fomahant dicitur.]	
Right ascension from the 23rd of ♑ [Aſc. R. a 23ia ♑]	338° 34′ 10″
from the lower horn of ♑ [ab inferi. cornu ♑]	338° 36′ 9″
Corrected right ascension [Aſcenſio R. emendata]	338° 35′
Declination, south [Declinatio Auſtrina]	31° 43′
Corresponding longitude [Reſp. Longitudo]	28° 1¼′ ♒
Latitude [Latitudo]	20° 59¼′ south [Auſt.]

3245

3244 "Reading" and "Value" are this edition's heads; the page prints none. Rows 1–4 stand at the foot of the upper part of the left column, rows 5–7 at the head of the right column. Row 1 stands on three lines, with no figures; *Fomahant* is kept as printed. In row 2 the constellation is printed as the abbreviated word *Capr.*, not as a sign; it is given as "Capricornus". Row 3 stands on two lines, with the figures on the second; it names no star. In row 5 the footnote cue 1 follows *Auſtrina*. Values printed as two bare figures are given as degrees and minutes. On p. 381, under 16 November, among the southern declinations of the stars of ♒, the declination of the star numbered 41, with the magnitude 6, described as the lowest in the water of ♒, next to Fomahand, is printed 25 1½ and 25 2⅓; the declination here, 25° 7′, and the magnitude, 5, are given as printed, and no identity is asserted.

3245 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no comma stands before *quæ*, which may refer either to the star or to the water; *Fomahant* is kept as printed. In row 2 the ordinal is printed *23ia*, with the raised letters *ia*. Row 3 begins with *ab*; no "the other way round" is printed, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 379, under 28 October, among the southern declinations of the stars in ♒, the declination of the star numbered 42, with the magnitude 1, labelled Fomahand, is printed 31 29½ and 31 30; the declination here, 31° 43′, is given as printed, and no identity is asserted.

[The constellation] of Pisces ♓ [PISCIUM ♓.]

Reading	Value
The 1st, of the southern fish, in the mouth, of the 5th magnitude. [1a auſtralis piſcis in ore, mag. 5tæ.]	
Right ascension from the bright [star] of ♈ [Aſc. recta a luc. ♈]	340° 44′ 26″
The other way round, from the Vulture [Viceverſa a Vulture]	340° 44′ 48″
Corrected right ascension [Aſcenſio R. emendata]	340° 44⅔′
Declination, north [Declinatio borea]	1° 37⅔′
Corresponding longitude [Reſp. Longitudo]	12° 52′ ♓
Latitude [Latitudo]	9° 4′ north [B.]

3246

Reading	Value
The 2nd. The southern [star] of the two in the back of the head, of the 5th magnitude. [2a Duarum in occipite auſt., mag. 5tæ.]	
Right ascension from the bright [star] of ♈ [Aſc. recta a luc. ♈]	344° 0′ 29″
The other way round [Viceverſa]	343° 58′ 31″
Corrected right ascension [Aſcenſio R. emendata]	343° 59½′
Declination, north [Declinatio Bor.]	1° 2¾′
Corresponding longitude [Reſp. Longitudo]	15° 40¼′ ♓
Latitude [Latitudo]	7° 17⅔′ north [B.]

3247

3246 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 382, under 5 September, in the evening, in the entry whose left column is headed *Piſcis auſtralis.*, the declination of 1 of ♓, with the magnitude 5, is printed 1 38⅙, with both; on p. 383, under 28 September, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ*, with *per Armillas.* over the values, the declination of 1, labelled *1 ♓ auſtralis*, is printed 1 37 north; the declination here, 1° 37⅔′, is given as printed, and no identity is asserted.

3247 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures; the abbreviation *auſt.* is given as "southern". Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 382, under 5 September, in the evening, in the entry whose left column is headed *Piſcis auſtralis.*, the declination of 2 of ♓, with the magnitude 4, lesser, is printed 1 2½ north and 1 2¾, the second the same as the declination here; on p. 383, under 28 September, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ*, with *per Armillas.* over the values, the declination of 2 is printed 1 3¾; the declination here, 1° 2¾′, and the magnitude, 5, are given as printed, and no identity is asserted.

Reading	Value
The 3rd, in the back of the head, the northern [star], of the 6th magnitude. [3ia in occipite borea mag. 6tæ.]	
Right ascension from the bright [star] of ♈ [Aſc. recta a luc. ♈]	344° 51′ 5″
The other way round [Viceverſa]	344° 54′ 42″
Corrected right ascension [Aſcenſio R. emendata]	344° 53′
Declination, north [Declinatio borea]	3° 11′
Corresponding longitude [Reſp. Longitudo]	17° 20⅓′ ♓
Latitude [Latitudo]	8° 54⅓′ north [B.]

3248

Reading	Value
The 4th. In the back, [the one] of the two which precedes, of the 5th magnitude. [4ta In dorſo duarum quæ præit, mag. 5tæ.]	
Right ascension from the bright [star] of ♈ [Aſc. recta a luc. ♈]	346° 49′ 48″
The other way round, from the Vulture [Viceverſa a Vulture]	346° 47′ 15″
From observation of the year 87 [Ex obſeruat. A^{i} 87]	346° 49′ 2″
Mean right ascension [Aſcenſio R. media]	346° 49′
Declination, north [Declinatio Borea]	4° 10′
Corresponding longitude [Reſp. Longitudo]	19° 31¾′ ♓
Latitude [Latitudo]	9° 3¼′ north [B.]

3249

3248 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures; the ordinal is printed *3ia*, with the raised letters *ia*. In row 6 no minute mark is printed after the fraction; the 20⅓ is given as minutes. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 382, under 5 September, in the evening, in the entry whose left column is headed *Piſcis auſtralis*., the declination of 3 of ♓, north, with the magnitude 6, is printed 3 11, with both, the same as the declination here; on p. 383, under 28 September, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ*, with *per Armillas.* over the values, the declination of 3 is printed 3 10¼ and 3 11½; the declination here, 3° 11′, is given as printed, and no identity is asserted.

3249 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 382, under 5 September, in the evening, in the entry whose left column is headed *Piſcis auſtralis*., the declination of 4 of ♓, north, with the magnitude 5, is printed 4 10 and 4 10¾, the first the same as the declination here; on p. 383, under 28 September, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ*, with *per Armillas.* over the values, the declination of 4 is printed 4 9½ and 4 9⅝; the declination here, 4° 10′, is given as printed, and no identity is asserted.

Reading	Value
The 5th, in the back, [the one] which follows, of the 5th magnitude. [5ta in dorſo quæ ſequitur, mag. 5tæ.]	
Right ascension from the bright [star] of ♈ [Aſc. R. a luc. ♈]	349° 44′ 34″
The other way round, from the Vulture [Viceverſa a Vulture]	349° 44′ 46″
True right ascension [Aſcenſio R. vera]	349° 44⅔′
Declination, north [Declinatio Borea]	3° 26′
Corresponding longitude [Reſp. Longitudo]	21° 46⅓′ ♓[2]
Latitude [Latitudo]	7° 13⅔′ north [B.]

3250

Reading	Value
The 6th, the preceding [star] in the belly, of the 5th magnitude, lesser. [6ta præcedens in aluo, mag. 5tæ min.]	
Right ascension from the bright [star] of ♈ [Aſc. R. a luc. ♈]	346° 27′ 30″
The other way round [Viceverſa]	346° 32′ 1″
From observation of the year 86 from the bright [star] of ♈ [Ex obſ. A[i] 86 a luc. ♈]	346° 28′ 25″
Mean right ascension [Aſcenſio R. media]	346° 28½′
Declination, south [Declinatio Auſtr.]	0° 58′
Corresponding longitude [Reſp. Longitudo]	17° 11′ ♓
Latitude [Latitudo]	4° 27′ north [B.]

3251

3250 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. In row 6 the footnote cue 2 follows the sign; footnote 2 gives the longitude that the value ought to be, and the printed value is kept. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 382, under 5 September, in the evening, in the entry whose left column is headed *Piſcis auſtralis*., the declination of 5 of ♓, north, with the magnitude 5, greater, is printed 3 25⅚ and 3 25½; the declination here, 3° 26′, and the magnitude, 5, are given as printed, and no identity is asserted.

3251 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds; in row 3 the 1 stands in the place of the seconds, with no mark. The mean of the three readings in rows 2–4 is 346° 29′ 18⅔″; the mean printed in row 5, 346° 28½′, does not agree with it, and is given as printed. On p. 382, under 5 September, in the evening, in the entry whose left column is headed *Piſcis auſtralis*., the declination of 6 of ♓, south, with the magnitude 4, is printed 0 58⅓ and 0 58⅔; on p. 383, under 28 September, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ*, with *per Armillas.* over the values, the declination of 6 is printed 0 57 south; the declination here, 0° 58′, and the magnitude, 5, lesser, are given as printed, and no identity is asserted.

Reading	Value
The 7th, the following [star] in the belly, of the 5th magnitude. [7a Sequens in aluo mag. 5tæ.]	
Right ascension from the bright [star] of ♈ [Aſc. R. a luc. ♈]	350° 17′ 52″
The other way round [Viceverſa]	350° 19′ 35″
Corrected right ascension [Aſcenſio R. emendata]	350° 18′ 40″
Declination, south [Declinatio Auſt.]	0° 28′ 30″
Corresponding longitude [Reſp. Longitudo]	20° 55′ ♓
Latitude [Latitudo]	3° 24⅔′ north [Bor.]

3252

Reading	Value
The 8th, in the tail of the southern ♓, of the 5th magnitude. [8va in cauda ♓is auſtralis, mag. 5tæ.]	
Right ascension from the bright [star] of ♈ [Aſc. R. a lucid. ♈]	354° 34′ 6″
The other way round [Viceverſa]	354° 34′ 52″
Corrected right ascension [Aſcenſio R. emendata]	354° 34½′
Declination, north [Declinatio borea]	4° 36¾′
Corresponding longitude [Reſp. Longitudo]	26° 52′ ♓
Latitude [Latitudo]	6° 23½′ north [B.]

3253

[1] This declination is 50′ less than the true [one]. [It] was observed on 1589 November 16. [Hæc declinatio 50′ minor quam vera eſt. Obſervata eſt die 16. Nov. 1589.]

3252 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 382, under 5 September, in the evening, in the entry whose left column is headed *Piſcis auſtralis.*, the declination of 7 of ♓, south, with the magnitude 5, lesser, is printed 0 28⅚ and 0 28½, the second the same as the declination here; on p. 383, under 28 September, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ*, with *per Armillas.* over the values, the declination of 7 is printed 0 28⅓ south; the declination here, 0° 28′ 30″, and the magnitude, 5, are given as printed, and no identity is asserted.

3253 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures; the sign of Pisces is printed with the raised genitive ending *is*. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 382, under 5 September, in the evening, in the entry whose left column is headed *Piſcis auſtralis.*, the declination of 8 of ♓, north, with the magnitude 5, is printed 4 36⅔ and 4 36⅓; on p. 381, under 5 January, in the evening, the declination of the tail of the southern ♓, by the armillae, is printed 4 36½ north; on p. 383, under 28 September, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ*, with *per Armillas.* over the values, the declination of 8 is printed 4 37⅓ north. The declination here, 4° 36¾′, is given as printed, and no identity is asserted.

[2] [It] ought to be 21° 56½′. An error of calculation. [Debet eße 21° 56½′. Error calculi.]

Reading	Value
The 9th. In the cord at the tail of the southern ♓, dim[1]. [9a In lino ad caudam Auſtralis ♓, obſcura[1].]	
Right ascension from the bright [star] of ♈ [Aſc. R. a lucida ♈]	355° 29′
The other way round, from the mouth of Pegasus [Viceverſa ab ore Peg.]	355° 24′
Mean right ascension [Aſcenſio R. media]	355° 26½′
Declination, north [Declinatio borea]	6° 8½′
Corresponding longitude [Reſp. Longitudo]	28° 16⅚′ ♓
Latitude [Latitudo]	7° 26⅚′ north [B.]

3254

The 10th [is] scarcely observable[2] [10a Vix obſeruabilis[2]][3255]

Reading	Value
The 11th. In the southern cord, the preceding [star] of the three bright [ones], of the 5th magnitude. [11a In lino auſtrali lucidarum trium præcedens, mag. 5tæ.]	
Right ascension from the 3rd of the intersect. of ♉ [Aſc. R. ab interſect. ♉ 3ia]	6° 50′ 9″
The other way round, from the 1st of the wing of Pegasus [Viceverſa a 1a alæ Peg]	6° 55′ 1″
Mean right ascension [Aſcenſio R. media]	6° 52⅔′
Declination, north [Declinatio borea]	5° 21½′
Corresponding longitude [Reſp. Longitudo]	8° 26′ ♈
Latitude [Latitudo]	2° 11′ north [B.]

3256

Reading	Value
The 12th. The middle [star] of the same, of magnitude 5. [12a Earundem media mag. 5.]	
Right ascension from the 3rd of the intersect. of ♉ [Aſc. R. a 3ia interſect. ♉]	10° 22′ 27″

[3254] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; no magnitude is printed for this star; the footnote cue 1 follows *obſcura*. Values printed as two bare figures are given as degrees and minutes.

[3255] The figure 10, with the raised ending *a*, stands at the head of this entry; *Vix obſeruabilis* is printed in smaller type to its right, with no point after it, and footnote 2 is keyed to it. No magnitude, description or figures are printed for this star.

[3256] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 2 the ordinal *3ia* is printed after the sign of ♉; it is given with "the 3rd", as in the rows that print *a 3ia interſect.* ♉. *interſect.* is kept abbreviated, as printed, in this row and in the rows of the 12th, 17th and 18th stars; it stands for *interſectio*, "intersection". In row 3 the 1 carries a second mark and the 55 none. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

Reading	Value
The other way round, from the 1st of the wing of Pegasus [Viceverſa a 1a alæ Peg.]	10° 28′ 22″
Mean right ascension [Aſcenſio recta media]	10° 25′
Declination, north [Declinatio Borea]	5° 41′
Corresponding longitude [Reſp. Longitudo]	11° 47⅚′ ♈
Latitude [Latitudo]	1° 5½′ north [B.]

3257

Reading	Value
The 13th. The following [star] of the three, of the 5th magnitude. [13a trium ſequens mag. 5tæ.]	
Right ascension [Aſcenſio R.]	13° 4′ 56″
The other way round [Viceverſa]	13° 7′ 33″
Mean right ascension [Aſcenſio R. media]	13° 6′
Declination, north [Declinatio Borea]	5° 24¾′
Corresponding longitude [Reſp. Longitudo]	14° 9′ ♈
Latitude [Latitudo]	0° 57½′ north[3] [B.[3]]

3258

Reading	Value
The 14th, of the 6th magnitude, lesser. In the bend of the cord, the preceding and more northern [star] of the two tiny [ones]. [14ta magn. 6tæ minor. In flexu lini duarum exiguarum antecedens ac borealior.]	
Right ascension from the 2nd of ♓, southern [Aſc. recta a 2da ♓ Auſtr.]	11° 53⅙′
The other way round, from Aldebaran [Viceverſa ab Aldeb.]	11° 49′ 30″
Corrected right ascension [Aſcenſio R. emendata]	11° 51½′
Declination, north [Declinatio Borea]	3° 27½′
Corresponding longitude [Reſp. Longitudo]	12° 14⅚′ ♈
Latitude [Latitudo]	1° 31′ south [M.]

[3257] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures; the magnitude is printed as the figure 5 with no ordinal ending, and is given as "magnitude 5". Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

[3258] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. Row 2 names no star. In row 7 the footnote cue 3 follows *B.*; footnote 3 gives the latitude that the value ought to be, and the printed value is kept. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 383, under 28 September, in the evening, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ per Armillas.*, the declination of 13, labelled *in lino* ♓ *auſt.*, is printed 5 24½ and 5 25⅙, with no magnitude printed; the declination here, 5° 24¾′, is given as printed, and no identity is asserted.

3259

Reading	Value
The 15th, of the 6th magnitude, lesser. The following [star] of the two tiny [ones] and more southern. [15ta magn. 6tæ minor. Sequens duarum exiguarum & auſtralior.]	
Right ascension from the 2nd of ♓, southern [Aſc. R a 2da ♓ auſt.]	14° 11′ 50″
The other way round, from Aldebaran [Viceverſa ab Aldebora]	14° 11′ 40″
Mean right ascension [Aſcenſio recta media]	14° 11¾′
Declination, north [Declinatio Borea]	1° 24′
Corresponding longitude [Reſp. Longitudo]	13° 36′ ♈
Latitude [Latitudo]	4° 19′ 24″[4]

3260

Reading	Value
The 16th. After the inflection, the preceding [star] of the three, of the 5th magnitude, lesser. [16ta Poſt inflexionem trium præcedens, mag. 5tæ min.]	
Right ascension from the 1st of the wing of Pegasus [Aſc. recta a 1a alæ Peg.]	17° 13′
The other way round [Viceverſa]	17° 10′
Mean right ascension [Aſcenſio recta media]	17° 11½′
Declination, north [Declinatio Borea]	4° 1⅔′
Corresponding longitude [Reſp. Longitudo]	17° 22⅚′ ♈
Latitude [Latitudo]	3° 3′ south [M.]

3259 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures; *antecedens* is given as "preceding". In row 2 no minute mark is printed after the fraction; the 53⅙ is given as minutes. In row 3 the 30 carries a second mark and the 49 none. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 385, at the head of the page, in the list dated 14 November and headed on p. 384 *Declinationes ſtellarum* ♓ *Borei*, the declination of the star numbered 14, labelled *in lino* ♓, is printed 3 28 with one pinnule and 3 27 with the other; the declination here, 3° 27½′, is given as printed, and no identity is asserted.

3260 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 2 no point follows the *R*. In row 7 the 24 carries a second mark, the 4 and 19 none, and no direction is printed after the latitude; none is supplied. The footnote cue 4 follows the second mark; footnote 4 gives the codex's reading and the catalogue's. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 384, under 28 October, in the evening, the declination labelled *15 in lino auſtrali*, north, is printed 1 21½ and 1 22⅔; on p. 385, at the head of the page, in the list dated 14 November and headed on p. 384 *Declinationes ſtellarum* ♓ *Borei*, the declination of the star numbered 15, which that list labels *in lino Bor.*, the northern cord, is printed 1 24¾ with one pinnule and 1 25½ with the other; the declination here, 1° 24′, is given as printed, and no identity is asserted.

3261

Reading	Value
The 17th. The middle [star], of the 5th magnitude. [17a Media, magnitudinis 5tæ.]	
Right ascension from the 3rd of the intersect. of ♉ [Aſc. R. a 3ia interſect. ♉]	19° 59′ 8″
The other way round, from the 1st of the wing of Pegasus [Viceverſa a 1a alæ Peg.]	20° 3′ 16″
Averaged right ascension [Aſcenſio R. mediata]	20° 1′
Declination, north [Declinatio borea]	3° 25½′
Corresponding longitude [Reſp. Longitudo]	19° 46$\frac{1}{12}$′ ♈
Latitude [Latitudo]	4° 40½′ south [A.]

3262

Reading	Value
The 18th. The following and last [star], of the 5th magnitude. [18va Sequens et vltima mag. 5tæ.]	
Right ascension from the 3rd of the intersect. of ♉ [Aſc. R. a 3ia interſect. ♉]	23° 3′ 27″
The other way round, from the first of the wing [Viceverſa a prima alæ]	23° 8′ 41″
Averaged right ascension [Aſcenſio R. mediata]	23° 6′
Declination, north [Declinatio borea]	1° 9′
Corresponding longitude [Reſp. Longitudo]	21° 47$\frac{1}{6}$′ ♈
Latitude [Latitudo]	7° 56$\frac{1}{6}$′ south [A.]

3263

Reading	Value
The 19th. [The star] which [is] brighter in the knot of both cords, of the 4th magnitude. [19a Quæ lucidior in nexu amborum linorum, mag. 4tæ.]	
Right ascension from the 3rd of ♉ [Aſc. R. a 3a ♉]	25° 12′ 46″
The other way round, from the 1st of the wing [Viceverſa a 1a alæ]	25° 12′ 24″

3261 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; *inflexionem* is given as "inflection", a different word from *flexu*, "bend", in the 14th star's description. Values printed as two bare figures are given as degrees and minutes.

3262 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. In row 6 the fraction is printed one-twelfth, and no minute mark is printed after it; the 46$\frac{1}{12}$ is given as minutes. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 383, under 28 September, in the evening, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ per Armillas.*, the declination of 17, labelled *in lino* ♓ *auſt.*, is printed 3 25 and 3 25¾, with no magnitude printed; the declination here, 3° 25½′, is given as printed, and no identity is asserted.

3263 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. In row 3 no constellation is printed after *alæ*, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

Reading	Value
Corrected right ascension [Aſcenſio R. emendata]	25° 12½′
Declination, north [Declinatio borea]	0° 45½′
Corresponding longitude [Reſp. Longitudo]	23° 37½′ ♈
Latitude [Latitudo]	9° 4⅔′ south [M.]

3264

Reading	Value
The 20th, of the 5th magnitude, lesser. In the northern cord, the preceding [star] from the junction. [20a mag. 5tæ min. In lino boreo a connexu præeedens.] [recte: præcedens]	
Right ascension from Aldebaran [Aſc. R. ab Aldebora]	20° 58′ 57″
The other way round, from the 1st of the wing [Viceverſa a 1ma alæ]	20° 58′ 57″

3265

[1] »Very dim« has been added in the margin. [In margine adſcriptum eſt »Obſcura admodum«.]

[2] Added in the margin in tiny letters. The place of the star is found in the *Progymnasmata* (mag. 6). [In margine litteris exiguis adſcriptum. Locus ſtellæ in Progymnasmatis reperitur (mag. 6).]

[3] The latitude ought to be 0° 12½′ south. An error of calculation. [Latitudo debet eße 0° 12½′ Auſtr. Error calculi.]

[4] So in the codex: 19⅘ 24″. The catalogue has 19½′. [Sic in codice: 19⅘ 24″. Catalogus habet 19½′.]

Reading	Value
True right ascension [Aſcenſio R. vera]	20° 58⅔′
Declination, north [Declinatio borea]	7° 5′
Corresponding longitude [Reſp. Longitudo]	22° 1⅔′ ♈
Latitude [Latitudo]	1° 38½′ north[1] [B.[1]]

3264 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 2 the ordinal is printed *3a*, with no *interſect.*; in row 3 no constellation is printed after *alæ*; nothing is supplied in either. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 383, under 28 September, in the evening, in the list headed *Declinationes ſtellarum in piſcibus quædam repetitæ ac obſeruatæ per Armillas.*, the declination of 19, labelled *ſeu lucid. in nodo lini auſtr.*, is printed 0 45⅓ north and 0 45¾, with no magnitude printed; the declination here, 0° 45½′, is given as printed, and no identity is asserted.

3265 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; the page prints *præeedens*, with an e where *præcedens* has a c. In row 3 no constellation is printed after *alæ*, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. Row 3 is the last line of the right column and of this page.

3266

Reading	Value
The 21st, of the 4th magnitude, lesser. After this [one], the southern [star] of the three. [21a mag. 4tæ min. Poſt hanc trium auſtralis.]	
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	18° 52′ 34″
The other way round [Viceverſa]	18° 51′ 32″
Corrected right ascension [Aſcenſio R. emendata]	18° 52′
Declination, north [Declinatio Borea]	10° 1′
Corresponding longitude [Reſp. Longitudo]	21° 5¾′ ♈
Latitude [Latitudo]	1° 51⅔′ north [Bor.]

3267

Reading	Value
The 22nd, of the 4th magnitude, lesser. The middle and brighter [star] in the northern knot. [22da mag. 4tæ min. Media et lucidior in nexu boreo.]	
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	17° 24′ 14″
The other way round, from the 1st of the wing [Viceverſa a 1a alæ]	17° 26′ 30″
Corrected right ascension [Aſcenſio R. emendata]	17° 25⅓′
Declination, north [Declinatio borea]	13° 12⅔′
Corresponding longitude [Reſp. Longitudo]	21° 5⅚′ ♈
Latitude [Latitudo]	5° 21¼′ north [Bor.]

3268

[3266] These four rows complete the entry for the 20th star of Pisces, which begins on p. 424; they stand at the head of the left column, with no star number or description. "Reading" and "Value" are this edition's heads; the page prints none. In row 1 the true right ascension, 20° 58⅔′, differs from both readings printed for this star on p. 424 (each 20° 58′ 57″); it is kept as printed. In row 4 the footnote cue 1 follows *B.*; footnote 1 states that the latitude is south, and the printed value is kept. Values printed as two bare figures are given as degrees and minutes.

[3267] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. Row 3 names no star. In row 2 the 18 carries a degree mark and the 34 a second mark, and the 52 no mark; the 52 is given as minutes. In row 6 no minute mark is printed after the fraction; the 5¾ is given as minutes. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

[3268] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 3 no constellation is printed after *alæ*, and none is supplied. The list of declinations dated 28 September on p. 383 gives, under the number 22, *in lino Boreali*, 13° 12⅓′ and 13° 13′; the declination in row 5 is 13° 12⅔′. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

Reading	Value
The 23rd, of the 5th magnitude. The northern [star] of the three and last in the cord. [23ia mag. 5tæ. Borea trium et vltima in lino.]	
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	16° 5′ 44″
The other way round, from the 1st of the wing [Viceverſa a 1ma alæ]	16° 9′ 7″
Mean right ascension [Aſcenſio R. media]	16° 7½′
Declination, north [Declinatio borea]	17° 4½′
Corresponding longitude [Reſp. Longitudo]	21° 26⅙′ ♈
Latitude [Latitudo]	9° 24′ north [Bor.]

3269

Reading	Value
The 24th, of the 6th magnitude. The northern [star] of the two in the mouth of the northern ♓. [24ta mag. 6tæ. Duarum in ore ♓ borealis borea.]	
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	12° 8′ 35″
The other way round, from the 1st of the wing of Pegasus [Viceverſa a 1a alæ Peg.]	12° 13′ 8″
Mean right ascension [Aſcenſio R. media]	12° 10′
Declination, north [Declinatio borea]	29° 14′
Corresponding longitude [Reſp. Longitudo]	23° 4⅔′ ♈
Latitude [Latitudo]	21° 59½′ north [Bor.]

3270

Reading	Value
The 25th, of the 5th magnitude. The southern [star] in the mouth of the same northern ♓. [25ta mag. 5tæ. Auſtralis in ore ♓ eiusdem borei.]	
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	12° 21′ 25″
The other way round, from the 1st of the wing [Viceverſa a 1a alæ]	12° 22′ 15″
Corrected right ascension [Aſcenſio R. emendata]	12° 22′
Declination, north [Declinatio borea]	27° 54¾′
Corresponding longitude [Reſp. Longitudo]	22° 39¼′ ♈
Latitude [Latitudo]	20° 43⅙′ north [Bor.]

3269 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 3 no constellation is printed after *alæ*, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3270 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 4 the mean of the two readings in rows 2 and 3 is 12° 10′ 51½″; the printed mean, 12° 10′, is kept as printed. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3271

Reading	Value
The 26th, of the 6th magnitude, much lesser. The more northern [star] of the triangle in the head of the northern [fish]. [26ta magnitudinis 6tæ multo minor. Borealior trianguli in capite Borei.]	
Right ascension from Scheat of Pegasus [Aſc. recta a Scheat Peg.]	9° 0′ 0″
The other way round, from Aldebaran [Viceverſa ab Aldebora]	8° 55′ 23″
Mean right ascension [Aſcenſio R. media]	8° 57⅔′
Declination, north [Declinatio Borea]	26° 44¾′
Corresponding longitude [Reſp. Longitudo]	19° 12⅓′ ♈
Latitude [Latitudo]	20° 55⅗′ north [B.]

3272

Reading	Value
The 27th, of the 6th magnitude, lesser. The more southern [star] of the three in the triangle. [27a magnitudinis 6tæ min. Trium auſtralior in triangulo.]	
Right ascension from Scheat of Pegasus [Aſc. R. a Scheat Peg.]	8° 30′ 12″
The other way round, from Aldebaran [Viceverſa ab Aldeb.]	8° 28′ 2″
Corrected right ascension [Aſcenſio R. emenda.a] [recte: emendata]	8° 29′
Declination, north [Declinatio Borea]	24° 52′
Corresponding longitude [Reſp. Longitudo]	17° 56¼′ ♈
Latitude [Latitudo]	19° 24⅙′ north [B.]

3273

3271 "Reading" and "Value" are this edition's heads; the page prints none. Rows 1–4 stand at the foot of the left column and rows 5–7 at the head of the right column; row 1 stands on two lines, with no figures. In row 3 no constellation is printed after *alæ*, and none is supplied. The list of declinations dated 14 November on p. 384 gives, under the number 25, 27° 54½′ with one pinnule and 27° 55′ with the other; the declination in row 5 is 27° 54¾′. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3272 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; *Borei* stands with no noun or sign after it. In row 7 the fraction is printed three-fifths. On p. 385 the list of declinations gives, under the number 26, 26° 44½′ and 26° 45′; the declination in row 5 is 26° 44¾′. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3273 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 4 the page prints *emenda.a*, with a point where *emendata* has a t. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

Reading	Value
The 28th, of the 6th magnitude, lesser. The preceding [star] of the triangle in the head of the northern ♓. [28va magnitudinis 6tæ min. Antecedens trianguli in capite ♓ bor.]	
Right ascension from Scheat of Pegasus [Aſc. recta a Scheat Peg.]	7° 1½′
The other way round, from Aldebaran [Viceverſa ab Aldeb.]	7° 2′
Mean right ascension [Aſcenſio recta media]	7° 1¾′
Declination, north [Declinatio borea]	25° 21¾′
Corresponding longitude [Reſp. Longitudo]	16° 53⅓′ ♈
Latitude [Latitudo]	20° 24¼′ north [B.]

3274

Reading	Value
The 29th, of the 6th magnitude, greater. In the southern spine, the preceding [star] of the three, near the left elbow of Andromeda. [29na mag. 6tæ mai. In auſtrali ſpina trium præcedens, prope ſiniſtrum cubitum Andromedæ.]	
Right ascension from Aldebaran [Aſc. R. ab Aldebora]	10° 59′ 0″
The other way round, from the 1st of the wing of Pegasus [Viceverſa a 1ma alæ Peg.]	11° 1′ 44″
Corrected right ascension [Aſcenſio R. emendata]	11° 0⅓′
Declination, north [Declinatio borea]	19° 17½′
Corresponding longitude [Reſp. Longitudo]	17° 46½′ ♈
Latitude [Latitudo]	13° 21½′ north [Bor.]

3275

Reading	Value
The 30th, of the 6th magnitude, lesser. The middle [star]. [30ma mag. 6tæ min. Media.]	
Right ascension from Scheat of Pegaſi [Aſc. R. a Scheat Pegaſi]	11° 31½′
Declination, north [Declinatio borea]	18° 24⅔′
Corresponding longitude [Reſp. Longitudo]	17° 52′ 26″ ♈
Latitude [Latitudo]	12° 21′ 24″ north[2] [B.[2].]

3274 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; *antecedens* is given as "preceding". On p. 385 the list of declinations gives, under the number 28, 25° 21⅓′ twice and, at another time, 25° 29′; the declination in row 5 is 25° 21¾′. Values printed as two bare figures are given as degrees and minutes.

3275 "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures; the word *cubitum* is divided across a line end. The list of declinations dated 14 November on p. 384 gives, under the number 29, magnitude 5, and 19° 18′ with one pinnule and 19° 17¼′ with the other; on p. 381, in the lower block whose left column is headed 5 January, the list gives 19° 15½′ for the declination of the preceding [star] in the southern spine of the northern fish. Row 1 here gives the 6th magnitude, greater, and row 5 19° 17½′. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

3276

[1] The latitude is south, as the calculation from the right ascension and declination shows. Yet all the codices of the catalogue known to us (as also the *Progymn.*) give a northern [latitude]. [Latitudo eſt auſtralis, ut ex aſcenſione recta et declinatione demonſtrat calculus. Omnes tamen codices catalogi nobis noti (ſicut etiam Progymn.) borealem præbent.]

[2] [It] has been added in the margin: »The distance of this [star] from Scheat of Pegasus was found the same twice at different times. But the other way round, from the eye of ♉ not«... The leaf has been cut off here. [Adſcriptum eſt in margine: »Diſtantia huius a Scheat Pagaſi bis diuerſis temporibus eadem reperta eſt. Viceverſa autem ab oculo ♉ non«... Folium hic reſectum eſt.] [recte: Pegaſi][3277]

Reading	Value
The 31st, of the 6th magnitude. The lowest and southern [star] of the three. [31a mag. 6tæ. Trium infima & auſtralis.]	
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	12° 0′ 10″
The other way round, from the 1st of the wing [Viceverſa a 1a alæ]	12° 5′ 2″
Averaged right ascension [Aſcenſio R. mediata]	12° 3′
Declination, north [Declinatio borea]	17° 31½′
Corresponding longitude [Reſp. Longitudo]	17° 58⅚′ ♈
Latitude [Latitudo]	11° 20¾′ north [Bor.]

3278

Reading	Value
The 32nd, of the 5th magnitude. In the belly, [the one] of the two which [is] more northern, or in the side. [32da mag. 5tæ. In aluo duarum quæ borealior ſeu in latere.]	
Right ascension from Aldebaran [Aſc. R. ab Aldebora]	14° 20′ 56″

[3276] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on one line, with no figures. Only one reading is printed for this star, and no mean or corrected value. In row 5 the footnote cue 2 follows *B.*, and a point follows the cue. The list of declinations dated 14 November on p. 384 gives, under the number 30, magnitude 6, and 18° 25′ with one pinnule and 18° 24½′ with the other; on p. 385 the list gives, under the number 30, 18° 24½′ and 18° 25⅙′; the declination in row 3 is 18° 24⅔′. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

[3277] In footnote 2 the page prints *Pagaſi*, with an a where *Pegaſi* has an e; the name is given as "Scheat of Pegasus".

[3278] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures. In row 3 no constellation is printed after *alæ*, and none is supplied. The list of declinations dated 14 November on p. 384 gives, under the number 31, magnitude 5, lesser, and 17° 31¼′ with one pinnule and 17° 31½′ with the other, the second the same as the declination here; row 1 here gives the 6th magnitude. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

Reading	Value
The other way round, from the 1st of the wing of Pegasus [Viceverſa a 1a alæ Peg.]	14° 19′ 19″
Corrected right ascension [Aſcenſio R. emendata]	14° 20′
Declination, north [Declinatio borea]	25° 6′
Corresponding longitude [Reſp. Longitudo]	23° 7⅔′ ♈
Latitude [Latitudo]	17° 25⅚′ north [Bor.]

3279

Reading	Value
The 33rd, of the 5th magnitude. [The star] which [is] more toward the south in the middle...[1] [33ia mag. 5tæ. Quæ magis in auſtrum in media...[1]]	
Right ascension from Aldebaran [Aſc. R. ab Aldebora]	12° 56′ 30″
The other way round, from the 1st of the wing of Pegasus [Viceverſa a 1a alæ Peg.]	12° 58′ 7″
Corrected right ascension [Aſcenſio R. emendata]	12° 57⅓′
Declination, north [Declinatio borea]	22° 26′
Corresponding longitude [Reſp. Longitudo]	20° 48⅙′ ♈
Latitude [Latitudo]	15° 30⅙′ north [Bor.]

3280

The 34th is not seen[2] [34ta non conſpicitur[2].][3281]

Reading	Value
The 35th, of the 5th magnitude, lesser. [The star] which follows the middle [star] of the three in...[3] [35ta mag. 5tæ min. Quæ ſequitur mediam trium in...[3]]	
Right ascension from Aldebaran [Aſc. R. ab Aldeb.]	12° 21′ 20″
The other way round, from the 1st of the wing [Viceverſa a 1a alæ]	12° 24′ 22″

[3279] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on three lines, with no figures. In row 6 no degree mark is printed after the 23 and no minute mark after the fraction; the figures are given as degrees and minutes. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 381, under 5 January, in the evening, the declination of the northern [star] in the belly of the northern fish is printed 25 3¾; the declination here, 25° 6′, is given as printed, and no identity is asserted.

[3280] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; the description ends in three points, followed by the footnote cue 1. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds. On p. 381, under 5 January, in the evening, the declination of the lower of the two in the belly of the northern ♓ is printed 22 23; the declination here, 22° 26′, is given as printed, and no identity is asserted; the description here breaks off, and the pairing rests on the 32nd being the more northern of the two in the belly.

[3281] The figure 34, with the raised ending *ta*, stands at the head of this entry; *non conſpicitur* is printed in smaller type to the right of the column, followed by the footnote cue 2 and a point. No magnitude, description or figures are printed for this star.

Reading	Value
Corrected right ascension [Aſcenſio R. emend.]	12° 23′
Declination, north [Declinatio borea]	18° 52½′
Corresponding longitude [Reſp. Longitudo]	18° 49½′ ♈
Latitude [Latitudo]	12° 27½′ north [Bor.]

3282

[1] The leaf has been cut off. [Folium reſectum eſt.]

[2] [It] is missing in the catalogue; [it] is the star B. D. +19°. 226, mag. 6. [Deeſt in catalogo, eſt ſtella B. D. +19°. 226, mag. 6.]

[3] [It] ought to be »in the southern spine«. The leaf has been cut off. [Debet eße »in auſtrali ſpina«. Folium reſectum eſt.]

Editor's note [ANNOTATIO EDITORIS.]

The star catalogue preserved in the Copenhagen codex 316 (G), which we promised in volume X, p. XVIII, that we would present at the end of this volume, will have its place in volume XII after the observations of the year 1592. [Catalogus ſtellarum in codice Haunienſi 316 (G) aßervatus, quem in tomi X p. XVIII ad finem hujus tomi nos exhibituros eße promiſimus, in tomo XII poſt obſervationes anni 1592 locum tenebi t.][3283]

What the Eleventh Volume Contains [QUÆ UNDECIMO TOMO CONTINENTUR.]

	Pag.
Observations of the year 1586 [Obſeruationes anni 1586]	1–128
Observations of the year 1587 [Obſeruationes anni 1587]	129–243
Observations of the year 1588 [Obſeruationes anni 1588]	244–310
Observations of the year 1589 [Obſeruationes anni 1589]	311–382
Appendix to the observations of the year 1589 [Appendix ad Obſeruationes anni 1589]	383–412
Catalogue of the stars in the zodiac [Catalogus ſtellarum in Zodiaco]	383

[3282] "Reading" and "Value" are this edition's heads; the page prints none. Row 1 stands on two lines, with no figures; the description ends in three points, followed by the footnote cue 3. In row 3 no constellation is printed after *alæ*, and none is supplied. Values printed as two or three bare figures are given as degrees and minutes, or degrees, minutes and seconds.

[3283] In the last word the page prints *tenebi t*, with a space before the final t, which is printed lighter than the letters before it.

3284

___3285

- Printed by Nielsen & Lydiche [TYPIS DESCRIPSERUNT NIELSEN & LYDICHE]
- (Axel Simmelkiær)
- The paper was supplied by the Associated Paper Mills [CHARTAM PRÆBUERUNT OFFICINÆ CHARTARIÆ CONSOCIATÆ]
- (The United Paper Mills) [Danish: (DE FORENEDE PAPIRFABRIKKER)]
- What had to be reproduced by the aid of light was reproduced by [QUÆ LUCIS OPE EXPRIMENDA ERANT EXPRESSIT]
- F. Hendriksen
- Number of copies for sale: 225 [NUMERUS EXEMPLORUM VENALIUM: 225][3286]
- The eleventh volume left the press [UNDECIMUS TOMUS PRELUM RELIQUIT]
- on the 6th day of the month of September [DIE 6 MENSIS SEPTEMBRIS]
- in the year 1924 [ANNO MCMXXIV]

___3287

___3288

[Handwritten mark: a fine grey stroke forming a narrow pointed loop, with the start of a second curve below it, at the foot of the page a little left of centre, running off the lower edge of the scan; no letter can be settled.] [?]

___3289

___3290

___3291

___3292

[Rear endpaper of the library binding. Nothing from the 1924 edition stands on it, and apart from the library matter below the leaf is blank.]

[3284] The page prints a head only over the page references (Pag.); the entry column has no printed head, and none is supplied. The page references are this edition's own printed page numbers, as set, not the page numbers of any facsimile or digital copy. On the page a row of leader dots joins each entry to its reference; the dots are not reproduced. The last entry is set in from the left, as a sub-entry under the appendix.

[3285] No page number and no running head are printed on this page. The page carries one centred block of roman capitals in two groups, seven lines and then three, divided by a short centred horizontal rule; the rest of the page is blank.

[3286] A short horizontal rule, centred.

[3287] This page is blank.

[3288] No printed matter of its own stands on this page; it is blank apart from one handwritten mark at the foot.

[3289] This page is blank.

[3290] This page is blank.

[3291] This page is blank.

[3292] This page is blank.

Binding Section, 1970 July 29[3293]

[A buff library card pocket is pasted at the lower right of the leaf. In its upper left is a typewritten label, with the shelfmark down the left and the catalogue heading to the right:]

QB / 3 / B83 / t.11 / Brahe, Tyge / Opera omnia

P&ASci

[Below the label, the pocket carries a printed notice, with a rule between its second and third lines and a rule below it:]

PLEASE DO NOT REMOVE CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY

[Rear board of the library binding: plain blue buckram with no lettering, label, stamp or other mark.][3294]

[3293]the stamp sets six figures after the month, with a wider space after the first than between the other five; they are taken here as the day 29 and the year 1970. The top stroke of the last figure is faintly inked.

[3294]This page carries no text.