

Eratosthenes Batavus, de terrae ambitus vera quantitate — Editorial footnotes (draft)

Willebrord Snellius (Willebrord Snel van Royen, 1580–1626). 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	batch_005–006 / pp. 3–4 (front-matter latitude table)	B	Amsterdam and Hven latitudes misprinted in the table of places
2	batch_010 / p. 14 and batch_066 / p. 180 (running heads)	B	Two isolated running-head page numbers misprinted (18 for 14; 280 for 180)
3	batch_026 / p. 61	B	Printed side ny 695718 where the page's own figures force about 620502
4	batch_038 / p. 97	C	Sine printed 6000000 where the law of sines suggests 5000000, but the proportion's first term is unprinted

#	Anchor	Cat.	Item
5	batch_042 / pp. 108–109	B	Feet per degree printed 34000 on p. 109 against 340000 on p. 108
6	batch_048 / p. 129	C	Two classical citations in the source point to the wrong book
7	batch_065 / p. 179	B	PROBLEMA IX printed twice; several problem-number cross-references off by one
8	batch_069 / p. 191	C	The text places point H where the woodcut does not
9	batch_070 / p. 194	B	Two problem numbers omitted from the printed sequence
1 0	batch_073 / pp. 201–206	lacuna	Eight computed values omitted by the printer, the value column left blank
1 1	batch_073–074 / pp. 201–210 (Problems I, VI, VII, XIX)	B	Four worked problems whose printed angles do not sum correctly
1 2	batch_074 / p. 206	C	Angle yea 40 gr. 50 $\frac{2}{3}$ scr. inconsistent with its own complement and sides
1 3	batch_076 / p. 210	B	Alhazen's difference printed 86667 feet where 8667 is required
1 4	batch_076 / p. 211	B	Fernel's degree given as 340480 and 340380 eight lines apart
1 5	batch_077 / p. 213	B	Reciprocal circumference set with twenty digits against an eighteen-digit diameter
1 6	batch_078 / p. 217	B	Miliaria printed 8640 where the page's own mile gives 6840, and the error propagates
1 7	batch_079 / pp. 219–220 (tables of parallels)	B	Four defective cells in the ninety-row tables of parallels
1 8	batch_081 / p. 226	lacuna	Two coordinate cells left blank in the table of places

#	Anchor	Cat.	Item
1 9	batch_081 / p. 227 (Cap. XV heading)	B	Chapter heading reads sola latitudine over a chapter about longitude
2 0	batch_083 / pp. 231–236	C	Several divisions in the text yield results the author's own operands contradict
2 1	batch_086 / p. 240	B	Side AG printed 2954 where the triangle requires about 3249
2 2	batch_088 / p. 247	B	Artemidorus quoted at 140 / 730, but 840 / 760 adopted two lines later
2 3	batch_089 / p. 249	B	Quotient printed 1 gr. 39 sc. where $706 \div 420$ gives $1^{\circ}40.9'$
2 4	batch_090 / p. 252	C	A printed secant that departs from modern recomputation but is internally consistent
2 5	batch_092 / p. 258	C	A stadium equivalence implying a different standard, not a slip
2 6	batch_094 / p. 264 (Menda graviora)	B	The errata leaf is itself printed out of order
2 7	Throughout (pp. 6, 88, 106 and elsewhere)	C	Eratosthenes' circuit given both as 250,000 and as 252,000 stadia
2 8	Throughout Book II (measurement results)	C	Near-agreements the author deliberately leaves unequal
2 9	Throughout Book II (computations)	C	Divergent values for the same quantity, passed over without comment
3 0	Throughout (Snellius's name for Willemstad)	C	The station name reads Ilermopolis or Hermopolis; the fount cannot decide it

1. batch_005–006 / pp. 3–4 (front-matter latitude table) — Category B — source compositor error

The table prints Amsterdam at 50 gr. 25 scr., set between Leiden at $52^{\circ}10\frac{1}{2}'$ and Alkmaar at $52^{\circ}40\frac{1}{2}'$ — a value that cannot stand in that sequence, and which the rest of the book's own Dutch survey contradicts; $52^{\circ}25'$ is evidently intended. Hven is printed 51 gr. 54 scr., where Tycho Brahe's island lies at roughly $55^{\circ}55'$. Both are preserved as printed. (The third apparent outlier in this table, Augsburg at 46 gr. 24 scr., is not an error: batch 020 shows that $46^{\circ}20'$ is Ptolemy's ancient value, which Snellius quotes precisely in order to argue against it.)

2. batch_010 / p. 14 and batch_066 / p. 180 (running heads) — Category B — source compositor error

The running head prints 18 on the leaf whose page is 14, and 280 on the leaf whose page is 180. Both are isolated compositor slips: the correspondence between the printed page number and the digital scan holds unbroken everywhere else in the volume, including across the Book II title leaf. The heads are transcribed as printed.

3. batch_026 / p. 61 — Category B — source compositor error

The source prints ny 695718. The page's other quantities require a value of approximately 620502–620503 ($1271317^2 - 1109605^2$ gives 620508^2 , and the ratio na : ay at $1^{\circ}30'$ gives roughly 620500). Each of the six digits was re-examined against same-page controls at native resolution and the printed reading was confirmed, so this is an error of the 1617 setting rather than of the transcription. Because the intended digits cannot be recovered from anything legible on the page, no emendation is offered in the text and the reading stands as printed.

4. batch_038 / p. 97 — Category C — author/source anomaly

The sine is printed 6000000 where the surrounding proportion might be thought to require 5000000. The leading glyph was confirmed as 6 at native resolution (it lacks the top bar, and matches the 6 of 7170560 on the following line). Since the first term of the proportion is nowhere printed, the arithmetic cannot adjudicate the case, and no error is asserted.

5. batch_042 / pp. 108–109 — Category B — source compositor error

The parallel computations disagree by a factor of ten. The p. 108 figure, 340000, is correct: it is backed by that page's own $226666\frac{2}{3} \times 1\frac{1}{2}$ and by its $566\frac{2}{3}$ stadia. The p. 109 figure, 34000, is the compositor's error, since the 652 stadia printed on that same page require 340000. Both numerals are crisply inked and neither is a reading difficulty. Preserved as printed.

6. batch_048 / p. 129 — *Category C — author/source anomaly*

Snellius cites the Herodotus passage to *Melpomene* (Book IV), but it stands in *Euterpe* (Book II). Elsewhere he cites Pliny as "lib. 2. cap. 109," which answers to II.112 in the modern division of the *Natural History*. Both citations are given as the author wrote them; the chapter divisions of Pliny in particular were not yet standardized in 1617.

7. batch_065 / p. 179 — *Category B — source compositor error*

The rubric IX. PROBLEMA appears twice in this stretch of Book II, and a number of the internal cross-references to problem numbers are consequently displaced by one. The numbering is reproduced exactly as printed rather than silently renumbered, since the cross-references would otherwise no longer answer to the rubrics a reader of the 1617 edition would find.

8. batch_069 / p. 191 — *Category C — author/source anomaly*

The construction in the text places point *H* on *QM* produced; the accompanying woodcut sets it at the foot of the perpendicular dropped from *L*. This is a genuine disagreement between the author's text and the block-cutter's figure, not a transcription problem; both are given as they stand.

9. batch_070 / p. 194 — *Category B — source compositor error*

Two numbers are simply absent from the sequence of problem rubrics on this page — the type was never set for them. The gap is left as printed.

10. batch_073 / pp. 201–206 — *Missing-source lacuna*

In eight places the text line is fully set but the value that should close it was never printed; the paper is clean and unmarked, verified at both the line's own baseline and the next (these pages have a dropped-baseline habit that could otherwise be mistaken for an omission). Three of the blank lines carry terminal punctuation, showing that the type was composed to close the line with a figure that was then not inserted. These are omissions in the 1617 printing, not unread cells, and are marked as such in the text.

11. batch_073–074 / pp. 201–210 (Problems I, VI, VII, XIX) — *Category B — source compositor error*

Problem I's angles sum to 181° — its derived sides imply $28^\circ 56'$ where $29^\circ 56'$ is printed. Problem VI sums to 140° . Problem VII's redistribution likewise totals 181° . Problem XIX's stated correction removes three minutes where two were

declared. In each case the printed values are preserved and no angle is silently adjusted, since the errors lie in the source's arithmetic or its setting rather than in the reading.

12. batch_074 / p. 206 — *Category C — author/source anomaly*

The angle *yea* is printed 40 gr. 50⅔ scr., confirmed at native resolution, but does not agree with its own complement or with the sides given for the same triangle. The inconsistency is the source's; the value is left as printed.

13. batch_076 / p. 210 — *Category B — source compositor error*

The source prints a difference of 86667 feet against a stated 722¼ perches. Since $722\frac{1}{4} \times 12 = 8667$, and $342000 - 333333 = 8667$, an extra 6 has entered the numeral. Preserved as printed.

14. batch_076 / p. 211 — *Category B — source compositor error*

The same quantity — Fernel's measure of a degree — is printed 340480 in one place and 340380 eight lines below. One of the two is a compositor's slip, but the page supplies no means of deciding which. Both are transcribed as they stand.

15. batch_077 / p. 213 — *Category B — source compositor error*

The circumference numeral as printed carries twenty digits (a leading two-digit group followed by six triads) while its paired diameter carries eighteen. Three independent witnesses on the page require nineteen. The reading was verified digit by digit at native resolution and confirmed, so this is a defect of the 1617 setting. The numeral is kept verbatim and not renumbered.

16. batch_078 / p. 217 — *Category B — source compositor error*

The source prints 8640 miles where the 1500-perch mile used on the same page yields 6840 — the two interior digits are transposed. The defect propagates through the page's own computation: the printed surface is the diameter times 8640, and the printed volume is that surface times the diameter. All three figures are preserved as printed, so that the reader can follow Snellius's arithmetic as he set it down.

17. batch_079 / pp. 219–220 (tables of parallels) — *Category B — source compositor error*

Four cells in the parallel tables are defective as printed. Parallel 16 on p. 219 repeats parallel 14 glyph for glyph, and is larger than parallel 15, breaking the table's monotone descent — a repeated-line error confined to that page. Parallel

46 disagrees with its sister table in the third significant figure. Parallels 30 and 34 carry wrong tenths digits on p. 219. All were transcribed from the page before any arithmetic hypothesis was consulted, and all are left as printed. (Parallel 52, at 17546.3, was checked and confirmed correct.)

18. batch_081 / p. 226 — *Missing-source lacuna*

Both coordinates for Frankfurt and the longitude for Paris are blank in this table. That these are printer's omissions rather than deliberate gaps is provable from p. 227, where the worked example supplies the very values the table lacks.

19. batch_081 / p. 227 (Cap. XV heading) — *Category B — source compositor error*

The heading of Cap. XV reads *sola latitudine* although the chapter's subject throughout is *sola longitudine*. The heading is given as printed.

20. batch_083 / pp. 231–236 — *Category C — author/source anomaly*

The results printed as 53 gr. 12 scr., 48 gr. 41 scr., and 62 gr. 31 do not follow from the operands, which are independently corroborated on their own pages. These are errors in the author's or his calculator's arithmetic rather than in the setting, and are preserved: correcting them would misrepresent the state of the computation Snellius published.

21. batch_086 / p. 240 — *Category B — source compositor error*

The source prints AG 2954, where the triangle's other elements force approximately 3249. The figure is printed twice and is carried consistently through Snellius's own reduction — $2954 \div 17512$ gives $10^{\circ}7.3'$, exactly the result printed. The neighbouring worked examples are internally exact, which isolates the defect to this value. Preserved as printed, together with the results derived from it.

22. batch_088 / p. 247 — *Category B — source compositor error*

Snellius quotes Artemidorus' figures as 140 and 730, then two lines below adopts 840 and 760 for the same quantities. The printed readings were confirmed at native resolution — the leading glyph of 140 matches the 1 of 1300 on the same page, and the mark following it is a semicolon, not a failed digit. The printed angle of $32^{\circ}56'$ answers to $1300 : 840 : 750$. This is therefore an inconsistency internal to the source, not a misreading, and both sets of figures stand.

23. batch_089 / p. 249 — *Category B — source compositor error*

The source prints 1 gr. 39 sc.; the division it reports, $706 \div 420$, gives $1^{\circ}40.9'$. Both the 3 and the 9 were positively identified on the native-resolution tile, and 706 is set twice on the page, so neither operand nor result is in doubt as a reading. Preserved as printed.

24. batch_090 / p. 252 — *Category C — author/source anomaly*

The secant printed 1634678 lies roughly 200 perches above a modern recomputation, but agrees with its neighbours in the same table. Period trigonometric tables are to be judged by internal consistency rather than by agreement with modern arithmetic, and the value is retained.

25. batch_092 / p. 258 — *Category C — author/source anomaly*

The equation of 176 stadia to 73,333 decempedae implies $416\frac{2}{3}$ perches to the stadium, against the $52\frac{1}{12}$ perches per stadium used elsewhere in the book — a ratio of exactly 8. The clean factor shows that a different unit standard is in play here rather than a copying error, and the figures are left as they stand.

26. batch_094 / p. 264 (Menda graviora) — *Category B — source compositor error*

The *Menda graviora* leaf lists twenty-five corrections, but its own sequence is disordered — the entry for p. 175 precedes that for p. 173. The leaf is reproduced in the order in which it was printed.

27. Throughout (pp. 6, 88, 106 and elsewhere) — *Category C — author/source anomaly*

Both figures are genuinely printed. 250,000 predominates; 252,000 appears on pp. 88 and 106, and is the value Snellius uses in his own arithmetic on p. 106. This is a real fluctuation in the source — the two figures were both current in the ancient tradition — and not a drift in the transcription. Neither has been harmonized to the other.

28. Throughout Book II (measurement results) — *Category C — author/source anomaly*

Several pairs of results differ very slightly and are left standing because Snellius comments on the fact: 1174.4.1 against 1174.4.2; 4103.3.6 against 4103.2.1, the difference named *sesquipedis*; ER 10634,7 against 10633.1, "barely two perches"; and, most importantly, the two determinations 28,473 and 28,510, from which he adopts the mean of 28,500 Rhineland perches to the degree. Harmonizing any of

these would silently delete the book's central claim about the agreement of its measurements.

29. Throughout Book II (computations) — Category C — author/source anomaly

A number of quantities are given twice with different values and no remark from the author: EF as 6972.3 and 4883,1; NV as 3702.6 and 3735.9 within a single computation; 7005.7 against 7000.0; the pairs EY, LY and VLY; and a latitude wavering between 62 gr. 31 and 62 gr. 30 across pp. 232–236. All are transcribed both ways and left unreconciled.

30. Throughout (Snellius's name for Willemstad) — Category C — author/source anomaly

Snellius coins a Greek-style name for Willemstad, one of his triangulation stations. On every occurrence the opening letter-group reads as I + l at native resolution, giving *Ilermopolis*; but a capital H is a live alternative in this italic fount, which would give the more expected *Hermopolis* ("city of Hermes"), matching his practice of grecizing the Dutch station names. The reading was flagged at every occurrence and never resolved from the page. The form *Ilermopolis* is retained in the text as the reading the letters support, and the question is recorded here as an editorial one.