Tychonis Brahe Dani Thesaurus Observationum, Tomus I — Editorial footnotes (draft)

Tycho Brahe (1546–1601), observations; J. L. E. Dreyer (1852–1926), editor. Drafted editorial footnotes for review before publication. Each note is keyed to its anchor in the **manuscript-grade complete edition** — the collated output that retains the per-batch/page scaffolding the anchors reference (produced by `ms`). The reading in the main text is **preserved as printed/transcribed** and is not altered by these notes. The note text below is a **draft** — review and edit before publication.

The notes are classified as follows:

- **Category B — source compositor error.** A printing, compositor, or scribal error in the source itself (a wrong letter or digit, a dropped or doubled word, a non-resolving citation). The likely intended reading is noted, but the main text preserves exactly what is printed.
- **Category C — author/source anomaly.** An anomaly originating with the author or the source rather than the typesetting (a factual or geographic slip, a misattribution, an internal inconsistency, or a deliberate but unusual feature). Recorded as written.
- **Missing-source lacuna.** A point where source text is missing, damaged, or illegible. The note states what should stand at the gap and points to an alternate witness where one is known.

#	Anchor	Cat.	Item
1	front matter	C	About the volume's internal disagreements
2	batch_024 / p.6	C	♃ and ♄ positions of 23 May against the 25 May entry
3	batch_025 / p.7	B	11 Nov. 1564: quotient 445 2/3 against 1560000 ÷ 3500
4	batch_025 / p.8	B	♄ and the neck of ♑: quotient 217 5/35 against 750000 ÷ 3500
5	batch_026 / p.9	B	♄ and Regulus, item 1: product 5280000
6	batch_026 / p.9	B	♄ and Regulus, item 3: sights 339 against product 396000
7	batch_029 / p.16	B	One star printed at 4° 17′ ♎ and at 4° 17′ ♏
8	batch_031 / p.19	B	Tabula Parallaxium: arguments 51–60 run about 10″ low

#	Anchor	Cat.	Item
9	batch_044 / p.46	C	20 March: two distances filed under a date Dreyer's note excludes
10	batch_048 / p.53	C	Advance of the fixed stars since Copernicus: 32 against 46
11	batch_052 / p.62	B	Dreyer's footnote cites the Progymnasmata at 'pagina 02'
12	batch_058 / p.74	C	June 1579, day 19: meridian altitude 55 26 in a run at 57
13	batch_059 / p.76	B	Dreyer's footnote cites the Progymnasmata at 'p. 02'
14	batch_063 / p.83	B	Dreyer's footnote 3 cites 'pag. 02'
15	batch_089 / p.136	B	5 March 1582, second reading: declination 2 10 5
16	batch_093 / p.143	C	28 Feb. 1582: italic of col. 1, lines 1–13, follows the Corrigenda
17	batch_096 / p.149	la- cuna	A distance announced at H. 2 M. 25 with no figure set
18	batch_096 / p.149	B	Interval stated as H. 1 M. 35 between H. 1 M. 0 and H. 2 M. 25
19	batch_097 / p.151	B	BAC 48 36 32 against the right ascensions' 48 36 30
20	batch_097 / p.151	B	BA 64° 52′ against the complement of 25 10
21	batch_097 / p.152	B	107 54½ against 56 11 + 51 38½
22	batch_103 / p.164	B	Declination 26 3 B in the computation against 25° 3′ in the paragraph
23	batch_112 / p.182	C	'Extrema pedis ♉' against 'Extrema pedis ♊' with the same value
24	batch_125 / p.207	B	14 59′ 0″ less 5 15 printed 15 53 45
25	batch_126 / p.209	C	♀ and Aldebaran: 3 57½ where the same distance is 30 59
26	batch_127 / p.211	B	Right ascension of Aldebaran 63 1 40 against 40 43 52 + 22 17 18
27	batch_131 / p.220	C	Apparent right ascension of ☉ printed 30 47 47 and 30 47 44
28	batch_138 / p.234	C	6 July 1583: portable quadrant 56 36½ against mural 55 37⅓
29	batch_141 / p.240	B	Apparent declination 23 26 0 against 57 31 30 − 34 7
30	batch_145 / p.248	C	'Inter ♊ et infer. caput ♊' where the neighbouring runs print ♂
31	batch_160 / p.277	C	'Oculus ♈' against 'Oculus ♉' on the facing page
32	batch_165 / p.287	B	KLO printed 48 10 0 against 81 50 45 − 33 40 40
33	batch_170 / p.298	C	A sentence printed without its negative (aberrabimus)
34	batch_182 / p.321	C	Meridian altitude of ♃: 44 10⅓ etc. against the italic 44° 19′ fere

#	Anchor	Cat.	Item
35	batch_191 / p.340	B	One working carries the same quantities with different seconds
36	batch_192 / p.341	B	I ratio, line II: 83 54½ against the second list's 85 54 30
37	batch_192 / p.341	B	Heading 'III. A Spica a Vulturem' prints 'a' where the parallel headings print 'ad'
38	batch_194 / p.346	B	26 May 1584, right shoulder of Ophiuchus: Corrigenda 40 27⅓
39	batch_200 / p.357	C	10 Sept. 1585, row 6 48½: declination 16 35″
40	batch_207 / p.372	B	'Muralem' set as 'Mura' / 'ralem', the syllable ra repeated across the line break
41	batch_214 / p.386	B	Difference of right ascension 85 40 against 42 38 + 42 42
42	batch_215 / p.388	B	Right-ascension difference printed with the unreduced fraction 2/8
43	batch_218 / p.393	B	4 March 1585, northern armillae: ♃ differences printed 39 for 29
44	batch_220 / p.397	B	19 March 1585: right ascension of ♂ printed 125 25 33
45	batch_223 / p.404	C	20 Sept. table, row 7 15: 43 28 among 43 35–43 44
46	batch_224 / p.406	C	Latitude 1° 15′ M. against the table's observed 1 27 M.
47	batch_225 / p.408	C	Sextant value 47 46½ against the values it is said to lie between
48	batch_226 / p.409	C	5 19 subterr.: 7 6 where the lines above read 17 5½, 17 5⅔
49	batch_226 / p.410	B	Row 3: 29 42½ against 51 48½ − 22 16
50	batch_227 / p.412	C	'Lucida ♈ occ. 3 12' with no tens figure, under 73 12
51	batch_228 / p.414	B	24 Nov. 1585, altitude of ☿ at 7 27½: page 5⅜, Corrigenda 'pro 5⅔ leg. 5⅓'
52	batch_229 / p.415	B	13 Dec. 1585, observation of ♄: row 2 does not sum to the constant 50 39
53	batch_234 / p.426	C	One star at 43 20⅙ by the portable quadrant and 47 20⅙ by the sextant

1. front matter — *Category C — author/source anomaly*

The printed volume often disagrees with itself: one quantity is given with different figures on the same leaf, a stated result is not what the adjacent figures produce, a value breaks the run of its column, or a planetary sort conflicts with another entry. This translation keeps every figure as the page prints it and never corrects the arithmetic; where a disagreement has been checked against the page and confirmed as printed, a short note at that place states what the page prints and where the disagreement lies. Corrections made by Dreyer's own Corrigenda (pp. 429–431) are shown in the text as [recte: … — Corrigenda, p.

N], and a note is added only where the ground for such a correction cannot be seen from the bracket. Where the Corrigenda say a passage should have been set in sloping type (Tycho's own hand) or in upright type, the italic of this translation follows the Corrigenda rather than the print.

2. batch_024 / p.6 — *Category C — author/source anomaly*

The two-row group under 23 May prints ♃ at 29° 38′ ♋ and ♄ at 4° 50′ ♌. The 25 May entry on the same page gives ♃ 5° 10′ ♌ and ♄ 29° 50′ ♋, and the 30 May entry puts ♄ close to ♂ in ♋, so the two sorts in the 23 May group stand the other way about. The sorts are confirmed as printed and are kept.

3. batch_025 / p.7 — *Category B — source compositor error*

The source prints the quotient as 445 2/3. The page's own product 1560000 divided by its fixed place 3500 gives 445 5/7. Preserved as printed.

4. batch_025 / p.8 — *Category B — source compositor error*

The source prints the quotient as 217 5/35. The page's own product 750000 divided by 3500 gives 214 10/35 (214 2/7); the other three divisions on this page reproduce their printed quotients. Preserved as printed.

5. batch_026 / p.9 — *Category B — source compositor error*

The source prints the sights' distance 440, the product 5280000 and the quotient 132. With the multiplier 1200 used in the neighbouring reductions, 440 gives 528000, which divided by 4000 is the printed 132; the printed product has one figure too many. Preserved as printed.

6. batch_026 / p.9 — *Category B — source compositor error*

The source prints the sights' distance as 339 with the product 396000 and the quotient 132. The product and quotient correspond to 330 (330 × 1200 = 396000; ÷ 3000 = 132), which is the figure the 20 November table on p. 8 gives at this setting, not to 339. Preserved as printed.

7. batch_029 / p.16 — *Category B — source compositor error*

Under 14 April the place of the third star in the left wing of Virgo is printed 4° 17′ ♎; under 5 May the same star, referred back to ('mentioned above'), is printed 4° 17′ ♍. The degree and minute figures agree and the sign sorts do not. Both are kept as printed.

8. batch_031 / p.19 — *Category B — source compositor error*

In the parallax table the column for arguments 51–60 runs about 10″ below the step kept by arguments 1–50: argument 50 prints 1 54 35 and argument 51 prints 1 56 42, where the regular step (alternately 2′ 17″ and 2′ 18″) would give 1 56 52, and the offset persists to argument 60 (2 17 20). The column was re-read independently and is confirmed as printed; it is kept.

9. batch_044 / p.46 — *Category C — author/source anomaly*

Under 20 March the page prints, after the entries for the hour 8¾, two further distances: ♂ and ☿ 4 18 at the hour 7¼, and Regulus and ♃ 10 27. Dreyer's footnote to them states that these two distances were certainly not observed on 20 March, yet his text files them under that date. Both entries stand where the page prints them.

10. batch_048 / p.53 — *Category C — author/source anomaly*

The left file ends 'By so much have the fixed stars advanced since Copernicus 32.', while two lines above it gives the equivalent in longitude as 0 46, and the right file gives the star's motion since Copernicus as 46. Both figures are kept as printed.

11. batch_052 / p.62 — *Category B — source compositor error*

Dreyer's footnote 1 prints the page reference to the Progymnasmata as '(pagina 02)': two figures only, with no trace of a lost leading figure. A page 02 cannot be meant. The same form recurs in his notes on pp. 76 and 83. Preserved as printed.

12. batch_058 / p.74 — *Category C — author/source anomaly*

In the June register of the Sun's meridian altitudes the source prints day 19 as 55 26, marked 'bona'. Day 18 prints 57 29 and day 22 prints 57 16, and every other June entry reads 57 in the degree column. Preserved as printed.

13. batch_059 / p.76 — *Category B — source compositor error*

Dreyer's footnote 1 prints the page reference to the Progymnasmata as 'p. 02'. A page 02 cannot be meant; the same form stands in his notes on pp. 62 and 83. Preserved as printed.

14. batch_063 / p.83 — *Category B — source compositor error*

Dreyer's footnote 3 prints the page reference as 'pag. 02'; both copies consulted print the same two figures. A page 02 cannot be meant; the same form stands in his notes on pp. 62 and 76. Preserved as printed.

15. batch_089 / p.136 — *Category B — source compositor error*

In LOCA SOLIS the second reading for 5 March carries 31 56 25 and, in the declination column, 2 10 5. In every neighbouring row the two figures sum to 34 7 0 (the first reading for the same day has 31 56 0 and 2 11 0), which gives 2 10 35 for the second reading. Preserved as printed.

16. batch_093 / p.143 — *Category C — author/source anomaly*

The first thirteen lines of column 1 (from 'Then we observed ☾ against the Sun with the Armillae' to 'the upper horn for the altitude') are printed in upright type. Dreyer's Corrigenda (p. 429) state that p. 143, col. 1, lines 1–13 should have been set in sloping type, except the words 'H. 4 9 20 … 56 57', and the italic here follows that entry. Because column 2 opens in italic, the entry was at first suspected to mean column 2; a re-reading of the Corrigenda leaf confirms that it names column 1, where the page's lines 1–13 are indeed upright.

17. batch_096 / p.149 — *Missing-source lacuna*

The line 'H. 2 M. 25 diſtantia centri ☾ a ☉, aßumto ſemidiametro 15ᴹ.' announces a distance of the Moon's centre from the Sun and prints no figure for it. The space where a figure would stand closes to an ordinary word space, so no figure was set; nothing is supplied.

18. batch_096 / p.149 — *Category B — source compositor error*

The two times stated, H. 1 M. 0 and H. 2 M. 25, are 1 hour 25 minutes apart, while the text names the interval as H. 1 M. 35. Both are preserved as printed.

19. batch_097 / p.151 — *Category B — source compositor error*

The source prints BAC as 48 36 32, while the two right ascensions it is taken from give 48 36 30. Preserved as printed.

20. batch_097 / p.151 — *Category B — source compositor error*

The source prints BA as 64° 52′, while the declination beside it, 25 10, has the complement 64 50. Preserved as printed.

21. batch_097 / p.152 — *Category B — source compositor error*

The source prints 107 54½, while its terms 56 11 and 51 38½ sum to 107 49½. Preserved as printed.

22. batch_103 / p.164 — *Category B — source compositor error*

The computation on this page gives the declination as 26 3 B, while the paragraph states it as 25° 3′, a degree less. Both are preserved as printed.

23. batch_112 / p.182 — *Category C — author/source anomaly*

The left column prints a distance to 'Extrema pedis ♉' (the end of the foot of ♉); the next day the same value is printed against 'Extrema pedis ♊', the star named so elsewhere in the volume. The sign sorts disagree; both are kept as printed.

24. batch_125 / p.207 — *Category B — source compositor error*

The source subtracts 5 15 from 14 59′ 0″ and prints the result as 15 53 45; the subtraction gives 14 53 45, a degree less. Preserved as printed.

25. batch_126 / p.209 — *Category C — author/source anomaly*

The source prints the distance of ♀ and Aldebaran as 3 57½, a single 3 in the degree place, while the same distance earlier on the page (at H. 7 5′) is 30 59. The space before 57½ is an ordinary space, so no figure appears to have been lost from the ink. Preserved as printed.

26. batch_127 / p.211 — *Category B — source compositor error*

The source adds the apparent right ascension of ♀, 40 43 52, and the difference 22 17 18, and prints the right ascension of Aldebaran as 63 1 40; the sum is 63 1 10. Preserved as printed.

27. batch_131 / p.220 — *Category C — author/source anomaly*

The apparent right ascension of ☉ is printed 30 47 47 in the left column and 30 47 44 in the right; the right column's sum (30 24 17 + 30 47 44 = 61 12 1) closes on the second figure. Both are preserved as printed.

28. batch_138 / p.234 — *Category C — author/source anomaly*

For 6 July the source prints the mural quadrant's altitude as 55 37⅓ and the portable quadrant's as 56 36½. The Sun's meridian altitude is falling through these days (56 12½ on 2 July, 55 46 10 on the 5th, 54 43 on the 11th), so the portable figure stands a degree above the run and above the mural reading of the same day. Both copies consulted print 56. Preserved as printed.

29. batch_141 / p.240 — *Category B — source compositor error*

The note on this page gives the apparent declination as 23 26 0, while the altitude 57 31 30 less the equator's altitude 34 7 gives 23 24 30. Preserved as printed.

30. batch_145 / p.248 — *Category C — author/source anomaly*

The italic line prints the distance as 'Inter ♊ et infer. caput ♊', between ♊ and the lower head of ♊, where the neighbouring runs measure ♂ against that star. The sign is kept as printed.

31. batch_160 / p.277 — *Category C — author/source anomaly*

This page prints 'Oculus ♈' (the eye of ♈), while the facing page prints the star as 'Oculus ♉' / 'oculum ♉', the eye of the Bull. The sign sorts disagree; both are kept as printed.

32. batch_165 / p.287 — *Category B — source compositor error*

The source takes MLO, 33 40 40, from KLM, 81 50 45, and prints the result (KLO / TLS) as 48 10 0; the difference is 48 10 5. Preserved as printed.

33. batch_170 / p.298 — *Category C — author/source anomaly*

The source prints *Si itaque collatis ſingulis poli altitudinem aßumamus 55 54⅔, infallibiliter quo ad ſenſum aberrabimus*, "we shall err infallibly as far as the senses can tell". The sense of the passage requires *non aberrabimus*, "we shall not err"; the negative is not printed. Preserved as printed.

34. batch_182 / p.321 — *Category C — author/source anomaly*

The observed meridian altitudes of ♃ are printed 44 10⅓, 44 10¼ and 44 10⅙, while the italic statement gives 44° 19′ fere, about nine minutes more. Both are preserved as printed.

35. batch_191 / p.340 — *Category B — source compositor error*

Within this computation the same quantities are printed with different figures: the pair 90 46 0 and 85 54 0 reappears as 90 46 15 and 85 54 5; the side AB/BL is 74 24 30 on p. 339 and 74 24 20 here; and 74 44 58 reappears as 74 45 0. Each figure is preserved as printed.

36. batch_192 / p.341 — *Category B — source compositor error*

In the I ratio the first list prints line II as 83 54½, while the second list gives the same line as II. 85 54 30, two degrees more. Both are preserved as printed.

37. batch_192 / p.341 — *Category B — source compositor error*

The third heading of the computation prints *III. A Spica a Vulturem*, with *a* where the parallel headings print *ad* ("to"). The sense requires *ad*. It is rendered "From Spica to Vultur" and the printed *a* is kept in the bracket. The reading is the same on the Internet Archive and TIB Hannover copies.

38. batch_194 / p.346 — *Category B — source compositor error*

The page prints 40 27½; Dreyer's Corrigenda (p. 430) read 'pro 40 27½ leg. 40 27⅓'. The Corrigenda's small denominator can be taken for an 8; read on the Corrigenda leaf against that leaf's own 3s, it is a 3, and the [recte:] gives 40 27⅓ accordingly.

39. batch_200 / p.357 — *Category C — author/source anomaly*

In the 10 September table the declination column runs 1° 16′, 15½, 14⅚, 14½, 14, then prints 16 35″ at 6h 48½m (with a seconds mark and no minutes mark), then 13¼. The figure breaks the fall of its column; both copies consulted print it so. Preserved as printed.

40. batch_207 / p.372 — *Category B — source compositor error*

In the meridian altitude of the Moon by the Tychonic quadrant, the word *Muralem* is broken across two lines as *Mura* / *ralem*, without a hyphen, and the syllable *ra* is set twice. It is read as *Muralem* ("mural"). The printed form is the same on the Internet Archive and TIB Hannover copies.

41. batch_214 / p.386 — *Category B — source compositor error*

The source adds 42 38 and 42 42 and prints the difference of right ascension of the two ('Diff. Aſc. R. vtriusque') as 85 40; the sum is 85 20. Preserved as printed.

42. batch_215 / p.388 — *Category B — source compositor error*

In the left-hand table (☌ verſ. ort. / Inf. cap. ♊ / Diff. Aſc. R.), row 2, the difference is printed 37 45⅝, an unreduced fraction (= ¼). The row's own terms, 142 58⅓ less 105 12⅔, give 37 45⅔. The denominator was read as 8 by independent readers against the leaf's own thirds; the printed form is kept.

43. batch_218 / p.393 — *Category B — source compositor error*

In the table 'With the northern armillae', the three ♃ rows print the difference of ascension as 39 22, 39 22½ and 39 21½. The rows' own terms (75 31 − 46 9, 76 3 − 46 40½, 76 42½ − 47 21) give 29 22, 29 22½ and 29 21½. The figures are confirmed as printed and are kept.

44. batch_220 / p.397 — *Category B — source compositor error*

The source prints the right ascension of ☌ for 19 March as 125 25 33. On 16 March the same reduction gives 135 17 10 from an angle of 25 19 20; with the 19 March angle of 25 27 33 the same base gives 135 25 33, and the longitude printed beside it (12 1 40 ♌) fits 135. The figure is confirmed as printed and is kept.

45. batch_223 / p.404 — *Category C — author/source anomaly*

In the 20 September table the row for 7 15 prints 43 28, while its neighbours in the column run from 43 35 to 43 44. Both copies consulted print 43 28. Preserved as printed.

46. batch_224 / p.406 — *Category C — author/source anomaly*

The text gives the latitude as 1° 15′ M., while the table's column 'Ex obſeruat.' gives 1 27 M. Both are preserved as printed.

47. batch_225 / p.408 — *Category C — author/source anomaly*

The distance by the sextant is printed 47 46½, while the text places it between 47 5½ and 47 4½. The figure has been checked on the page and is confirmed as printed; it is kept.

48. batch_226 / p.409 — *Category C — author/source anomaly*

The line '5 19 ſubterr.' prints the value 7 6, while the lines above it read 17 5½ and 17 5⅔; the place where a tens figure would stand is clean paper. Preserved as printed.

49. batch_226 / p.410 — *Category B — source compositor error*

In the third row of the table the source prints 29 42½, while the row's own terms, 51 48½ less 22 16, give 29 32½; the column closes on its other three rows. Preserved as printed.

50. batch_227 / p.412 — *Category C — author/source anomaly*

The line 'Lucida ♈ occ.' prints the value 3 12, with no tens figure at the place that stands under the 7 of 73 12 in the line above. Preserved as printed.

51. batch_228 / p.414 — *Category B — source compositor error*

The page prints the altitude of ☿ beside the 7 27½ distance as 5⅞, a fraction in eighths. Dreyer's Corrigenda (p. 431) cite the printed form as 5⅔ and correct it to 5⅓, so they quote a figure this page does not carry. The printed eighth was read independently on the page's grey values (numerator 2, denominator 8, against the leaf's own eighths and thirds), and the Corrigenda's ⅔ and ⅓ were read on the Corrigenda leaf; the text keeps the page's 5⅞ and carries the Corrigenda's 5⅓ as [recte:].

52. batch_229 / p.415 — *Category B — source compositor error*

In the table 'Observation of ♄' each row's two distances from the meridian (♄ setting, Aldebaran rising) sum to the equatorial distance 50 39, except the second row, which prints 40 9½ and 9 29½ (sum 49 39) beside 50 39. The figures are confirmed as printed and are kept.

53. batch_234 / p.426 — *Category C — author/source anomaly*

The source prints the same star's value as 43 20⅙ by the portable quadrant and as 47 20⅙ by the sextant: the minutes and fraction agree and the degrees differ by four. Both figures are confirmed as printed and are kept.