

St. Gallen, Stiftsbibliothek, MS 248

DESCRIPTION BY AARON J KLEIST (BIOLA UNIVERSITY) 2008

Primary Authors and Works:

Bede, *De natura rerum*, *De temporibus*, and *De temporum ratione*

Pseudo-Bede, *Compotum [sic] Bedae presbiteri librorum quattuor*

Boethius, *De arithmetica libri duo*

Date: pp. 3–82, s. ix^{med} [with additions on p. 61b of s. xi]; pp. 83–98, s. ix(?); pp. 99–148, s. ix or xi; pp. 149–212, s. ix or xi–xii.

Smith dates pp. 3–56 to s. ix, pp. 59–82 to s. ix–x, and pp. 99–212 to s. xi–xii (*Codices Boethiani*, p. 199 [§53]). Stevens dates pp. 59–82 to the middle or end of the ninth century ('Astronomy in Carolingian Schools', p. 441, n. 59), while referring to the manuscript as a whole as from 's. IX, X, XI' (*Cycles of Time and Scientific Learning*, §VIII, p. 167, n. 8). Earlier studies by Jones describe pp. 58–227 as 'saec. ix, with additions of saec. x/xi' (*Bedae Pseudepigrapha*, p. 132), noting that pp. 99–148 'are three inserted gatherings written in a hand of saec. xi' (*Bedae Opera de temporibus*, p. 156). Cordoliani dates the whole of pp. 99–212 to s. ix ('L'évolution du comput ecclésiastique', p. 291). Stevens and Jones further note that certain material derived from Karlsruhe Landesbibliothek, Reichenau 167 (on which, see below) ultimately dates to ca 700: see Stevens, *Cycles of Time and Scientific Learning*, §VIII, p. 167, n. 8; and Jones, *Bedae Venerabilis Opera*, p. xiv, n. 14 (see also Cordoliani, 'Les manuscrits de comput ecclésiastique', pp. 168–69, and 'L'évolution du comput ecclésiastique', pp. 296, 299, 302, and 312). For the suggestion that pp. 59–82 [Machielsen's 'fols 29r–41v'] date to the first third of the ninth century—a theory that sits uneasily with St Gallen 248's posited dependence on Karlsruhe 167, now dated between 834 and 848—see Machielsen, *Artes liberales*, , pp. 199 [§622], perhaps drawing on the older study by Bruckner, who dates the whole of St Gallen 248 (apart from additions from s. xi) to s. ix^{1/3} (*Scriptoria medii aevi Helvetica*, vol. II [1936], p. 74; see also Cordoliani, 'Les manuscrits de comput ecclésiastique', p. 168).

Origin: Original portion ca 850 around Laon, northern France. The text appears to have been copied by a Frankish scribe from the Karlsruhe Bede, Karlsruhe, Landesbibliothek, Augiensis 167, written between 834 and 848 around Laon in an Irish hand. Pages 72–76 correspond to Karlsruhe 167, fols 16v–17v; pp. 76–82 correspond to Karlsruhe 167, fols 6r–12r.

See Borst, Arno, *Das Buch der Naturgeschichte: Plinius und seine Leser im Zeitalter des Pergaments* (Heidelberg, 1994), p. 117, n. 93, and p. 137, n. 32; Borst, *Der karolingische Reichskalender*, vol. I, p. 230; and Scheiders, 'The Irish Calendar in the Karlsruhe Bede', p. 37; see also Jones, 'A Note on Concepts of the Inferior Planets', p. 398. While Borst views St Gallen 248, pp. 72–76, as having been copied directly from Karlsruhe 167, fols 16v–17v, Meyvaert suggests that both 'were copied on Irish exemplars, but that [the exemplar for St Gallen 248, pp. 72–76] belonged to an earlier stratum to which no names had yet been added' ('Discovering the Calendar', pp. 41–42). For the suggestion that St Gallen 248 may possibly have served as the exemplar for or a source of corrections to Karlsruhe 167, see Jones, *Bedae Pseudepigrapha*, p. 132; and Jones, *Bedae Opera de temporibus*, p. 156, respectively.

Provenance: The ninth-century portion came to St Gallen not long after composition, possibly even in the lifetime of Grimald of Reichenau (Abbot, 841–872), but at least by the

compilation of the 1461 catalogue (see below, under Binding). The *Sig[lum] monaste[rii] sanc[ti] Galli*, a *stempel* of Diethelm Blarer (Abbot, 1553–1564), has been stamped onto p. 4.

See Borst, *Der karolingische Reichskalender*, vol. I, p. 231. I am indebted to Mr. Philipp Lenz for the identification of the monastic stamp.

Material: Parchment.

Pages: 228 pages; pp. 1–2 missing.

Page Dimensions (H x W): 288–93 x 208–18 mm.

Collation: (IV+2 [with 124 x 149 mm and 112 x 115 mm parchment inserts between pp. 10 and 11 and pp. 12 and 13, respectively])¹⁸, 2 IV⁵⁰, II⁵⁸, IV⁷⁴, II⁸², 2 IV¹¹⁴, (II+4 [pp. 119–126 being single folia])¹³⁰, (IV+1 [pp. 137–138 being a single folium])¹⁴⁸, 4 IV²¹², (III+2 [pp. 213–14 and 227–228 being single folia])²²⁸. Leaf arrangement: FHFH and HFHF; with rare instances of HHFF and HFHH.

Pricking: often not visible, likely having been lost to trimming, but appears on occasion near the outer margin, as at pp. 33–36 and 49–52; or some 7–15 mm from the outer edge, as at pp. 57–58, 61–62, 67–72, 75–89, 97–150, 163–66, 179–82, 195–98, and 211–12; or in a combination of the two, with a double set of pricking, as at pp. 3–4, 17–20, 59–60, and 73–74. Occasionally, horizontal pricking will help in the creation of a table, as on p. 62.

Written Area: pp. 3–34: 2 cols of 52 lines, ruled area 260–63 x 76–78 mm; pp. 35–50: 2 cols of 43 lines, ruled area 263–64 x 78–80 mm; p. 51: 2 cols of 38 lines, ruled area 270 x 79–85 mm; pp. 52–55: 2 cols of 37 lines, ruled area 262–64 x 78–84 mm; [p. 56, table; pp. 57–58, originally blank; pp. 59–60 and pp. 62–63, tables]; pp. 61a and 64–67: 2 cols of 46 lines [67a: 33 lines of written text], ruled area 234–35 x 68–72 mm; [pp. 68–76, tables]; pp. 77–82: 2 cols of 63 lines, ruled area 245 x 73 mm; pp. 83–98: 2 cols of 43 lines, ruled area 241–43 x 74–76 mm; pp. 99–212: 2 cols of 42 lines, ruled area 235–43 x 69–72 mm; [pp. 213–26: tables]; p. 227: 2 cols of 47 lines of approximately 225 x 68–72 mm; [p. 228: blank].

Script and Hands: Various hands in Carolingian minuscule. Smith suggests that pp. 3–56 are the work of ‘many scribes’, pp. 59–82 the work of ‘several scribes’, and pp. 99–212 again the work of ‘several scribes’ (*Codices Boethiani*, p. 199, §53). Cordoliani, similarly, states that the whole ‘présente un grand nombre de mains de scribes différents’ (‘presents a great number of hands from different scribes’ [‘Les manuscrits de comput ecclesiastique’, p. 168]). Bruckner compares the main ninth-century hand with the ‘ausserordentlich kleiner, sorgfältiger, exakter St Galler Minuskel’ (‘extremely small, careful, precise St Gallen minuscule’) in St Gallen 40 (*Scriptoria medii aevi Helvetica*, vol. II, p. 57 [cf. p. 69]). On page 9, Bischoff notes, ‘eine kleine Korrektur in irischer Schrift enthält, ist ein Denkmal der Beziehungen zwischen der Reichenau und dem Westen’ (‘a small correction in an Irish hand, is a testimony to relations between the [Benedictine Abbey of] Reichenau and the West’ [Mittelalterliche Studien, vol. III, p. 47, n. 35]).

Decoration:

RUBRICATION: Orange or light-red rubrics appear on pp. 3a–4a, 5b–7a, 8ab, 9b, 10 [insert], 11a–12a, 13a–14a, 15ab, 19a, 22a–23b, 33a, 34ab, 36a, 40a, 41a–42a, 46a, 54a, 65ab, 68b, 83b, 84a, 85b, 87ab, 92a, 96a, 149b, 151a, 152ab, 153b, 155ab, 156a, 157b, 160b, 161b,

162b, 164a, 166b, 167a, 168a, 170a, 171a, 172a, 173b, 174a, 175b, 176a, 177b, 178b, 180a, 182b, 183a, 184a, 185a–192b, 194a–98b, 199b–208b, and 209b–26b. Small capitals in rubric filled with orange ink are found e.g. on pp. 83a, 84a–85a, 86ab, and 99a. Black rubrics alone occur on pp. 16a–17b, 18a, and 83a.

CAPITALS: Three- to six-line capitals filled with orange ink appear on pp. 6a–7a, 8b, 9b, 10b, 11a–12a, 13a–14a, 15ab, 19a, 20a, 23b, 120b, 123ab, 124a, 125a, 126b, 127b, 130a, 131ab, 132a, 133a, 134a, 135a, 136a, 137a, 138a, 139a. Three- to six-line capitals left unfilled or filled with black ink: pp. 16a–18a, 20ab, 24b; 27b–30a, 39a, 142a, and 143b. Three-line capital filled with orange and green ink: p. 115a. Two-line capitals left unfilled or filled with black ink: pp. 7ab, 18b, 19b, 21a–22a, 30a, 33ab, 40ab, 42b, 43a, 44ab, 45ab, 47b, 48b, 49, 50a, 53a, 152a, 153b, 155b, 157b, 161b, 164a, 167a, 168a, 170a, 171a, 173b, 174a, 175b, 178b, 183a–192b, 194a–208b, and 210a–12b. Two-line capitals filled with orange or yellow ink: pp. 64a–67b, 68b, 76b, 79a–82a, 83a–90b, 96a, 100a, 103a, 104a, 105b, 111a, 112b, 114ab, 117a, 118a, 125b, 151a, 152b, 156a, 160b, 162b, 166b, 167a, 170a, 171a, 172a, 174a, 176a, 177b, 180a, 182b, 184b–192b, 194a–208a, and 209b–12a. Two-line capitals filled with orange and green ink: pp. 42a, 76b, 77b, 83a, 90ab, 91b, 93b, 94ab, 95a, 99a, 101b, and 102a. Two-line capitals filled with green ink: pp. 90a–91b, 92b, 94b, 95ab, 96ab, and 97a–98a. Single-line capitals filled with orange ink: pp. 66b–67a, 68ab, 72a–74b, 78a–80b, 83ab, 87a–89b, 93a, 99a, 100a–149b. Single-line capital filled with orange and green ink: p. 115a. Single-line capitals filled with green ink: pp. 83b, 90ab, 91ab, 92b, 93ab, 94ab, 97a–98a, and 115ab.

ILLUSTRATIONS: A zoomorphic capital “I” in light red and orange ink appears on p. 3a; dryruled Celtic-like knotwork is found on p. 57a.

TABLES AND DIAGRAMS appear throughout the material by Boethius and Pseudo-Bede, as on pp. 7b, 8a, 10b [outline only; completed table included as a small insert between pp. 10 and 11], 17a, 19b, 20b, 21ab, 22a, 24b, 25ab, 27b, 28ab, 29b, 30ab, 31b, 32ab, 33b, 34a, 35ab, 36a, 38b, 39ab, 40a, 41ab, 43b, 44ab, 45ab, 46a, 47b, 48b, 49ab, 54a, 56, 59, 60, 61b, 63, 64, 68, 70, 71, 72, 75, 76, 77a, 82b. Two diagrams also appear on p. 148b as part of Bede’s *De temporum ratione*.

[ALSO NOTE:] **SEWING:** Where ruling breaks through the vellum, lines are sewn together with green thread on pp. 35b and 50b. A curved tear in the inner top edge of the manuscript is repaired with green thread on p. 199a, green and red thread on p. 201a, and with red thread on pp. 203a, 205a, 207a, 209a, and 211a thereafter.

Binding: Binding of s. xv (ca 1461) corresponding to Szirmai’s Type A, with plaited endbands, raised sewing supports, white leather covering (tawed pigskin or chamois) with decoration in blind-tooled lines, on wooden boards. Two dark leather binding straps, once attached to metal pegs, are now lost. Remnants of text, inverted and perpendicular to the volume, survive as impressions from an unidentified page. Labels: “Boëthius. Beda [d]e Co[m]puto.” and “Z48” on spine; “Compotus Bede.” [sic] on front cover, perhaps in the same hand as the MS entry in the 1461 catalogue.

See Szirmai, ‘Repair and Rebinding of Carolingian Manuscripts’, p. 167; and Bruckner, *Scriptoria medii aevi Helvetica*, vol. II, p. 74. I am indebted to Mr. Philipp Lenz for his expertise in dating this binding.

Summary of Contents:

3–56 Boethius, *De arithmetica libri duo*

(3) Preface: >DOMINO PATRI SYMMACHO·BOETIUS[.]< IN DANDIS ACCIPIENDisq[u e] munerib[us] ... [et] non maiore censebitur auctor merito quam probator·FINIT EP[ISTO]LA BOETII AD SIMMACHU[M]. >FINIT EP[ISTO]LA BOETII AD SYMMACH[?U]M[.]< (3b–4a) Capitula. (4a–22a) Text of Book I: >PROHEMIUM IN QUO DIUISIO MATHEMATICAE.< Inter omnes prisc[a]e auctoritatis qui phytagora duce ... ab utilioribus moraremur.. EXPLICIT·LIB[ER] PRIMUS. (22a–23a) Capitula. (23b–56) Text of Book II: >INAEQUALITAS REDUCATUR·< Superioris libri disputatione digestum e[st] ...huius discriptionis subter exemplar subiecimus; [(56) Table: GEOMETRICA ARITHMETICA.] >EXPL[ICIT] INSTITUTIONIS ARITHMETICE LIBER SEC[UN]D[US] FELICITER.<

The edition by Oosthout, Henry, and John Schilling, *Anicii Manlii Severinus Boethii De arithmetica*, Corpus Christianorum Series Latina 94A (Turnhout, 1999), now replaces that of Godofredus Friedlein, ‘Boetii De institutione arithmetica libri duo’, in *Anicii Manlii Torquati Severini Boetii De institutione arithmetica libri duo; De institutione musica libri quinque; accedit geometria quae fertur Boetii* (Leipzig, 1867), pp. 3–173. On *De arithmetica*, see particularly Masi, *Boethian Number Theory*.

57–58 Miscellaneous

(57a) Dryruled illustration (see above, under Decoration). (57b) Blank. (58a) *Probationes pennae* [some erased] and dryruled numerals. (59b [top]) *Probationes pennae* [half erased] and a late-tenth or twelfth century copy of *Nonae aprilis* or *Rithmus de termino Paschae*, nineteen lines of verse giving (in the first phrase of each line) the date of the Easter full moon in the corresponding year of the nineteen-year (‘decennovenal’) cycle and (in the second phrase of each line) the ‘lunar regular’—that is, the number which, combined with the concurrent for a particular year, identifies the feria or weekday on which the Easter moon falls, as in *Quinque poli zonis* on p. 61b below. (‘Concurrents’, in turn, are the numbers 1 to 7 which Bede uses in his Easter Tables to replace Dominical Letters—used to determine the weekday of 1 January in any given year—and which ‘from a mathematical point of view are considerably easier to work with’ [Bergmann, ‘Easter and the Calendar’, p. 17].) Text (with the capitals for each line ruled for but not inserted): [N]on[a]e aprilis Norunt quinos: ... [Q]uinden[a]e c[on]stant Trib[us] adeptis. (59b [bottom]) *Probationes pennae* [mostly erased] and a late-tenth or twelfth century liturgical extract. Text: *Continet in gremio celu[m] t[er]ra[m]q[ue] regente[m] ... Bissenii comites que[m] stipant agm[i]ne fido.*

For the divergent dating of the additions on p. 59b, see Cordoliani, ‘Les manuscrits de comput ecclesiastique’, p. 169, and Smith, *Codices Boethiana*, p. 199, respectively. *Nonae aprilis* is printed by Strecker, *Rhythmi aevi Merovingici et Carolini*, pp. 670–71, and discussed by Jones, ‘A Legend of St Pachomius’, who affirms that the verse appears ‘in practically every computistical manuscript of the ninth century’ (199); Cordoliani, similarly, says that the text goes back to the ninth century and ‘était universellement utilisé’ (‘was universally used’) to calculate the date of Easter in the high Middle Ages (‘L’évolution du comput ecclésiastique’, pp. 298–99). As for the extract from the responsory, it may have formed part of the liturgy for *Octava natiuitatis Domini* (the Octave of Christmas), as in the twelfth-century Breviary of St Albans [London, British Library, Royal 2 A. x].

59–82 Pseudo-Bede, *Compotum (sic) Bedae presbiteri librorum quattuor hic*

[NOTE: Listing of tables in this section is not comprehensive; see above, under Decoration.]

(59) Title: >COMPOTUM [sic] BEDAE P[RES]B[ITE]RI LIBROR[UM] QUATTUOR HIC< (59–60) Tables. (61ab) Text: *Luna cotidie transit xiii partes et horas viii et viii semis momenta ... Haec ratio subtilissima e[st] et ualde necessaria et maximo labore undecumq[ue] cernendam mentis acies purganda.* (61b) [s. xi addition] Text: *Quinq[ue] poli zonis non[a]e nectunt[ur] aprilis ... Hic tria quin den[a]e constant p[er] dona kal[en]d[a]e[.]* (61b) [s. xi addition] Table. (62 [top]) Table. (62 [bottom]) Text: *Primo anno decennouenal[is] circul[i] ... Nono decimo prima[m] decada[m] sagittarii* (63a [top]) Table. (63a [bottom]) Title: >INCIPIT·CI[R]C[ULI]·a[l]d[h]elmi de cursu lu[nae] p[er] signa xii·s[e]c[un]d[u]m grecos·< [No text follows.] (63b–64ab [top]) Tables. (64a [bottom]–65a) Pseudo-Augustine, *De ratione bisexti secundum Augustinum*. Text: >DE RATIONE BISSEXTI S[ECUNDUM] AUG[USTINUM].< *Incipit primus annus ab occasu solis uerbi gratia noctis diei dominici usq[ue] dum finitur occidente sole ... noctis plena quae p[rae]cedit xv. k[a]l[endis] aprilis.* (65ab) *De signis duodecim*. Text: >DE SIGNIS XII·< *Iam uero illa quae ab ipsis gentib[us] signa d[omi]n[u]s ... designarent eorumq[ue] appellare nominib[us] non erubescerent* (65b–67a) *Alia ratio de signis*. Text: >ALIA RATIO DE SIGNIS·< *Taurum aprili tribuunt propter eu[m] eo q[uo]d in bouem sit conuersus ut fabulae ferunt ... unde december amat te genialis [h]yemps[.]* [Includes: (66b) Priscian, *De duodecim signis celesibus* (also called *Duodecim uersus de arcto maiori*). Text: *Ad boreae partes arctoi uertuntur et anguis ... Hinc sequitur pistris simul eridaniq[ue] fluenta.* (66b) Pseudo-Jerome, *Versus de causis anni*. Text: *Me legat annals cupiat qui noscere mentes ... Uer aetas autumnus hyemis redit annus in annu[m].* (66b–67a) *Versus de anno et mensibus*. Text: *Bissenis mensu[m] uertigine uoluitur annus ... Per nonas idusq[ue] decurrens atq[ue] kalendas[.]* (67a) Ausonius, *Versus de singulis mensibus* (also known as *Monosticha de mensibus*). Text: *Primus Romanas ordiris iane kalendas ... unde december amat te genialis [h]yemps* (see Schaller and Könsgen, *Initia*, p. 560 [§12559].) (67b [top]) [s. xi? addition] Text: *Termini rogationu[m] ... in una feria omni anno c[on]ueniunt.* (67b [bottom]) [s. xi? addition] Eugenius of Toledo, *Heptameton de primordio mundi*. Text: *Primus in orbe dies lucis p[ri]mordia sumsit ... septimus est domino requies his rite p[er]actis* (68a) Table. (68ab) *De ratione saltus*. Text: >DE RATIONE SALTUS·< *Lunae uelocitas saltum praebet ... non saltus [ue]l uenerit n[on] conueniet* (69a) Title: >Horologiu[m] de concordia ...< Six tables follow in a vertical column. (69b [top]) Table. (69b [bottom]) Title: *De tramitib[us] decemnouenalis cycli*. Text: *Linea Chr[ist]e tuos prima est qu[a]e continet annos ... Aetatem lunae monstrat nouissimus ordo.* (70–71) Tables. (72–76a) Lunar calendar. Text: *Xv anni decemnouenalis cicli ... de xi dieb[us] solaribus[.]* [Text ends on p. 74b, while tables continue.] (76b–82) Extracts from the Encyclopedia or Computus of 809. Text: >Incipiunt lectiones siue regulae co[n]put[i]·< ... xvii lu[na] fuit in pas[cha] in illo anno·

Borst describes pp. 59–69 as excerpts from the Encyclopedia of 809 (*Der karolingische Reichskalender*, vol. I, p. 231)—as indeed he does pp. 76–82 elsewhere (*Schriften zur Komputistik im Frankenreich von 721–818*, vol. I, p. 288). On the Encyclopedia, see below.

The tables and texts on pp. 59–64 [Cordoliani’s ‘feuillets 29[r] à 31^v’] complement one another by their computistical nature. The tables on p. 59 indicate the place of the sun in the signs of the zodiac for each month of the year. Those on p. 60 reproduce the series AEIOU (60a [top]), give the age of the moon at the start of each month in each year of the nineteen-year decennouenal cycle (60a [bottom]), and list the concurrents for the twenty-eight year solar cycle (60b [top]). The nineteen-line *Quinque poli zonis* on p. 61b allows one to find the lunar regular for each year of the decennouenal cycle (as in the second phrases of *Nonae aprilis* on p. 59b above). The wheel-diagram at the bottom of p. 61b, part of the eleventh-century portion of the page, is likely a tidal table, calculating tides for each of the nineteen

years. It also appears in Berlin, Staatsbibliothek Preussischer Kulturbesitz 138, fol. 35v; London, British Library, Harley 3017, fol. 135r; and Rome, Vatican City, Biblioteca Apostolica Vaticana, Reg. Lat. 123, fol. 83r; and is reproduced in PL 90.249–50, 277–78, 385–86, and 423–24 (Jones, *Beda Opera de temporibus*, pp. 365 and 126, n. 3; and Cordoliani, ‘Les manuscrits de comput ecclesiastique’, p. 170). The table on p. 62, using the letters A–K, allows one to find the age of the moon on 1 January for each year in a thirty-year cycle, while the decennovenal verses at the bottom of p. 62 identify the position of the moon on 1 January in the signs of the zodiac for a cycle of nineteen years. The tables on p. 63, using the letters A–P (63a) and A–U (63b), indicate the age of the moon in each day of the year during the decennovenal cycle and allow one to find the age of the moon as a function of the feria or weekday of 1 January. Finally, the table on p. 64 (as on p. 71 below) allows one to find the age of the moon during the different signs of the zodiac, as explained by Bede in *De temporum ratione* 19; see Cordoliani, ‘L’*évolution du comput ecclésiastique*’, p. 308. For all the material above, see *idem.*, ‘Les manuscrits de comput ecclesiastique’, pp. 169–70, as well as his reference to p. 62 [‘fol. 30v’] in ‘Un manuscrit de comput intéressant’, p. 252.

The text of Pseudo-Augustine, *De ratione bisexti* (pp. 64–65) appears (perhaps uniquely?) later in the twelfth-century Paris, Bibliothèque Nationale, Latin 7418 A, fol. 36v; see Cordoliani, ‘Les manuscrits de comput ecclesiastique’, p. 170; and Machielsen, *Artes liberales*, p. 220 [§638].

Alia ratio de signis (pp. 65b–67a) concludes with four passages which Machielsen describes as ‘textus de signibus zodiaci, etiam Au[gustino] tribute’ and as ‘textus ... de zodiaco, quorum primus erronee Au[gustino] tributus’, though the rubrication in fact only attributes *De ratione bisexti* (64a–65a) to Augustine; see Machielsen, *Artes liberales*, pp. 220 [§638] and 199 [§622]. The first passage Machielsen identifies as an extract from Priscian’s *De sideribus* called *De duodecim signis celestibus* (also called *Duodecim uersus de arcto maiori*; see Schaller and Könsgen, *Initia carminum latinorum*, p. 7 [§171]; and Walther, *Initia carminum*, p. 17 [§310]; as well as Cordoliani, ‘Les manuscrits de comput ecclesiastique’, p. 170). The next he identifies as Pseudo-Jerome’s *Versus de causis anni*, edited by Baehrens, *Poetae latini minores*, vol. V [1883], p. 349; Buecheler and Riese, *Anthologia latina*, vol. II [1906], p. 1 [§676]; and PL 90.806 (see Schaller and Könsgen, *Initia carminum latinorum*, p. 424 [§9481] and Machielsen, *Artes liberales*, p. 287 [§800/c], as well as Cummian’s *Letter ‘De controversia Paschali’*, ed. Maura Walsh and Daibhií Oí Croíiniín, *Studies and Texts* [Pontifical Institute of Mediaeval Studies] 86 [Toronto, 1988], p. 108). Third comes the anonymous *Versus de anno et mensibus* (see Schaller and Könsgen, *Initia carminum latinorum*, p. 82 [§1716]; and Walther, *Initia carminum*, p. 761 [§14678]; as well as Cordoliani, ‘Les manuscrits de comput ecclesiastique’, p. 170), while fourth we have the *Versus de singulis mensibus* or *Monosticha de mensibus* by Ausonius (see Schaller and Könsgen, *Initia carminum latinorum*, p. 560 [§12559]; as well as Cordoliani, ‘Les manuscrits de comput ecclesiastique’, p. 171).

The last seven lines of p. 67b comprise an early copy of a mnemonic poem by Eugenius II (archbishop of Toledo, 636–646) which became widely known in mediaeval schoolbooks: poem 37, ed. Vollmer, *Fl. Merobaudis reliquiae*, p. 256; see Chiesa and Castaldi, *La trasmissione dei testi latini del Medioevo*, vol. I, p. 108; and Díaz y Díaz, *Anécdota wisigothica*, p. 89.

De tramitib[us] decennouenalis cycli (69b [bottom]) is a set of mnemonic verses originating either at St Gallen (Jones, *Beda Pseudepigrapha*, p. 81; and Jones, *Beda Opera de*

temporibus, p. 81, n. 35) or elsewhere and prior to the time of Bede (Cordoliani, ‘L’*évolution du comput ecclésiastique*’, pp. 297–98); see Machielsen, *Artes liberales*, pp. 258–59 [§675/a]; Schaller and Könsgen, *Initia carminum latinorum*, pp. 399–400 [§8931]; and Walther, *Initia carminum*, p. 525 [§10329]. It is printed as *Carmen de eadem re* in PL 90.860.

The table on the top of p. 71, known elsewhere as *Cursus lunae per duodecim signa* [*cf.* the title of the table on p. 63a], allows one to find the age of the moon during the different signs of the zodiac [*cf.* the table on p. 64 above], as explained by Bede in *De temporum ratione* 19; for its use, see Cordoliani, ‘L’*évolution du comput ecclésiastique*’, p. 308.

According to Meyvaert, the calendar that appears on pp. 72–76 is one originally made by Bede to precede *De temporum ratione* along with his Great Easter Table—an eight-column treatment of the years 532–1063 in nineteen-year sections on which Bede comments in *De temporum ratione* 44–65 (‘Discovering the Calendar’, p. 9). Meyvaert’s edition of the calendar, which collates the tables in St Gallen 248, may be consulted along with Scheiders’ edition of the calendar in Karlsruhe 167, fols 16v–17v, the immediate source for pp. 72–76 (Scheiders, ‘The Irish Calendar in the Karlsruhe Bede’). The St Gallen pages correspond to the two editions as follows: St Gallen 248, p. 72ab (January–February) corresponds to Meyvaert, ‘Discovering the Calendar’, pp. 47–48, and Scheiders, ‘The Irish Calendar’, pp. 42–45; p. 73ab (March–April) corresponds to Meyvaert pp. 49–50 and Scheiders pp. 46–49; p. 74ab (May–June) corresponds to Meyvaert pp. 51–52 and Scheiders pp. 50–53; p. 75ab (July–October) corresponds to Meyvaert pp. 53–56 and Scheiders pp. 54–61; p. 76a (November–December) corresponds to Meyvaert pp. 57–58 and Scheiders pp. 62–65. For an explanation of how the calendar works, see Bede’s comments in *De temporum ratione* 19 and 23; the corresponding notes in Wallis, *Bede: The Reckoning of Time*, pp. 291–93 and 299; Meyvaert, ‘Discovering the Calendar’, p. 36; Cordoliani, ‘L’*évolution du comput ecclésiastique*’, pp. 302–04; and the earlier study by Jones, which describes the columns of the calendar by reference to Migne’s edition in PL 90.759–84 (*Bedae Pseudepigrapha*, pp. 110 and 108–09). For the earlier suggestion that the calendar might derive from the work of Abbo of Fleury (*ca* 945–1004)—and thus that this section might date from s. x—see van de Vyver, ‘Les oeuvres inédites d’Abbon de Fleury’, p. 151.

For the tables and text on pp. 76–82 (Borst’s ‘F 3’), see Borst, *Der Streit um den karolingischen Kalender*, pp. xxi, 36, 102 n. 146, 107, and 132; Borst, *Die karolingische Kalenderreform*, pp. xxiii, xxvii, 165, 187, 247, 304, 308, 458, 463–64, 471, 477, 482, 484, 490, 502, 510, 514, and 705; and particularly Borst, *Schriften zur Komputistik im Frankenreich von 721–818*. Borst collates St Gallen 248, p. 76b for *Schriften zur Komputistik*, vol. II, pp. 544–53 [§I.1–6 and 8–9] and 562–64 [§II.1]; p. 77 for *Schriften*, pp. 564–66 [§II.1 (continued)], 641 [§VIII.1], 553–61 [§I.10–15], 566–71 [§II.2–3], 575–76 [§II.5], 577–79 [§II.7–7a]; p. 78 for *Schriften*, pp. 579–79 [§II.7a (continued)], 572–74 [§II.4], 576–77 [§II.6], 580–82 [§II.8–9], 613–14 [§VI.1], 582–84 [§II.10], and 616–21 [§VI.2–4]; p. 79 for *Schriften*, pp. 621 [§VI.4 (continued)], 627 [§VI.7], 650–51 [§VIII.2], 630–32 [§VII.1], 636–39 [§VII.4], 639–40 [§VII.5], and 641–43 [§VIII.1B–4]; p. 80 for *Schriften*, pp. 643–48 [§VIII.4–11] and 651–57 [§VIII.3–7]; p. 81 for *Schriften*, pp. 584–610 [§III.1–6; §III.1–7; §V.1–10], 640 [§VII.6], 621–22 [§VI.5]; and p. 82 for *Schriften*, pp. 622–26 [§VI.5 (continued)–VI.6]; see also vol. II, p. 673, and vol. III, p. 1081.

Portions of p. 78 [*Schriften*, vol. II, pp. 580–82 (§II.8–9)] appear elsewhere as *De pronuntiatione dierum secundum Dionysium* (Machielsen, *Artes liberales*, p. 282 [§773A]), also known as Pseudo-Bede, *De argumentis lunae libellus*, and Pseudo-Victorius Aquitanus, *De pronuntiatione dierum secundum Victorium* (*ibid.*, pp. 239–40 [§660/c] and 301 [§835],

respectively). The text is printed by Migne as *Si uis scire quare d[icitu]r Mar[tius] in K[a]l[endis] xxix·quia retro mar[tio] feb[ruarius] e[st] ... ibi potest pleniter discere[.]* [PL 90.707C] followed by *Si uis scire quare d[icitu]r feb[ruarius] in K[a]l[endis] xxxii· ... quia iam finiti s[un]t dies anni in idus: xiii·* [PL 90.707AB].

Borst refers pp. 76–82 as ‘die vollständige Neubearbeitung der rheinischen Anleitung von 760/792’ (‘the complete revision of the Rhenish instructions of 760/792’)—that is, one assumes, the B version of the Carolingian Encyclopedia on Time compiled at Aachen in 809; see *Schriften zur Komputistik*, vol. I, p. 288. Cordoliani, listing the incipits to the various sections in pp. 76–82 [fols ‘38^v–41^v’], notes those deriving from this work (‘Les manuscrits de comput ecclesiastique’, pp. 171–75; see also his comments on pp. 175–77). On the Encyclopedia or Computus of 809, see Borst, ‘Alkuin und die Enzyklopadie von 809’.

Stevens suggests that while pp. 59–82 date ‘from the middle or end of the ninth century’, the last section of text on p. 82 (*Si uis scire a septembrio usq[ue] ad dec[embrem] h[oc] e[st] ab initio anni aegyptoru[m] ... xvii lu[na] fuit in pas[cha] in illo anno·* [Borst, *Schriften*, pp. 625–26 (§VI.6)]) ‘was added later by a hand quite different from the others, perhaps in [the] early eleventh century’ (Stevens, ‘Astronomy in Carolingian Schools’, p. 441, n. 59). It is difficult to understand from what grounds the suggestion arises, however, as no change of hand appears to distinguish this text from the rest of the page or indeed pp. 59–82.

Page 82 concludes with diagrams of the Ptolmaic solar system and the heliocentric orbits of Mercury and Venus (with the sun in turn orbiting the earth) which appear in Karlsruhe 167, fol. 16r; the diagrams in Karlsruhe 167 are discussed by Stevens, ‘Astronomy in Carolingian Schools’, pp. 450–51, and Jones, ‘A Note on Concepts of the Inferior Planets’, pp. 398–99 [see also Jones, *Bedaes Pseudepigrapha*, pp. 84–85; and Jones, *Bedaes Opera de temporibus*, pp. 145 and 352]).

Smith cites PL 90.357–61 for pp. 59–82, but Migne’s text at this point is actually Bede, *De temporum ratione* 15 (conclusion) – 17 (middle); see Smith, *Codices Boethiani*, p. 199 [§53]. For other notes on this section, see Borst, *Das Buch der Naturgeschichte*, p. 117, n. 93, and p. 137, n. 32; and Oosthout and Schilling, *Anicii Manlii Severinus Boethii De arithmetica*, p. 174, n. 21.

83–92a **Bede, *De natura rerum liber***

(3a) Preface: *NATURAS RERUM UARIAS ... QUI LEGIS SUPER ASTRA MENTE TUERE DIEM.* (3–) Text: *DE QUADRIFARIO DEI OPERE. Operatio diuina, quae saecula creauit et gubernat ... atque inde Africa a meridie usque ad occidentem extenditur. >FINIT LIB[ER] PRIMUS<*

CPL 1343. Ed. Charles W. Jones, *Bedaes Venerabilis Opera, Pars I, Opera Didascalica*, CCSL 123A (Turnholt, 1975), pp. 189–234. See also Jones, Charles W., *Manuscripts of Bede’s De Natura Rerum* (Bruges: The Saint Catherine Press, 1937).

92–98 **Bede, *De temporibus liber***

(92) Text (chapters 1–15): *>INCIPIT SECUNDUS< Tempora momentis horis dieb[us] mensib[us] annis saeculis et aetatib[us] diuiduntur ... n[ost]ra quoq[ue] resurrectione nob[is] exoptabilis in memoriam reuocetur· >FINIT LIB[ER] II<* (96) Text (chapters 16–22): *>INCIP[IT] DE SEX AETATIB[US] mundi· Sex aetatib[us] mundi tempora distingunt[ur] ... Iustin[us] minor an[no]·xi·armenii fide[m] Chr[ist]i suscipiunt· Tiberius an[no]·ix [expl. imperf.]*

Jones affirms that St Gall 248, pp. 92–99 is ‘Undoubtedly a copy of *K* [Karlsruhe Landesbibliothek, Reichenau 167]’ (Jones, Charles W., ed., *Beda Opera de temporibus* [Cambridge, 1943], p. 166).

CPL 2318. Ed. Charles W. Jones, *Beda Venerabilis Opera, Pars III, Opera Didascalica*, CCSL 123C (Turnholt, 1980), pp. 585–611.

99–212 **Bede, *De temporum ratione***

(99–100a) Preface: >*DE NATURA RERUM ET RATIONE TEMPORUM*< *duos quonda[m] p[er]stricto sermone libellos discentib[us] ... mecu[m] nihilominus debita fraternitatis intemeratae iura custodiat.* (100–212) Text: *De temporum ratione d[omi]no iuuante dicturi necessariu[m] duxim[us] ... una[m] operatione[m] in Chr[ist]o diuinitatis [et] humanitatis unam [expl. imperf. at A.M. 4593].*

Jones suggests that pp. 99–148 comprise three inserted gatherings in an eleventh-century hand drawn from an exemplar ‘resembling Φ [a group of manuscripts primarily from Auxerre, Fleury, Cologne, and Trier]. The rest definitely equals *K*² [part of Karlsruhe Landesbibliothek, Reichenau 167]’; see Jones, Charles W., ed., *Beda Opera de temporibus* (Cambridge, 1943), p. 156 and 143.

Cordoliani lists p. 120(?) [‘fol. 61’] under witnesses to *De quattuor questionibus compoti* of Notker III Labeo (ca 950–1022), ed. Piper, *Nachträge zur alten deutschen Literatur*, pp. 312–18; see Cordoliani, ‘Les traités de Comput du Haut Moyen Age’, pp. 64–65.

The last diagram on p. 148b, representing various ‘fours’ such as the elements, seasons, humours, and so forth, appears also in Berlin, Staatsbibliothek Preussischer Kulturbesitz 138, fol. 36v; Paris, Bibliothèque Nationale, Lat. 5239, fol. 144v; and St Gallen, Stiftsbibliothek 240, p. 27; and is reproduced in PL 90.461–62; see Jones, Charles W., ed., *Beda Opera de temporibus* (Cambridge, 1943), p. 368.

De sex huius saeculi aetatibus, which appears at pp. 183–212 and which Scherrer lists as a separate entry in MS 248, constitutes chapter 66 of *De temporum ratione*; on this copy of *De sex huius saeculi aetatibus*, see Ostberg, ‘Who were the Mergothi?’, pp. 98–99 and 100 n.14.

CPL 2320. Ed. Charles W. Jones, *Beda Venerabilis Opera, Pars II, Opera Didascalica*, CCSL 123B (Turnholt 1977), pp. 263–460.

213–228 **Miscellaneous**

(213–226) Computistical Tables. (227ab) Capitula for Bede, *De natura rerum*. (227b) Capitula for Bede, *De temporibus*, chapters 1–16. (228) Blank.

The tables on 213–26 are arranged in nineteen-year cycles and provide the following information: common and embolismic years (that is, non-leap years of 365 days and intercalary lunar years of thirteen lunar months or 384 days), *anni domini* (years A.D.), indictions (fifteen-year cycles), epacts (the difference in days between a solar and a lunar year, that is, the number of days since the new moon at the beginning of the solar year [1 January]), concurrents (the numbers 1 to 7 which Bede uses in his Easter Tables to replace Dominical Letters, used to determine the weekday of 1 January in any given year [see comments on *Nonae aprilis*, p. 59b above]), common lunar years (twelve lunar months or

354 days), the fourteenth day of the pascal moon (the Sunday after which would be Easter), Easter day, and the age of the moon on that day. The arrangement corresponds to the decennovenal cycle from the year 532 described by Bede in *De temporum ratione* and reproduced as PL 90.825–54. See Cordoliani, ‘Les manuscrits de comput ecclésiastique’, p. 177.

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