

Opera Mathematica, Tomus Quartus — complectens Gnomonices Libros Octo, ac Fabricam et Usum Instrumenti ad Horologiorum descriptionem — Editorial footnotes (draft)

Christoph Clavius (1538–1612), S.J.. 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.

#	Anchor	Cat.	Item
1	batch_055 / p.164, Table III (Sun in Cancer), Gemini row	B	Gemini rising-time printed 8h20m where the table's own symmetry requires 9h26m
2	batch_055 / p.164, Table III (Sun in Cancer), Taurus row	B	Taurus 10h50m against its symmetric counterpart Pisces 10h51m
3	batch_057 / p.170, scholium (dividing circle f g h i)	B	Point i labelled Virgo where the construction requires Capricorn
4	batch_058 / p.172, ascending-signs table, row □	B	Mid-heaven 5°6′ against angle-of-the-earth 5°9′ for the same ecliptic diameter
5	batch_133 / p.386, Distantiæ à	B	57.11 in a column whose minutes

#	Anchor	Cat.	Item
	proprio Meridiano, hour-4 column		are otherwise uniformly 12
6	batch_134 / p.389, Table VII (Cancer, hours 18–24), hour 22	B	56.32 breaking the local run 58.15 → 65.15
7	batch_135 / p.393, Table XIV (Cancer, ab ortu), meridian (†) column	B	Meridian altitude 70.5 lower than the adjacent hour-10 value 78.4
8	batch_135 / p.391, Tables X and XI, hour 7	C	Paired tables that should be identical disagree in one cell (18.54 vs 20.7)
9	batch_144 / p.431, In tropico □ ... ab occasu, shadow-longitude row, hour 20	B	Minutes value 65 in a sexagesimal field
1 0	batch_147 / p.441, second Equator sub-table	B	Hour-headers printed 9, 10, 12, 11, 13, 14; and one column headed P.M. for G.M.
1 1	batch_145 / pp.433 and 435	C	The same numeric column set printed twice, differing in two cells
1 2	batch_145 / p.433, Equator noon/midnight table	C	Second data row left without its expected "à meridie" label
1 3	batch_152 / Table II (in the tropic of Cancer, hours from midnight), hour-heading row	B	Hour heading printed 8 where the sequence requires 9
1 4	batch_228 / p.47, hor. 4, rows 26 and 27 (□□)	B	Minute fields printed 94 and 63 — impossible sexagesimal values
1 5	batch_249 / p.109, arc 85°15', column 1¾ (10¼)	B	63 40 breaking a column that descends 63 50 → 63 49
1 6	batch_256 / p.131, Table IX, pole-elevation row 73, column "7 / 5"	B	14 37 in a column ascending 14 41 → 15 22
1 7	batch_267 / p.163, Grad. 50 block, ≈↗column, hour 1	B	1796 in a column rising 3617 → 4498
1 8	batch_287 / p.224, pole altitude 5°15', column 1&11	B	84°45' breaking its column and duplicating the hour-12 value on the same row

#	Anchor	Cat.	Item
1 9	batch_234 / p.702, hour-23 worked example	C	Segment given as 12°34' but added as 12°24', yielding 86°22'
2 0	batch_040 / p.119	C	Two irreconcilable values for the diurnal arc at the beginning of Cancer, lat. 42°
2 1	batch_236 / pp.70–71, Capp. XX and XXI	C	Tangent values assigned to pole and complement are reversed between two chapters
2 2	batch_235 / p.67, §5	C	Perpendicular dropped to hour 4 but the declination then counted toward hour 5
2 3	batch_186 / p.557	B	Altitude gr. 40 min. 4 restated two lines later as gr. 4 m. 4
2 4	batch_219 / §9	C	Stray figure "39" in the statement of an interval
2 5	batch_124 / p.372, scholium	B	"centrum" printed where the sense requires the numeral "centum" (108)
2 6	batch_150 / p.450, engraved scale-bar	B	Scale graduation labelled 46 in a run of 12s
2 7	batch_109 / pp.313–314	B	Two consecutive figures both captioned "3. ^a fig. ^a "
2 8	batch_111 / pp.331–332	C	Two engravings both captioned "6. ^a fig. ^a "
2 9	batch_032 / p.96	C	Text speaks of two figures where three are engraved
3 0	batch_127 / p.379	C	Cross-reference printed with no proposition number
3 1	batch_141 / p.421	C	One member of a standard three-part citation omitted at the column edge
3 2	batch_234 / p.701	C	Two consecutive section rubrics both numbered 3
3 3	batch_215 / p.644	C	"VSVS huius figuræ" paragraph left unnumbered where §4 is

#	Anchor	Cat.	Item
			expected
3 4	batch_258–260 / pp.136–137, 140–141, 142–143 (Altitudines Solis tables)	C	Several table-openings carry no printed TABVLA number
3 5	batch_269 / pp.170–171	C	The proportional-parts table carries no table number
3 6	batch_265 / Table XIX	C	Infinite values marked inconsistently, and "Infinita" printed on two consecutive rows
3 7	batch_266 / fols.159–160	C	A "Grad. 40" block appears twice
3 8	batch_189 / pp.565–567 (index)	C	Index references that do not resolve, a duplicated pair of lemmata, and a metathesis
3 9	batch_238 / p.713	B	Chapter heading printed CAPVT XIV where the sequence requires XXIV
4 0	batch_275 / p.824 (and passim)	B	Misprinted and duplicated folio numbers
4 1	batch_047, 094, 121–122, 149, 162, 184 (running heads, passim)	C	Running headers naming the wrong book — standing type left uncorrected
4 2	batch_239–241 / pp.716–720 (printed 80–82); batch_224 / p.670	C	A chapter numeral stuck in the verso running head across a gathering
4 3	batch_150 / p.449; batch_277 / p.195	C	A signature on a verso, and a word-catchword under a continuing numeric table
4 4	Running heads and rubrics, passim (batches 155, 167, 195, 134, 265, 269, 271, 272, 070, 179)	C	Additive Roman numerals and mixed Roman/Arabic numbering
4 5	Compositor typographical errors, passim (batches 008, 039, 053, 055, 088, 103, 125, 154, 171, 173, 182, 193, 198, 272, 284, 285)	B	Some thirty legible single-word misprints, translated by sense and preserved in the Latin

#	Anchor	Cat.	Item
4 6	Point-letter slips in geometric prose, passim (batches 066, 090, 118, 137, 142, 153, 158, 197)	B	Some fourteen wrong point-letters, each fixed by the figure and the parallel clauses
4 7	Marginal notes contradicting the text, passim (batches 048, 129, 156, 171, 173, 186, 203)	B	Side-notes naming the wrong figure, circle or direction
4 8	Erroneous internal and marginal citations, passim (batches 014, 154, 155, 214, 217)	B	Marginal citations that do not resolve to the proposition they support
4 9	Dittographies and printed repetitions, passim (batches 015, 113, 229, 238)	B	Clauses and words set twice where the second should name something else
5 0	Table-cell and column-header misprints, passim (batches 137, 139–140, 248, 271, 278)	B	Argument-column and header digits mis-set, detected by broken runs

1. batch_055 / p.164, Table III (Sun in Cancer), Gemini row — Category B — source compositor error

The source prints 8 h 20 m (before noon) for Gemini. Table III is symmetric about its Libra (0h) / Aries (12h) axis, and the post-noon arm gives Aquarius 9 h 26 m; an independent oblique-ascension computation for latitude 42° confirms 9 h 26 m as the true value. The printed figure is therefore a compositor corruption. Because the correct reading is nowhere visible on the page, no inline correction has been made: the value is preserved as printed.

2. batch_055 / p.164, Table III (Sun in Cancer), Taurus row — Category B — source compositor error

The source prints 10 h 50 m (before noon) for Taurus, where the symmetry of the table with its post-noon counterpart Pisces (10 h 51 m) requires 10 h 51 m. A one-minute compositor or rounding slip. Preserved as printed.

3. batch_057 / p.170, scholium (dividing circle f g h i) — Category B — source compositor error

The source prints the sign of point i as ♍(Virgo). Since i lies diametrically opposite g = ♋ (Cancer) on the dividing circle, the sign must be ♑ (Capricorn). Preserved as printed.

4. batch_058 / p.172, ascending-signs table, row ♋ — Category B — source compositor error

The source prints 5° 6' for the mid-heaven (in medio cœli) and 5° 9' for the angle of the earth (in angulo terræ) in the Cancer row. These two points are diametrically opposite on the ecliptic, so the degree and minute within the sign must be identical; the minute figures disagree. Both cells read cleanly on the page, so this is a compositor error, not a defect of the copy. Both values preserved as printed.

5. batch_133 / p.386, Distantiæ à proprio Meridiano, hour-4 column — Category B — source compositor error

The source prints 57.11 where the column runs 12.12, 27.12, 42.12, [57.11], 72.12, 87.12 ...; contextually the value should be 57.12. The reading is confirmed on two overlapping images of the page, so the anomaly is in the type, not in the transcription. Preserved as printed.

6. batch_134 / p.389, Table VII (Cancer, hours 18–24), hour 22 — Category B — source compositor error

The source prints 56. 32 for the solar altitude at hour 22, which breaks the trend set by its neighbours (58. 15 at hour 21, 65. 15 at hour 23). The intended value cannot be recovered from the page or from the parallel tables, so the figure is preserved as printed.

7. batch_135 / p.393, Table XIV (Cancer, ab ortu), meridian (†) column — Category B — source compositor error

The source prints 70. 5 in the meridian (†) column, although the obelus column is defined (p. 391) as the maximum, meridian altitude and must therefore be no less than the adjacent hour-10 value of 78. 4. The corresponding cell of Table XIII reads 78. 5. The tens digit is very probably a mis-set or worn 8. Preserved as printed.

8. batch_135 / p.391, Tables X and XI, hour 7 — Category C — author/source anomaly

By Clavius's own rule the Cancer table reckoned from midnight (Table X) and the Capricorn table reckoned from noon (Table XI) must agree cell for cell, with the

sign and the reckoning exchanged. Every paired cell does agree except at hour 7, where Table X prints 18. 54 and Table XI prints 20. 7. One of the two is a compositor error; the page gives no means of deciding which. Both preserved as printed.

9. batch_144 / p.431, In tropico ☐ ... ab occasu, shadow-longitude row, hour 20
— *Category B — source compositor error*

The source prints 163.65 — a minutes field of 65, which is impossible in a sexagesimal notation. The final digits stand at the limit of the scan, so it cannot be established whether the error is the compositor's or the engraver of the table's; the intended value is not recoverable. Preserved as printed.

10. batch_147 / p.441, second Equator sub-table — *Category B — source compositor error*

Two header misprints on the same table. (1) The hour headers are printed 9, 10, 12, 11, 13, 14: the third and fourth are transposed, while the values beneath them run in smooth order — a header transposition, not a data error. (2) The unit heading over the hour-6 shadow-latitude value 36.44 is printed P. M. where every other cell of the row reads G. M. Both preserved as printed.

11. batch_145 / pp.433 and 435 — *Category C — author/source anomaly*

The same column set is set twice, on p. 433 and again on p. 435, and the two settings differ in two cells: the first latitude reads 22.30 on p. 433 and 23.30 on p. 435, and the last noon value 90.1 against 90.0. This is a compositor variant between two settings of one table rather than two distinct data sets. Both preserved as printed.

12. batch_145 / p.433, Equator noon/midnight table — *Category C — author/source anomaly*

The table prints only the heading "Horæ ☿ & ♀ à media nocte" over two data rows; the second row's counterpart label ("... à meridie") is not printed. The omission is the source's; the row is left unlabelled as it stands.

13. batch_152 / Table II (in the tropic of Cancer, hours from midnight), hour-heading row — *Category B — source compositor error*

The source prints 8 as the fourth hour-heading, breaking the run 6·7·8·9·10·11·12; the complement row directly beneath reads 6·5·4·3·2·1·0, whose value 3 in that column fixes the intended hour as 9. The printed glyph is unambiguously an 8, so this is a compositor error. Preserved as printed.

14. batch_228 / p.47, hor. 4, rows 26 and 27 (□□) — Category B — source compositor error

The source prints 47 94 and 47 63; minute fields of 94 and 63 are impossible. Both were recovered from native-resolution images and independently confirmed by the confab-audit as genuinely inked. Interpolation of the surrounding run suggests true values of about 47 34 and 47 56, but neither is legible on the page. Preserved as printed.

15. batch_249 / p.109, arc 85°15', column 1¾ (10¼) — Category B — source compositor error

The source prints 63 40 between neighbours of 63 50 and 63 49, breaking the column's monotone descent; the intended value is almost certainly 63 49, mis-set or worn in the forme. Because the correct minutes cannot be read on the page, no inline correction is given. Preserved as printed.

16. batch_256 / p.131, Table IX, pole-elevation row 73, column "7 / 5" — Category B — source compositor error

The source prints 14 37, which decreases from the preceding row (14 41) and then jumps 45' to the following one (15 22), where the column otherwise rises by some 20–22' per row. Even interpolation gives about 15 2, so the degree figure is probably a compositor error for 15. The reading was confirmed glyph by glyph at native resolution; since the correct value is inferred and not printed, it is preserved as printed.

17. batch_267 / p.163, Grad. 50 block, □□ column, hour 1 — Category B — source compositor error

The source prints 1796 between 3617 (hour 12) and 4498 (hour 2), and the neighbouring columns (□ □ = 2768, □ = 4472) indicate a value of roughly 3700–3800. The confab-audit confirmed the figure is genuinely printed. No corrected value can be asserted, since the intended digits are not legible on the page. Preserved as printed.

18. batch_287 / p.224, pole altitude 5°15', column 1&11 — Category B — source compositor error

The source prints 84° 45' where the column's progression (84° 50' above, 84° 18' below) implies about 84° 34'; the printed value also duplicates the hour-12 figure of the same row, although the 1&11 value normally runs some 10–12' lower. The

reading was confirmed on two overlapping native-resolution images. The correct value cannot be determined from the page, so it is preserved as printed.

19. batch_234 / p.702, hour-23 worked example — *Category C — author/source anomaly*

The example states that $E \varphi$ "complectitur gr. 12. min. 34", the same value used in the hour-11 example, but the figure then added is printed gr. 12. min. 24, giving the printed sum $86^{\circ} 22'$. Had $12^{\circ} 34'$ been used, the sum would be $86^{\circ} 32'$. The arithmetic of the printed page is internally consistent with 24 and 22, so either both figures are compositor slips or the earlier statement is. Preserved as printed.

20. batch_040 / p.119 — *Category C — author/source anomaly*

The prose gives the diurnal arc as "horas 15. Min. 4" (implying a semidiurnal arc of about 113°), while a few lines later — and in the adjoining table — the semidiurnal arc for the same place is "gr. 109. m. 21. hoc est, hor. 7. & m. 17", implying a diurnal arc of about 14 h 34 m. The two figures cannot both be right. The discrepancy may reflect a twilight-inclusive figure set beside a bare diurnal arc, or a simple compositor slip. Both preserved as printed.

21. batch_236 / pp.70–71, Capp. XX and XXI — *Category C — author/source anomaly*

Cap. XX assigns tangent 11 to the altitude of the pole and 9 to its complement — correct for latitude 48° — while Cap. XXI prints the reverse pairing for the same quantities. One of the two passages carries a compositor swap. Both preserved as printed.

22. batch_235 / p.67, §5 — *Category C — author/source anomaly*

The perpendicular $C\oplus$ is dropped to the line of the fourth hour from midnight, but the declination is then counted "toward the line of the fifth hour" and is said to cut hour 5 at point Ad. The text is printed exactly so; one of the two hour-numbers is evidently a compositor slip. Preserved as printed.

23. batch_186 / p.557 — *Category B — source compositor error*

The altitude is stated as "gr. 40. min. 4" and, two lines later in the compasses-instruction, as "gr. 4. m. 4" — an evident dropped zero in the second. Preserved as printed.

24. batch_219 / §9 — *Category C — author/source anomaly*

The text prints "interuallum EF, vel 39. ipsius EB, dupla". No quantity 39 has any place in this construction; the figure appears to be a stray or garbled sort. Preserved as printed.

25. batch_124 / p.372, scholium — *Category B — source compositor error*

The scholium prints "quæ centrum & octo problematibus descripsimus". The sense requires a number — "centum & octo", one hundred and eight, the count of problems in Books II and III — so the printed word is a compositor's substitution of a familiar word for a numeral. Preserved as printed.

26. batch_150 / p.450, engraved scale-bar — *Category B — source compositor error*

The engraved scale is graduated 12, 24, 36, 46, 60 ...; the fourth label should read 48. An engraver's error in the plate. Preserved as printed.

27. batch_109 / pp.313–314 — *Category B — source compositor error*

Both engravings on this opening carry the caption "3.^a fig.^a", while the figure on p. 315 is captioned "4.^a fig.^a" in a discussion that refers to figures 1 through 6. One of the two "3" captions must be a mis-numbering by compositor or engraver. Both captions read independently as 3 and are preserved as printed.

28. batch_111 / pp.331–332 — *Category C — author/source anomaly*

Two engravings are both captioned "6.^a fig.^a", although the text (p. 333) treats only a single sixth figure. The likeliest explanation is that two states of one plate were printed under a single number. Preserved as printed.

29. batch_032 / p.96 — *Category C — author/source anomaly*

The text says the matter is plain "ex his duabus figuris" (from these two figures), but three spheres are engraved on the page. Either a third figure was added after the text was written, or the numeral is a slip. Preserved as printed.

30. batch_127 / p.379 — *Category C — author/source anomaly*

The text reads "in constructione huiusce horologij propos. superioris libri" with the proposition number simply absent from the printed line — an omission in the setting, not a loss in this copy. The reference is left unnumbered as it stands.

31. batch_141 / p.421 — *Category C — author/source anomaly*

In the citation triple attached to triangle BHK the middle member — "13. lib. 1. Gebri", which Clavius supplies in every parallel passage — is not printed at the right edge of the column. A compositor omission rather than damage to the copy.

32. batch_234 / p.701 — *Category C — author/source anomaly*

Two successive section rubrics are both printed "3.", although the argument had already reached §3 on p. 700 and reaches §4 later on p. 701. The numbering is preserved as printed.

33. batch_215 / p.644 — *Category C — author/source anomaly*

After §3 the paragraph beginning "VSVS huius figuræ ..." carries no section number, where the sequence calls for §4. The paragraph is left unnumbered as printed.

34. batch_258–260 / pp.136–137, 140–141, 142–143 (Altitudines Solis tables) — *Category C — author/source anomaly*

The tables of solar altitudes are numbered by a "TABVLA N." caption printed at the foot of a single page, and several openings carry no table number at all on either leaf — "TABVLA X.", for instance, appears only at the foot of p. 137, so that pp. 136–137, 140–141 and 142–143 stand untitled. Readers matching a table to its number should count from the nearest printed caption.

35. batch_269 / pp.170–171 — *Category C — author/source anomaly*

The concluding "Tabula pro parte proportionali eruenda" is printed without a number. If the appendix is the advertised set of twenty-four tables, this is either the unnumbered twenty-fourth or an unnumbered closing aid appended to them.

36. batch_265 / Table XIX — *Category C — author/source anomaly*

Column terminations in Table XIX are marked inconsistently: some columns print "Infinita" where others leave a blank cell for a value that is equally infinite. In the Grad. 42 block the $\square/\square$ tangent column prints "Infinita" on two consecutive rows (6 and 6½). Preserved as printed.

37. batch_266 / fols.159–160 — *Category C — author/source anomaly*

A block headed "Grad. 40" appears both as the last block of the head table and again at the opening of the per-degree run. The duplication is in the source; the second occurrence carries the running series, and the first heading may be a mislabel.

38. batch_189 / pp.565–567 (index) — Category C — author/source anomaly

The printed index carries several defects. "Antiqui horologij horizontalis descriptio — 491" stands among entries citing pp. 172–270 and resolves to nothing in this volume; "Antiqui horologij Meridiani descriptio — 114" sits among entries citing pp. 199–215 and is probably a compositor error for 214. Two pairs of entries (at pp. 228 and 229) differ only in word order — "Æquinoctialis horologij Astronomici constructio" beside "Astronomici horologij æquinoctialis constructio" — and are genuine duplicates in the printed index, not a doubling introduced here. One lemma is printed "Babylonium horalogium quod." for horologium. All preserved as printed. Note also that the index refers throughout to the printed Latin pagination, which does not correspond to the pagination of this translation.

39. batch_238 / p.713 — Category B — source compositor error

The body chapter heading is printed "CAPVT XIV.", but both the sequence of chapters and the running header on the facing page require XXIV; an X has dropped out of the line. Preserved as printed.

40. batch_275 / p.824 (and passim) — Category B — source compositor error

Several leaves carry mis-set folio numbers, confirmed as errors by the neighbouring leaves and by the printed signatures: 235 for 135 (batch_049, p. 147), 241 for 141 (batch_051, p. 153), 235 for 253 (batch_089, p. 265), 367 out of sequence between 376 and 378 (batch_130, p. 377), and 187 on the verso at batch_275 p. 824, duplicating the recto and standing for 188 (the following recto is correctly 189). All are preserved as printed.

41. batch_047, 094, 121–122, 149, 162, 184 (running heads, passim) — Category C — author/source anomaly

At every book transition the running headers lag or anticipate the text, the compositor having left standing type uncorrected in the forme: "LIBER PRIMVS" over Book II (batch_047, p. 139; batch_048, p. 143), "LIBER SECVNDVS" over Book III (batch_089, p. 265; batch_094, p. 281), "LIBER TERTIVS" over Book IV (batch_121–122, pp. 363, 365), "LIBER SEXTVS" amid Book V (batch_149, p. 433), "LIBER SEPTIMVS" while the body still runs Book VI (batch_162, pp. 473–474) and again within Book VIII (batch_184, p. 551). In every case the body text, catchwords, signatures and chapter sequence fix the true book. The headers are transcribed as printed.

42. batch_239–241 / pp.716–720 (printed 80–82); batch_224 / p.670 — Category C
— author/source anomaly

The verso running head prints "CAPVT XIX." on pp. 716 and 718 while the body runs continuously through Capp. XXIV–XXV, correcting itself to "CAPVT XXV." only at p. 720 — a numeral left standing across the gathering. A related running-head defect occurs at batch_224, p. 670, where the head is set "CAPVT NNNVM." for "CAPVT NONVM." All are transcribed as printed.

43. batch_150 / p.449; batch_277 / p.195 — Category C — author/source anomaly

Two make-up irregularities are recorded as printed. At batch_150, p. 449 the signature "Oo 3" stands at the foot of a verso, the preceding recto having carried "Oo 2"; the sequence itself is sound, but the placement is anomalous for this book. At batch_277, p. 195 a word-catchword "Alti-" stands at the foot of a page whose table of tangents plainly continues numerically onto the next — either anticipating the prose that resumes later or a stray catchword.

44. Running heads and rubrics, passim (batches 155, 167, 195, 134, 265, 269, 271, 272, 070, 179) — Category C — author/source anomaly

The volume numbers its divisions inconsistently, in a manner normal for its date: additive Roman forms such as "CAPVT IIII" for IV (batches 155, 167, 195), "Table IIII" (batch_134), "TABVLA XIIII" (batch_265), "XXIIII" (batch_271) and "IIX" for VIII on a dial ring (batch_070); Arabic problem and proposition rubrics ("PROBLEMA 45. PROPOS. 45.") set against Roman book divisions throughout Books II–IV; and mixtures within a single series, as "Tabella 22./23." following the Roman "TABVLA XXI" (batch_269), the run "II., III., 4., 5., 6. ..." (batch_272), and the in-text reference "cap. 23." in a Roman-numbered book (batch_179). All numeral forms are transcribed as printed.

45. Compositor typographical errors, passim (batches 008, 039, 053, 055, 088, 103, 125, 154, 171, 173, 182, 193, 198, 272, 284, 285) — Category B — source compositor error

Roughly thirty single-word compositor errors occur across the volume, in each case diagnosable because both the wrong and the intended form are legible: "Quod etat faciendum" for erat (batch_008, p. 23), "paraelli" for paralleli (batch_039, p. 115), "quandrans" (batch_053, p. 159), "nun solum" for non (batch_055, p. 163), "borologio" (batch_088, p. 252), "Gomoniça" (batch_103, p. 309), "ptoprio" (batch_125, p. 374), "Æqnator" and "semirculi" (batch_154, pp. 461–462), "GONMONICES" in the running head (batch_171, p. 512), "ex cento C" and

"CONSTVCTVRI" (batch_173, pp. 518–519), "cetrū" (batch_182, p. 546), "poprio" (batch_193), "punucto" (batch_198, p. 593), "IN TBVLAS ALTITVDINVM" (batch_272, p. 178), "quartes" for partes (batch_284, p. 215) and "onstrans" (batch_285, p. 217). The translation renders the intended sense; the Latin is quoted as printed wherever it is quoted.

46. Point-letter slips in geometric prose, passim (batches 066, 090, 118, 137, 142, 153, 158, 197) — Category B — source compositor error

The geometric prose carries about fourteen wrong point-letters, in every case corrigible from the figure and from the parallel clauses: "per rectas A F, CF" for AE, CF and "AE, C G" for CF (batch_066, p. 196); "ex EF, recta EF, ipsi EG aequali" for EG, and a perpendicular HF drawn "ad AB" for EF (batch_090, p. 269); ray IE meeting "rectæ AG in G" for HG (batch_137, p. 397); "à linea meridiana AB" where the meridian is AC (batch_153, p. 449); "bq, sinum arcus AM" for p q (batch_158, p. 472); and the horizon named "CBCD" for ABCD (batch_118), with further single-letter slips at batches 142 and 197. Preserved as printed.

47. Marginal notes contradicting the text, passim (batches 048, 129, 156, 171, 173, 186, 203) — Category B — source compositor error

Several marginal notes contradict the passages they gloss: "Planum secans conum rectum ... facit Ellipsim" against a paragraph that speaks throughout of a right cylinder (batch_048, p. 142); "in cylindro concauo" in a chapter on the convex cylinder (batch_186, p. 556); "horologij Meridiani & Babylonici" where the chapter treats the Italian and Babylonian dial, "Italici" having evidently been displaced or dropped (batch_171, p. 499); "diuisio circuli ex P, descripti" where body and construction use the circle ex L (batch_173, p. 519); "vbi paralleli diameter diametrum Horizontis diuidit" where the parallel recipe requires Verticalis (batch_156, p. 467); "ab horas ab occ." for ad horas (batch_203, p. 33 of the Nova Descriptio); and a declining vertical called a "circuli positionis" where the body has "Verticali circulo" (batch_129, p. 375). The notes are translated as printed.

48. Erroneous internal and marginal citations, passim (batches 014, 154, 155, 214, 217) — Category B — source compositor error

About ten marginal or internal citations do not resolve: Apollonius cited as "propos. 52. lib. 1" beside "li. 3" for the same theorem (batch_014, p. 41); "16. tertij" where III.26 is the step in question, and "34 primi" attached to a clause requiring XI.19 (batch_155, p. 454); "74. primi" for Euclid I.47 (batch_214, p. 642) and "6. primi" for I.5 (batch_217, p. 650); and "(e) 19. vnde." where the parallel clauses read "16. vnde." (batch_154, p. 460). A superscript reference letter "d" also

stands in the text at batch_014, p. 41 with no matching lettered note in the margin. All citations are given as printed.

49. Dittographies and printed repetitions, passim (batches 015, 113, 229, 238)

— *Category B — source compositor error*

The volume carries several printed repetitions: "Et ita ita in alijs parallelis" (batch_015, p. 45); the clause "Recta enim AE, per B, transibit" set twice in immediate succession in the Lemma, where the second occurrence should name the other line (batch_229, p. 687); "Quando autem est Or.A" set twice, the second where the sense requires Or.B (batch_238, p. 714, §6); and "à meridie in occasum, vel à septentrione in occasum" against the parallel clause "à meridie in ortum ..." (batch_113, p. 339). All preserved as printed.

50. Table-cell and column-header misprints, passim (batches 137, 139–140, 248, 271, 278) — Category B — source compositor error

Besides the individual cases noted above, a number of argument labels and column headers are mis-set, each detected by a broken run or by the complement row: the minute column printed "39" for 19 (batch_137, p. 399); the argument 55 printed "65" on two consecutive leaves (batches 139–140); "49 15" for 39 15 (batch_248, p. 106); argument row 45 printed "44", duplicating the preceding label while the data cells run correctly (batch_271, p. 175); and the ninth degree-header printed "28" for 38 (batch_278, p. 197). Where the intended value is itself legible or exactly determined by the surrounding cells, the correction is given inline in brackets; the printed figure always stands.