

COMPOTUS ECCLESIASTICUS

Edition, Translation and Apparatus Criticus

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CONTENTS

<i>Foreword</i>	
‘On Jennifer Moreton’s edition of the <i>Computus ecclesiasticus</i> ’ Philipp Nothaft, All Souls College, University of Oxford	3
Edition	14
Translation	63
Apparatus criticus	109

Computus, as we learn from the opening line of the text presented here, was the medieval science of time, as defined by the motions of sun and moon. Another way of framing it, perhaps one more helpful for modern readers, would be to say that *computus*—or *compotus*, as twelfth- and thirteenth-century writers preferred to spell it—was both a type of text and a whole discipline, dedicated to calendars and the reckoning of time. For medieval clerics, a basic knowledge of *computus* was essential, for on its rules depended the whole ecclesiastical calendar with its two main technical components: the Julian calendar, inherited from pagan Rome, and a 19-year lunar cycle, which had been developed in the third to fourth century by the Church of Alexandria. During the early Middle Ages, the practical necessity of instructing Christian monks and clerics in the use of these reckoning tools created a steady demand for textbooks as well as short introductions to the subject, of which the present *Compotus ecclesiasticus* is a fairly representative early thirteenth-century example. In spite of its didactic aims and elementary content, the text offers a vivid picture of the breadth of knowledge conveyed in medieval *computus*-literature, which drew primarily on arithmetic and astronomy, but also interacted with fields such as theology, history, and etymology, sometimes even with astrology, geography, medicine, poetry, or music.¹

Owing to this interconnectedness, *computus* never remained completely static, but developed over the centuries in ways that reflect broader trends in medieval

¹ For a bibliography of works on medieval computistics and time-reckoning, see Faith Wallis, “Calendars and Time (Christian),” in *Oxford Bibliographies*, DOI: 10.1093/obo/9780195396584-0130.

intellectual history. This is true especially for the twelfth century, when the discipline was enriched by astronomical data from newly translated Arabic, Hebrew, and Greek sources, among them numerical tables which allowed users to calculate the positions of the sun, moon, and planets with unprecedented precision. These texts and tables challenged existing assumptions and parameters and had the net effect of displacing *computus* as the main form of natural science in the Latin West, albeit without diminishing its practical importance for clerical education.² Most of our evidence for this transformative phase in the history of Latin computistics comes from England, in particular from the West Midlands and adjacent regions, where the ‘new’ astronomy and astrology of the Arabs penetrated relatively early, fostering significant changes in the curriculum and intellectual culture. One example is the episcopal town of Hereford, where Robert Grosseteste spent some of his formative years (1194/5–98) as a member of the household of Bishop William de Vere.³ Scholars and teachers active in William’s diocese included a certain Roger of Hereford, who played an important role in disseminating astrology and astrological techniques from Arabic sources in the second half of the twelfth century. Next to astrology, Roger also wrote a treatise on the *Compotus*, datable to 1176, in which he offered a comprehensive presentation and analysis of the two main branches of *computus*, dubbed *computus vulgaris* and *computus naturalis*. The former corresponded to the traditional approach to calendrical reckoning, where the fundamental unit of reckoning was the day, whereas the latter was a more fine-grained and recent variant of the discipline, which aimed at

² Three key texts from this period are edited in Lohr 2015. See on this topic also Nothaft 2014; 2015.

³ See Russell 1932; Southern 1986, pp. 65–69; Barrow 1987; Burnett 1995; Panti 2001, pp. 8–10, 18–24; Dowd 2003, pp. 69–73, 118, 306–7.

predicting the moment of conjunction down to the small fraction of an hour. By comparing both forms of the art to the much more complex and subtle knowledge furnished by Greco-Arabic astronomy, Roger was in a position to expose the technical flaws of the ecclesiastical calendar and to call for a reform of its 19-year cycle.⁴

Robert Grosseteste, who was a generation younger than Roger of Hereford, carried this critical approach to the discipline even further in his widely copied *Computus correctorius*, which he probably wrote at some point in the 1220s.⁵ It was to have a seminal influence on later medieval discussions of calendar reform thanks to the lucid and comprehensive way in which it confronted the traditions of the *computus* with the theories and parameters that Arabic sources had made available in the previous century.⁶ Even during his own lifetime, Robert Grosseteste enjoyed a great reputation as an expert on *computus* and calendar-reckoning—so great in fact that scribes were soon tempted to ascribe other works from this genre to him. This appears to be what happened in the case of the present *Computus ecclesiasticus*, which in one manuscript, now in Oxford, is introduced as “the *computus* of master Robert Grosseteste.”⁷ When S. Harrison Thomson prepared his influential survey of *The Writings of Robert Grosseteste*, published in 1940, he labelled this work *Computus I*, supposing that it was Grosseteste’s first attempt at writing a *computus* textbook, one

⁴ For details, see now the critical edition included in Lohr 2015.

⁵ Thomson 1940, p. 96 lists 29 manuscripts of the work, two of which (London, British Library, Add. 27589 and London, British Library, Harley 3734) were used for the critical edition by Steele 1926, pp. 212–67.

⁶ I intend to document this influence in a forthcoming study on the history of calendar improvement in the Latin Middle Ages.

⁷ MS Oxford, Bodleian Library, Bodley 679, fols. 65r–75r.

later expanded into the more scientific *Computus correctorius*. In addition, he identified an abridged version of the *Computus I* in a manuscript in Dublin, designating the latter as *Computus minor*.⁸

Although later scholars, notably Richard Southern and James McEvoy, disagreed with Thomson on several points of detail,⁹ the notion that the Bishop of Lincoln had authored at least two works on *computus*—one ‘elementary’, and one ‘advanced’—was still generally accepted in 1988, when Bernard Malone submitted diplomatic editions of both the *Computus I* and *Computus minor* to fulfil his PhD requirements at the University of Southern California. Like his teacher Richard Dales, who published a note on “The Computistical Works Ascribed to Robert Grosseteste” the following year, Malone came down in favour of Grosseteste’s authorship of the *Computus I*, which seemed to be vouchsafed by the repeated ascription in the Oxford manuscript.¹⁰ At the same time, however, both scholars already referred to new findings made by Jennifer Moreton (1939–2005), then a PhD student at Trinity College, Dublin, who had circulated an unpublished typescript entitled “Robert Grosseteste, John of Sacroboso, and the Calendar.” Moreton’s interest in the topic had been aroused by the physical presence of the *Computus minor* at her college library, leading her to seek out and find several further copies and versions of the *Computus I* in manuscripts of the thirteenth to fifteenth centuries. Since all these additional copies were anonymous, she concluded that the ascription to Robert Grosseteste lacked solid foundations and had to be rejected. What these manuscripts

⁸ MS Dublin, Trinity College, 411, fols. 104v–11r. See Thomson 1940, pp. 94–97, 106–7.

⁹ McEvoy 1982, pp. 506–7; 1983, pp. 618–20; Southern 1986, pp. 127–31.

¹⁰ See Malone 1988, pp. 8–16, and Dales 1989.

contained instead was an anonymous *Compotus ecclesiasticus*, which had been circulating in England since the early thirteenth century and which in Moreton's view was reflective of the computistical lore taught to beginning students at the cathedral and university schools of the period.

Moreton expanded on these findings in her 1992 PhD-thesis, which also contained a critical edition of the *Compotus ecclesiasticus*. Among the many difficult tasks she faced when analysing the text and its background was to determine the relationship between this anonymous English *Compotus ecclesiasticus* and other works that routinely went by this name. These included the didactic poem *Massa compoti* by Alexander of Villedieu (fl. 1200) as well as the *Compotus* (1232/35) attributed to the popular textbook writer John of Sacrobosco, which is also known as *De anni ratione*. One of Moreton's most significant findings, discussed in an article she published in the journal *Viator* in 1994, concerned the conspicuous parallels in structure, content, and wording between Sacrobosco's work and the *Compotus ecclesiasticus*, which urged the conclusion that one text depended on the other. In her view, it was Sacrobosco who derived large parts of his work from the more rudimentary anonymous predecessor.¹¹ An edition of a key passage from c. 13 of the *Compotus ecclesiasticus*, discussing the gradual slippage of the equinoxes and solstices due to the error of the Julian calendar, was included as an appendix to the article. This passage shows beyond doubt that the work was written after the year 1200, but its precise date—and whether it was really prior to Sacrobosco's work—remains uncertain.¹²

¹¹ Moreton 1994.

¹² A clearer verdict on this question will have to await the joint edition of Sacrobosco's *Compotus* and the *Compotus ecclesiasticus* that is currently being prepared by Alfred Lohr.

Moreton's arguments against the involvement of Robert Grosseteste in the text's history did not see the light of day until the following year (1995), when they were finally printed among the proceedings of a colloquium on Grosseteste's thought and scholarship, which had been hosted by the Warburg Institute, London, in 1987. It seems fair to say that her view has become the generally accepted one and that scholars now regard only the *Compotus correctorius* as a work certainly by Grosseteste.¹³ Having erased two *computus* texts from the bishop's CV (i.e., the *Compotus I/Compotus ecclesiasticus* and the *Compotus minor*), Moreton did the same for a widely copied *Kalendarium* with lunar almanac, which was treated by some medieval scribes as a work by Robert, the Bishop of Lincoln, and was published as such by Arvid Lindhagen in 1916. After this connection had already been called into question by Dales,¹⁴ Moreton refuted it more conclusively in an article with the programmatic title "Before Grosseteste", published in *Isis* in 1995. It had the distinct merit of shedding light on two long-neglected texts written in twelfth-century England, both of them witnesses to the new influence of Greco-Arabic astronomy: the aforementioned *Compotus* of Roger of Hereford as well as a work written in 1175 by a certain *Magister Cunestabulus* (or *Constabularius*). As a result of engaging with these sources, she was able to show that the so-called *Kalendarium Lincolnense* (or *Lincolniensis*) already appeared in Roger's treatise and hence could not possibly have been composed by Grosseteste.

Moreton was to return to the question of computistical antecedents two more times over the following years, with articles on the Venerable Bede's "Doubts about

¹³ McCluskey 1998, pp. 198–99; Panti 2001, pp. 46–47. The arguments of Moreton, Dales, and previous writers are reviewed at length by Dowd 2003, pp. 205–19, who comes down in Moreton's favour.

¹⁴ Dales 1989, p. 78.

the Calendar” (1998) and “The *Compotus* of ‘Constabularius’” (1999). In November 2000, she presented a concise summary of her previous research at the Thirty-Sixth Annual Conference on Editorial Problems in Toronto, which was dedicated to the works of Robert Grosseteste. The published version of this conference paper (2003) already announced that her edition of the *Compotus ecclesiasticus* “will be published shortly by the British Academy in the series *Auctores Britannici Medii Aevi*.”¹⁵ Sadly, her premature death in 2005 prevented Jennifer Moreton from overseeing this publication or from making further contributions to the historiography of medieval computistics.

The plan to include her *Compotus ecclesiasticus* in the *Auctores Britannici* series was at first maintained and the typescript was sent to Charles Burnett and Gillian Evans. In the form received, it included not only a critical edition of the text, but an English translation, an extensive introduction, a section-by-section commentary, and several appendices. Unfortunately, after the typescript had been examined by Charles Burnett, Immo Warntjes, and myself on two separate occasions in 2012 and 2015 and some attempts were made to edit it for publication, we had to reach the conclusion that the work was not polished and complete enough to go out in the intended book form. After consultation with the British Academy and her son Charles Moreton, we instead decided to respect Jennifer Moreton’s wishes by publishing her edition and translation of the *Compotus ecclesiasticus* in an online format. The apparatus of the edition, which follows after the translation, incorporates readings of six of the twelve manuscripts Jennifer Moreton had managed to identify, although the main text depends mostly on the thirteenth-century copy in MS London, British Library, Add.

¹⁵ Moreton 2003, p. 179 n. 2.

27589. We have interfered as little as possible with Moreton's edition and translation, correcting only obvious transcription errors as well as unifying the format. For all intents and purposes, this online edition thus represents the core sections of the work Jennifer Moreton had intended to publish before her death.

It remains for us to thank everyone involved in bringing this edition to light, in particular Faith Wallis, who recommended the *Ordered Universe* project to us, and Giles Gasper, who very readily and graciously offered to host the text on his project's website. Although the text is no longer attributable to Grosseteste with any confidence, the *Computus ecclesiasticus* remains a valuable witness to the intellectual and educational culture prevalent in England during his lifetime. We hope that it will serve scholars in their work and lead to further editions and investigations into the history of thirteenth-century *computus*.

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COMPOTUS ECCLESIASTICUS

CONSPECTUS SIGLORUM

- Ba London, British Library MS Add. 27589 (s. xiii).
cc Oxford MS Corpus Christi College 293B (s. xiii).
A Oxford MS Bodleian Library Ashmole 1285 (s. xiii).
U Oxford MS University College 26 (s. xv).
C Oxford MS Bodleian Library Can. Misc. 71 (s. xiii-xiv).
B Oxford MS Bodleian Library 679 (s. xiv)

INDEX CAPITULORUM

		<i>page</i>
1. [Quid compotus]	The nature of <i>compotus</i>	18 – 63
2. [De partibus temporis]	The parts of time	18 – 63
3. [De die]	The day	18 – 63
4. De septimana	The week	21 – 66
5. De mense	The month	21 – 66
6. [De kalendis nonis et idibus]	Calends, nones and ides	25 – 70
7. [De diebus Egiptiacis]	Egyptian days	26 – 71
8. De anno	The year	27 – 72
9. [De concurrente]	The concurrent	28 – 74
10. De bisexto	The bissextile	32 – 77
11. [De ciclo solari]	The solar cycle	34 – 79
12. De anni divisione	The division of the year	36 – 82
13. [De solstitiis et equinoctiis]	Solstices and equinoxes	37 – 82
14. [De ieiuniis]	Fast days	39 – 84
15. [De adventu Domini]	Advent	40 – 85
16. De anno lunari.	The lunar year	40 – 86
17. [De aureo numero]	The golden number	42 – 88
18. De anno communi	The common year	45 – 90
19. De anno embolismali	The embolismic year	46 – 91
20. De epactis et regularibus lunaribus	Epacts and lunar regulars	51 – 96
21. De saltu lune	The <i>saltus lune</i>	54 – 100

22. De festis mobilibus	Moveable Feasts	56 – 101
23. De clavibus	The keys	58 – 104
24. De lustris, indictione, seculo et evo	The lustre, indiction, century and age	61 – 107

[1. Quid compotus]

Compotus est scientia considerans tempora distincta secundum motum solis et lune. Scientia' ponitur ut genus; per hoc quod additur 'considerans tempora' denotatur compoti materia. Tempus enim est materia circa quam agit compotista, non tamen quolibet modo consideratum; et ideo subiungitur 'distincta secundum motum solis et lune'. Compotus enim considerat tempora mensurata secundum motum istorum duorum planetarum. *Fecit enim Deus duo luminaria magna, luminare maius ut preesset diei, luminare minus ut preesset nocti*; non curat motus aliorum planetarum, unde patet quod compotus differt ab astronomia et astrologia, que considerant motus omnium planetarum. Tempus quod est materia compoti sic describitur a Tullio: Tempus est pars eternitatis annui, mensurni, [U26r] ebdomatici, diurni, nocturnive spatii certa dimensione.

[2. De partibus temporis]

Compotista autem quandoque assumit partes temporis maiores diei, quandoque minores. Partes temporis maiores diei sunt septimana, mensis, annus, lustrum, indictio, seculum et evum. Quid sit unumquodque istorum satis patebit in consequenti. Partes minores diei sunt quadrans, hora, momentum, uncia, athomus. Quadrans est quarta pars diei naturalis, id est sex hore. Hora vero est vigesima [Ba13rb] quarta pars diei naturalis; momentum est quadragesima pars hore; uncia est duodecima pars momenti; athomus est quadragesima septima pars uncie.

[3. De die]

Dierum vero alius naturalis, alius artificialis. Dies naturalis est spatium ab ortu solis ad ortum: 24 horarum. Dies artificialis est quam diu [U27r] sol est in nostro

emisperio.

Notandum quod dies naturalis secundum diversos diversa habet principia. Christiani enim incipiunt diem naturalem a media nocte et ibidem terminant, hac ratione, quia legitur quod Dominus natus erat in medio noctis dominice; Arabes vero a meridie [cc326rb], quia dicitur quod sol factus est in meridie [A107b] secundum motum cuius considerant diem naturalem; Iudei a tempore vespertino [C31vb], innitentes illi auctoritati Genesis: *factum est vespere et mane dies unus*. Quidam autem secundum sensum agentes, ut vulgus, incipiunt diem naturalem ab ortu solis, quia cum sol efferatur supra nostrum horizonta et sit causa diei, tunc merito debet incipere dies [U27v] cum ascendat sol.

Notandum etiam quod dies septimane secundum diversos diversas habent appellationes. Philosophi enim denominant quamlibet diem septimane ab illo planeta qui dominatur in prima hora illius diei. Dicunt autem quod successive dominantur planete per horas.[B65b] Sunt autem .vii. pla[Ba13va]nete quorum nomina et ordo circulorum ipsorum planetarum possunt retineri per hunc versum:

Cinthia, Mercurius, Venus et Sol, Mars, Iove, Satur.

Supponitur igitur quod Saturnus dominatur in prima hora diei sabbati, Iupiter in secunda, Mars in tertia, Sol in quarta, Venus in quinta, Mercurius in sexta, Luna in septima, iterum in quartadecima, similiter in vicesima prima, Saturnus [U28r] vicesima secunda, Iupiter vicesima tertia, Mars .24a. Et cum non sint plures hore in illa die naturali relinquatur quod Sol dominatur in prima hora diei subsequentis. Unde ille dies dicitur dies solis; et consimili computatione habetis quod Luna dominatur in prima hora diei subsequentis diem solis, et inde suscipit appellationem, et ita de aliis. Secundum hoc quidam medici, cum dant potiones vel faciunt minutiones, considerant

utrum planeta sit benivolut vel malivolut qui dominatur in illa hora.

Ex hiis autem solvitur hec questio. A nominibus planetarum denominantur dies septimane, set quidam est ordo in planetis quoad circulos suos? Quare igitur dies septimane non denominantur secundum istum ordinem planetarum ut statim diem Saturni sequeretur dies Iovis, et hunc dies Martis, et ita de aliis? Ratio huius est: quod .24. hore distribute sunt planetis. Septem autem sunt planete. Unde si quilibet illorum assumat sibi tres horas, supererunt de 24 horis tres hore attribuende tribus planetis. Unde patet quod si aliquis dies denominatur ab uno planeta, dies sequens denominabitur a planeta tertio post. Christiani autem, sicut Beda, Ieronimus, et alii viri religiosi, primam diem septimane appellaverunt diem dominicum sive primam feriam: dominicum, quia tali die natus est Dominus, tali die resurrexit, tali die mundum fecit; feriam, quia feriare idem est quod celebrare, et die illa quam dicimus diem dominicum debemus cessare ab omni opere peccati, et etiam manuali. Vel dicitur feria a ferendis victimis, quia olim festivis diebus ad templa ferebantur victimae et holocausta. Secundum diem septimane appellaverunt secundam feriam, et sic de aliis. Nomen vero sabati non mutaverunt, ut appellarent eum feriam septimam, quia tali die requievit Dominus ab omni opere quod patrarat, et iterum requievit in sepulcro. Sabbatum enim idem sonat quod requies, et ideo retinuit nomen tale. Iudei autem alias habent septimane appellationes. Primum enim diem septimane sabbatum appellant sicut et nos, quod Dominus tali die requievit. Et secundum diem illum quem nos dicimus diem dominicum appellant primam sabati. Unde illud: mane prima sabati, id est prima die post sabbatum. Diem vero quem nos dicimus diem lune appellant secundam sabati, et ita deinceps secundum ordinem. Dicitur autem dies a diis: quidam enim dicunt

planetas esse deos a quibus dominantur dies. Vel dicitur a dyan, quod est clarum; vel dicitur a dya, quod est duo, quia dies naturalis dividitur in diem artificialem et noctem.

[4.] Sequitur de septimana.

Notandum quod septimane non habent proprias appellationes sicut dies, cum propter earum multitudinem - sunt enim 52 septimane et unus dies in anno - tum propter hoc, quod in uno anno est aliquod spatium septimane quod in alio est partes duarum septimanarum[A107vb]. Quod sic patet: si in hoc [cc326v] anno aliquod festum sit in die sabbati, idem festum in anno sequenti erit in die dominica. Unde illud festum quod terminat septimanam in hoc anno erit initium alterius septimane in anno sequenti. Habent tamen septimane communes appellationes has, scilicet ebdomada, septimana et sabbatum. Ebdomada dicitur ab *ebda* quod est septem, et *deas* quod est dies, quasi septem [Ba14rb] ha[C32rb]bens dies. Septimana dicitur a septem et [U30v]mane, quasi habens septem mane, id est tempora matutina; et ibi sumitur pars pro toto. Sab[B66r]batum appellant septimanam, quia per totam septimanam debemus quiescere a peccato. Unde illud: *Ieiunio bis in sabbato*. etc. Ex hiis patet quod sabbatum est equivocum ad unam diem septimane et ad totam septimanam.

[5.] Sequitur de mense.

Unde notandum quod triplex est mensis, scilicet solaris, lunaris et usualis. Solaris est quam diu sol moratur in signo peragando. Lunaris idem est quod lunatio, de qua dicitur postea. Usualis est illud spa[U31r]tium dierum, scilicet, kalendariis inscriptum, et ab antiquis celebratum.

Notandum itaque quod Romulus primus menses distinxit et annos, in anno suo .x. menses constituens, hac ratione, quia ut dicitur tantum tempus suffecit mulieri

pregnanti ut pareret; vel quia per tantum tempus debuit mulier abstinere a nuptiis post mortem mariti sui. Primum mensem suum denominavit a Marte patre suo; vel a marte, id est a bello, quia tunc reges Romani solebant procedere in expeditiones. Secundum mensem appellavit Aprilem, ab aperiendo, quia tunc pori terre aperiuntur, et procedunt herbe et folia in [U31v] arboribus; vel Aprilis quasi [Ba14va] Afrilis. Venus enim Frodisa dicitur a *frodos*, quod est spuma maris de qua nasci fingitur. Et ipsa fuit generationis [A108ra] Romulee principium ex parte matris sue. Tertium appellavit Mayum a maioribus. Quartum Iunium a iunioribus. Menses sequentes appositis dictionibus numeralibus appellavit, ut Quintilem, Sextilem, Septembrem, Octobrem, Novembrem, Decembrem. Unde Ovidius:

Tertius a senibus, iuvenum de nomine quartus.

Que sequitur numero turba notata suo est.

September dicitur quasi septimus ymber, [U32r;cc327ra] ab ymbre, id est a tempore pluvioso, sicut a tempore Februarii, et ita de aliis. Set postea sequens Numa Pompeius adiecit duos menses, scilicet Ianuarium et Februarium. Unde Ovidius:

At Numa nec Ianum, nec avitas preterit umbras.

Mensibus antiquis preposuitque duos.

Dicitur autem Ianuarius a ianua, quia sicut per ianuam est introitus in atrium, ita per Ianuarium in annum; [C32va] vel dicitur a Iano qui fuit biceps, ita quod Ianuarius duplicem habet faciem, quia videt finem anni terminantis ad ipsum, et principium incipientis ab ipso. Februarius dicitur a Februo, id est a Plutone, quia tunc solebant sa[U32v]crificia facere pro animabus [Ba14vb] antecessorum; vel dicitur a febre, quia tunc febricitare solebant homines. Licet igitur Numa annum suum ex .xii. mensibus fecerit, tamen diminute egit, quia menses sumpsit lunares, unum scilicet .30. dierum

et reliquum .29., et ita annus suus constabat ex .354. diebus, qui numerus non sufficit cursui solis. Sequens igitur Iulius Cesar ultimam correctionem apponens undecim dies adiecit et quadrantem. Unde annus Iulii constabat ex .365. diebus et .vi. horis.

Superflue tamen assumpsit .viii. momenta, ut patebit inferius. Tempore autem Iulii Cesaris Romani adulantes Iulio mensem qui prius dicebatur [A108rb] Quintilis [U33r] Iulium appellaverunt, quia in tali tempore legitur Iulium esse natum. Postea similiter adulantes Augusto mensem prius dictum Sextilem Augustum appellaverunt.

Qui autem menses usuales plures habeant dies, qui pauciores, scitur hiis versibus:

Sep, No, Iun, Ap, triginta dato, reliquis magis uno.

Ni sit bisextus, Februus minor esto duobus.

In quolibet vero mense sol dicitur novum signum intrare; et est signum certum spatium zodiaci ab astronomis dictum. Habet etiam quodlibet signum specialem appellationem ut [B66v] patet per hos versus:

Est Aries, Taurus, Gemini, Cancer, Leo, Virgo. [Ba15ra]

Libraque Scorpius, Architenens, Caper, Amphora, Pisces. [U33v]

Primum signum est Aries, quia secundum quod credit Ecclesia in eo factus est sol, licet dicant Arabes quod sol factus sit in Leone. Et dicitur Aries quia sicut [c327rb] Aries est animal quod in parte anteriori viget, in parte autem posteriori debile est, ita sol existens in illa parte zodiaci que dicitur Aries in tempore hiemali parum habet virtutis, scilicet caloris et siccitatis, in parte anteriori magis habet virtutis, scilicet versus estatem; vel, ut dicunt quidam, Aries tota hieme sinistro accumbit lateri, estate [C32vb] vero dextro: sic sol tota hieme magis accedit ad emisperium inferius, estate vero ad superius, quod est quasi dextrum latus.

Secundum signum dicitur Taurus, quia tunc labores taurorum sive bovim apparent; vel quia sicut taurus est animal fortius ariete, ita sol existens in eo fortior est in virtutibus quam fuit [U34r].

Tertium signum est Gemini, quia tunc geminatur virtus solis in caliditate et siccitate; vel quia sicut Gemini depinguntur iuvenes amplectentes se, ita quando sol est in illa parte celi quedam terre nascentia amplectuntur se per radices et pubescunt superius in herba.

Quartum signum est Cancer, quia sicut cancer est animal retrogradum, ita sol in illo tempore recedit [A108va] a nostro emisperio. Unde illud signum dicitur tropicum quasi conversivum; [Ba15rb] et in eo est solstitium estivale.

Quintum est Leo, quia sicut leo est animal ardentissime nature et implacabilis ire, ita sol existens in illa parte celi ardentissimus est et siccissimus. Unde tunc non est bonum minui nec purgationibus uti propter defectum humoris [U34v] in tempore caloris et siccitatis.

Sextum est Virgo, quia sicut virgo sterilis est, ita tempus illud sterile est et nichil producit, set producta maturat.

Septimum est Libra, quia tunc libratur dies artificialis nocti; et est equinoctium autumpnale.

Octavum est Scorpius, quia sicut scorpius pungit cum cauda, ita matutina parum cautos tunc frigora mordent.

Nonum est Sagittarius, quia tunc in nos mittuntur sagitte temporis, tempestates scilicet, ymbres, grandines et huiusmodi.

Decimum est Capricornus, quia sicut in pascendo erigit se caper, ita tunc sol ab inferiori emisperio versus nostrum accedit emisperium; et dicitur hoc signum

tropicum, quia sol tunc convertitur ad nos; et est tunc solstitium hiemale.

Residua vero duo signa, Aquarius et Pisces, notant habundantiam aquarum, [cc327va] quia quando sol est in illis tunc habundant [U35r] pluvie; et dicitur Aquarius ab *aqua* et *qualitate* et *aere*.

Quidam tamen dicunt quod hec signa denominantur a situ stellarum fixarum que sunt in illis partibus ad modum anima[Ba15va]lium.

[6. De kalendis nonis et idibus]

Notandum etiam quod in quolibet mense sunt .3. dies principalia nomina habentes, a quibus denominantur alii dies mensis coassumptis dictionibus numeralibus, scilicet kalende, none et idus.

Dicuntur autem kalende quasi *colende*, [C33ra] quia primus dies cuiuslibet mensis colebatur ab antiquis in honore Iunonis. Unde Ovidius:

Vendicat ausonias Iunonis cura kalendas.

Vel dicuntur kalende a *calo*, quod est voco, quia preco prima die cuiuslibet mensis ascendebat locum eminentem in civitate et clamabat quater ‘calo’ si nun[A108vb]dine debent du[U35v]rare per quatuor dies, sexies si per sex; et ideo dicuntur kalende in plurali numero, quia pluries clamabat ‘calo’; vel dicuntur kalende a *calon*, quod est bonum, quia in prima die mensis mutuo solebant dari quedam dona ab amicis, ut per totum mensem omen bonum eis eveniret.

None autem dicuntur a *non*, quia nullus deus habuit festum in nonis. Unde Ovidius:

Nonarum tutela deo caret.

Vel dicuntur none quasi *nove*, propter statuta innovata et renovata in singulis mensibus quondam apud Romanos; vel dicuntur none a *nundinis*, quia per tot dies

durabant quot sunt none [B37r].

Idus vero dicuntur quasi *divisiones*, quia dividunt menses fere in duas partes [U36r] equales; vel quia dividuntur tunc nundine.[Ba15vb]

Ab istis diebus appositis dictionibus numeralibus nominantur alii dies mensis, ita quod maiori numero secundum quod magis antecedunt et minori secundum quod minus. Si autem queratur quare non dicatur secundos kalendas, dicendum quod hec dictio secundus provenit ab hoc verbo *sequor, sequeris*, unde illa dies deberet sequi si recte diceretur secunda; set ibi bene dicitur pridie kalendas, id est priori die ante kalendas. Quilibet vero mensis habet viii idus. Unde versus:

Octo tenent idus menses generaliter omnes [cc327vb].

Set quidam menses plures habent nonas, quidam pauciores. Unde versus:

Mar, Ma, Iul, Oc, senas, reliquis dato bis duo nonas.

Habito igitur quot dies habeat quilibet mensis sicut patet ex predictis, et quot nonas [U36v] et quot idus, subtractis nonis et idibus residui dies erunt kalende.

[7. De diebus Egiptiacis]

Notandum etiam quod in quolibet mense sunt duo dies qui dicuntur egri, mali, Egiptiaci. Egri, quia secundum opinionem quorundam, si quis egrotaret in hiis diebus vix vel nunquam evaderet. Mali, quia malum fuit incipere aliquod opus propter malas constellationes. Egiptiaci, quia ab hiis erant inventi. Preter enim decem plagas notas [A109ra] contingebant eis plura mala, que notabantur in [U37r] kalendariis suis bis in quolibet mense.[C33rb] Quidam etiam in hiis diebus sacrificabant humanum sanguinem; unde [Ba16ra] prohibitum est ne quis sibi minueret ne videretur sacrificare se demoni. Observationes istorum dierum inhibet Augustinus dicens

Kalendas mensium et dies Egiptiacos non observetis.

Quia tamen illi dies sunt suspecti, ad illos habendos sciantur hii versus:

Augurio decies audito limite clangor,

Linqvit olent abies coluit colus excute gallum.

In hiis versibus sunt .xii. dictiones servientes .xii. mensibus, prima Ianuario et sic deinceps. Ad habendum igitur priorem diem Egiptiacum alicuius mensis [U37v] sumatur prima littera prime sillabe dictionis deservientis illi mensi, et quota fuerit in alphabeto, tot dies computa a principio mensis descendendo, et ubi terminatur computatio talis, ibi est dies Egiptiacus. Ad habendum secundum diem sumatur prima littera secunde sillabe eiusdem dictionis et quota fuerit in alphabeto tot dies computa a fine eiusdem mensis ascendendo, et habebis quod queris, hoc etiam prenotato, quod .h. non computatur pro littera.

[8.] Sequitur de anno.

Unde videndum est quid sit annus, et quare sic dicatur, et ubi habeat principium.

Notandum igitur quod multiplex est annus. Est enim solaris et lunaris. [U38r] Annus solaris est illud spatium in quo sol moratur ab uno puncto zodiaci circuens totum zodiacum proprio [Ba16rb] motu et rediens ad idem punctum. [cc328ra] Unde apud antiquos solebat depingi serpens devorans propriam caudam, propter temporis revolutionem. Et dicitur annus ab *an*, quod est circum, et *eo, is*, propter predictam revolutionem.

Secundum autem diversos [A109rb] diversa sunt anni principia. Numa enim Pompeius annum suum incepit a solstitio hiemali, quia tunc incipit sol ascendere ad nos. Unde Ovidius:

Bruma novi prima veterisque novissima solis

Principium capiunt Phebus et annus idem

(non tamen in eodem die licet in eodem tempore).

Romulus vero annum [U38v] suum incepit a Martio iuxta equinoctium vernale, quia tunc omnia virent et florent. Secundum theologos etiam factus est mundus .xv. kalendas Aprilis; Arabes [C33va] a solstitio estivali, quorum opinio fuit quod sol factus erat in Leone. Quidam incipiunt a Septembri, sive ab equinoctio autumpnali, propter illud Genesis:[B67v]

Protulit terra herbam virentem facientem fructum iuxta genus suum et autumpnus est tempus fructuosum. Unde dicebant mundum factum esse in autumpno. Ista principia imitamur in aliquo: nam claves terminorum et aureum numerum incipimus a Ianuario, a Martio [U39r] concurrentes et regulares [Ba16va] solares, a Septembri vero epactas et regulares lunares et embolismos.

Notandum quod in anno sunt quinquaginta due septimane et unus dies. Iste dies residuus variat septimanas, et est causa quare festa sanctorum singulis annis variantur et diversis feriis celebrantur; et etiam quare litere dominicales variantur; et quod kalendarium incipit ab .a. et terminatur in .a.; et est origo concurrentis. Quod festa sanctorum variantur propter istum diem sic patet: ponatur quod aliquod festum sit in hoc anno in die Dominica, in anno sequenti idem erit in die Lune, et si bisextus fuerit, in die Martis erit. Hec eadem variatio est per singulas kalendas mensium.[U39v]

9. [De concurrente]

Ad habendum igitur generaliter et artificiose qua feria quilibet mensis incipiat, inventi sunt duo numeri, unus variabilis, scilicet concurrens, et alius invariabilis, qui dicitur regularis solaris.

Con[A109va]currens est numerus septenarium non excedens, proveniens ex superhabundantia [cc328rb] anni divisi per septimanas. ‘Numerus’ dico large, ut unitas numerus appelletur, quia quandoque unitas est concurrens. ‘Non excedens septenarium’ dico, quia concurrens septem non transit, set petit assem; quia cum tantum sint .vii. ferie in septimana, et concurrens et regularis habeant [Ba16vb] ostendere pri[U40r]mam feriam mensis, neuter illorum excedet septenarium. ‘Proveniens etc.’ dico, quia ille dies qui relinquitur ultra septenarias est causa concurrentis.

Dico igitur quod primus annus cicli concurrentium unitatem habuit pro concurrente, propter illum diem, secundus binarium, tertius ternarium, quartus quinarium, uno die superaddito propter bisextum, quintus .6., sextus .7., septimus [C33vb] unitatem, octavus .3. propter bisextum. Et eodem modo computandum est donec perveniatur ad .xxviii. annum, ubi septenarius est concurrens, et annus bisextilis; et [U40v] postea penitus redibit idem status in formatione concurrentium. Unde spatium .xxviii. annorum dicitur cyclus concurrentium. Per hos autem versus scitur quid sit concurrens in quolibet anno:

Quam feriam Martis .f. littera significabit

Illius in numero concurrens serviet anno.

Vide quota feria significatur per primum .f. in Martio et tantus numerus est concurrens illius anni. Vel potest sic haberi concurrens:

Sex habet .a., .b. .5. tenet, .c. .4., et .d.

Tres habet, .e.que duos, .f. unum, .g. quoque septem.

Quotiens .a. est littera dominicalis, senarius est concurrens; quotiens .b., quinarium et ita de aliis. Mutatur autem concurrens in Martio, quia incipit a Martio, et in ipso

terminatur, [Ba17ra;U41r] et variatur singulis annis; set tamen unus servit uni anno toti. Et dicitur concurrens a *con* quod est simul, quia simul concurrit cum regulari ad ostendendum qua feria quilibet mensis incipiat.

Regularis [A109vb] solaris est numerus septenarium non excedens qui adiunctus concurrenti ferias mensium indicat. ‘Numerus’ dico large ut prius; ‘non excedens septenarium’ ut prius. Illud membrum *qui adiunctus* etc., ostendit tam officium concurrentis quam regularis. [cc328va] Habet autem nunc et semper habebit quilibet mensis tot pro regulari a quota feria incepit in principio mundi. Mundus autem factus est .xv. kalendas Aprilis sicut [U41v] credit Ecclesia. Unde ibi solet notari primus dies seculi, et sol in Ariete. Unde versus:

Principium mundi renovat G tertia Martis.

Constat autem quod primus dies seculi fuit die dominica: illa .g. igitur fuit littera dominicalis. Supposito igitur quod per totum annum sequentem sit littera dominicalis, patet qua feria menses incipiunt et ita patent regulares. Habet Martius .5. pro regulari, ac sic haberet omnes dies suos integros. Habito igitur uno regulari sicut regulari Martis, sic formentur alii: sume omnes dies Martis et regularem suum [B68r], et iunge simul, et ab illis coniunctis subtrahe septenarium quoti[U42r]ens poteris; et relinquitur unitas que est regularis Aprilis. Et sic agendum est de omnibus mensibus [Ba17rb] sequentibus, hoc prenotato quod si nichil est residuum, septenarius est regularis mensis sequentis. Per hos versus possunt sciri regulares omnium mensium:

Quinque No Mar; Iu Fe sex; A Iul assem; Sep Deque septem;

Oct duo; Ma Iaque tres habet; Au duo bis regulares.

vel sic:

Expugnans alios casus facit aspera dives.

Gaudet blandus egens, gaudia cessa ferens.

Hic sunt .xii. dictiones .xii. mensibus servientes, prima Martio [U42v] et ita deinceps. Quota igitur fuerit prima littera alicuius dictionis in alphabeto, tot habet ille mensis pro regulari cui servit illa dictio.

Habitis igitur concurrenti et regulari, insimul iungantur, [A110ra] et si ex illorum coniunctione excrescat septenarius vel minor numerus, a tali feria incipit mensis cuius regularem sumpsisti. Si maior quam septenarius, reice septenarium, et quotus est numerus residuus, a tanta feria mensis incepit cuius regularem sumpsisti. Dicitur autem regularis quia regulariter currit cum concurrente ad demonstrandum feriam mensis; et dicitur solaris ad differentiam regularis lunaris.

Notandum etiam quod habito per concurrentem et regularem qua feria [U43r] mensis incipiat, si nesciatur littera dominicalis, per hos versus invenitur [cc328vb]:

Altitonans dominus divina gerens bonus exstat.

Gratis celi fert aurea dona fide[Ba17va]*li.*

In hiis versibus prime litere .xii. dictionum ostendunt litteras inchoativas mensium. Habito de aliquo mense qua feria incipiat, et iterum habita prima littera mensis per dictiones versuum, illa littera servit illi ferie a qua mensis incepit; deinde facto decensu tam in litteris quam in feriis donec perveniatur ad primam feriam, statim patet littera dominicalis. Per predictos etiam versus scitur quot dies habet quilibet mensis, hoc supposito, [U43v] quod quilibet habeat .xx. et .viii. Deinde videatur distantia prime litere unius dictionis ad primam litteram sequentis dictionis ita tamen quod una includatur, reliqua excludatur computando, et quota fuerit illa distantia, tot unitates addantur .28., et tot dies habebit ille mensis cui servit dictio precedens; hoc notato quod si velis scire dies Decembris, oportet utramque litteram includere. Et hoc est

quod kalendarium incipit ab .a. et terminatur in .a. Habent autem versus initium a Ianuario.

[10.] Sequitur de bisexto.

Unde videndum est quid sit bisextus, et quare sic dicatur; et ubi inter[U44r]ponitur [A110rb]; et quomodo possit inveniri per annos domini; et quis error contingerit si bisextus non observaretur.

Notandum igitur quod Iulius Cesar et alii [Ba17vb;C34rb] sapientes perceperunt solem morari in quolibet signo per .xxx. gradus et .30. trientes hore et .30. bisse momenti. Gradum appellant tantum spatium quantum sol assumit in die naturali. Ex eo igitur quod sol moratur in quolibet signo per .30. gradus (et .xii. sunt signa) erunt .xii. .30. gradus, id est .360., et per consequens totidem dies. Triens autem est tertia pars alicuius integri. Triginta ergo trientes hore faciunt .x. [U44v] horas; et cum sint .xii. signa, erunt duodecies .x. hore, hoc est decies .xii., id est quinquies .24. hore, et ita quinque dies. Et sic habemus .365. dies ex gradibus et trientibus. Bisse vero est due tertie alicuius integri divisi in tres partes equales. Triginta igitur bisse momenti faciunt .xx. momenta, hoc est medietatem hore; et cum sint .xii. signa, erunt .xii. medietates hore, id est sex hore integre [cc329ra]. Unde in toto anno habemus 365 dies et .vi. horas. Set quia difficile esset cuilibet anno istas sex horas continuare, ita quod nunquam in diem redacte, alicubi ponerentur (quia secundum hoc si annus precedens incipiat a mane, se[U45r]cundus a meridie, tertius a [B68v] vespere, quartus a media nocte; similiter festa sanctorum varientur; et ita principium Ianuarii posset in tantum ascendere quod esset circa equinoc[Ba18ra]tium vernale; vel ulterius, ita quod principium anni esset in tam longis diebus sicut sunt dies solsticii estivalis) Ideo provisum est ut sex hore excrescentes in primo anno, et sex in secundo,

et sex in tertio transferantur ad sex horas quarti anni. Et erunt in quarto anno .24. hore, hoc est unus dies. Et sic particulariter collectus interponatur [A110va] in Februario, quia mensium brevissimus est. Et quia sex hore ex [U45v] quibus colligitur iste dies proveniunt ex bisse momenti, iste dies ex illis sex horis quater sumptis dicitur bisextus. Vel dicitur bisextus quia quando est annus bisextilis [C34v] in ecclesiis cathedralibus legentes in Martilogio bis pronuntiant sextas kalendas Martis, duos dies ponentes super eandem litteram. Et sciendum quod cum duo dies ibi computentur super eandem litteram, sequenti die debet celebrari festum Mathie. Unde versus:

Bisextum sexte Martis tenere kalende

Posteriori die celebrantur festa Mathie.

[U46r] Ratio autem quare tali die bisextus interscaletur est hec: senarius est primus numerus perfectus. Quia igitur ille dies est quasi perfectio anni inponitur die denominato a numero perfecto. Perfectus autem numerus est cuius partes multiplicatae et simul aggregate ipsum numerum precise [Ba18rb] perficiunt. Et hac ratione potest dici quod interponitur in Februario, quia dies Februarii sistunt in secundo numero perfecto, id est in 28. Utrum autem sit annus bisextilis necne sic scitur: [U46v] sume annos Domini et divide in .4. et si aliquid sit residuum, non est annus bisextilis; set illud residuum, sive sit unitas, sive binarius, vel ternarius, manifestat annum post bisextum. Si nichil sit residuum, presens annus est bisextilis. Unde versus:

Tunc bisextus erit partes per .iiii.^{or} equas

Annos partiri cum poteris Domini.

Notandum etiam quod nisi observaretur bisextus, in .364. annis contingeret [cc329rb] diem natalis Domini celebrari in tam longis diebus sicut modo celebratur annuntiatio Domini. Quod sic patet: in tot enim annis, cum semper quartus sit

bisextilis, [U47r] contingunt .90. et unus dies, qui numerus est quarta pars .364. dierum. Ex .90. igitur et uno die possunt perfici .3. menses, duo .30. dierum et unus .31., et isti tres menses sunt quarta pars anni; que si esset ablata, contingeret predictum inconueniens, vel forte peius, scilicet quod natale Domini celebraretur in tam longis diebus sicut modo celebratur festum sancti Iohannis Baptiste; quod sic patet consideranti si duplentur .364. anni.

[11. De ciclo solari]

Viso quid sit concurrentis, quid bisextus, [A110vb] sequitur de ciclo solari, qui est quasi istorum [C34vb] effectus. [Ba18va]

Est igitur ciclus solaris revolutio temporis [U47v] in qua considerantur omnes variationes que fiunt in anno solari per concurrentem et bisextum; et repletur ille ciclus quando ultra septimanas integras nichil est residuum de diebus illis qui excrescunt ultra annum ebdomaticum, qui dies sunt causa concurrentium, nec de sex horis excrescentibus singulis annis ultra dies anni ex quibus horis proveniunt bisexti. Et illud spatium est 28 annorum, quia in tanto tempore complentur iste variationes, sicut patet depingenti tabulam concurrentium.

Cum autem sit ciclus quasi circulus, et in circulo contingit sumere principium ubicunque [U48r] volueris, non est mirum si ciclus solaris secundum diversos diversa habeat principia. Ciclus itaque noster solaris secundum Dionisium et usum Ecclesie sumptus non incipit ab eo anno quem nos et Gerlandus constituimus principium set a duodecimo illius, ubi unitas est concurrentis, sicut in primo anno, et .f. littera dominicalis, et est annus bisextilis. Unde patet quod primus annus cicli solaris secundum Gerlandum .xii.[B69r] annis ante initium cicli solaris secundum Dionisium

inceptit.

Discretio autem cicli solaris secundum usum Ecclesie et Dionisium habetur per hos versus: [U48v]

Fallitur Eva dolo, cibus [Ba18vb] Ade gaudia finit,

Et cum botrus adhuc germinet; Eva dolet.

Christus bella gerit, finitur eo duce bellum;

Ad gravidam fit dux, cuncta beavit ave.

In hiis versibus sunt .28. dictiones servientes .28. annis cicli solaris, prima primo, secunda secundo et ita deinceps.

Prima utilitas horum [cc329va] versuum est ut sciatur que sit littera dominicalis. [C35ra] Que enim littera est inchoativa alicuius dictionis, illa est dominicalis per totum annum cui deservit illa dictio, nisi sit bisextus. Si autem bisextus fuerit, tunc illa littera est domini[U49r]calis per .x. menses, initio sumpto a Martio, et littera que signatur extra fuit littera dominicalis fere per duos menses precedentes.

Secunda utilitas est quod, habita littera dominicali per versus, statim scitur concurrens per hunc versum:

f, e, d, c, b, a, g, concurrentes posuere.

Quotiens enim .f. est littera dominicalis, unitas est concurrens, quotiens .e. binarius, et ita de aliis, observato [A111ra] ordine litterarum positarum in versu. [U49r]

Tertia utilitas est ut sciatur utrum sit annus bisextilis. Sumantur igitur .28. anni computando in .7. digitis duarum manuum, ita ut primus annus cicli sit supra summitatem indicis unius manus, secundus in iunctura proxima, [Ba19ra] tertius in alia, quartus in radice indicis, quintus in summitate medii digiti eiusdem manus, et ita

descendendo donec ciclus compleatur. Dico igitur quod in .7. summitatibus sunt .7. anni bisextiles; qui sunt in iuncturis proximis ad summitates sunt anni primi post bisextum; et ita deinceps. [U50r] Hoc etiam scitur per tale abecedarium retrogradum .g.f.e.d.c.b.a. Quotiens enim in supradictis versibus transilitur ab aliqua littera illius abecedarii, tunc est annus bisextilis, et littera pertransita fuit littera dominicalis fere per duos menses, sicut dictum est. Littera consequens locum ubi factus est transitus fuit littera dominicalis per .x. menses.

Potest etiam sic sciri an sit annus bisextilis per hoc versum:

Fallit amor cautos extant grave basia dantes.

In hoc versu sunt .7. dictiones servientes .7. annis bisextilibus in toto ciclo. Cum igitur [U50v] primus annus cicli nostri sit bisextilis, prima dictio serviet primo anno, et *fallit* *fallitur* correspondet. Dictio vero sequens hanc dictionem *fallit* incipiens ab .a. serviet secundo bisexto et correspondet *amor ade*; et sic fiat per ordinem.

Hoc autem artificio possumus scire in quo anno [cc329vb] cicli sumus secundum Dionisium. Sume annos [Ba19rb] Domini et adde .9.:

Nam solis decimus Christo nato fuit annus.

Illam totam summam divide per .28. [U51r] Facta igitur divisione, si nichil [C35rb] est residuum tunc sumus in ultimo anno cicli; si aliquid, illud residuum ostendit in quo anno cicli sumus.

[12.] Sequitur de anni divisione.

Dividitur autem [A111rb] annus in quatuor partes, ver, estatem, autumpnum et hiemem. Ver dicitur a *vireo*, *vires* quia tunc omnia virent; estas ab *estu*; autumpnus ab *autumos*, quodam Greco cuius equipollens apud nos idem sonat quod morbidum vel tempestuosum, et hoc quia illud tempus est frigidum et siccum. Hyemps dicitur ab

emi, quod est dimidium, quia vulgus dividit annum in hiemem et estatem, large appellans hiemem anni medie[U51v]tatem. Harum partium principia et terminationes possunt haberi per hos versus:

Festum Clementis capud est hiemis orientis,

Cedit hiemps retro cathedrato Symone Petro,

Ver fugat Urbanus estatem Symphorianus.

Habet autem tam estas quam autumpnus .91. dies, hiemps .92. dies propter illum diem excrescentem ultra annum divisum per .4. partes. Ver autem habebit .92. dies si sit bisextus, [B69v] sinon autem .91. dies. In versibus quidem predictis, si non assignentur cuilibet parti tot dies quot [Ba 19va] iam in assignando diximus, hoc ideo contingit quia terminationes et principia predictarum partium per festa notata volunt notificari: non [U52r] constituatur vis in hoc, si unus dies vel duo dies unius partis computentur cum diebus alterius partis.

[13. De solstitiis et equinoctiis]

In hiis quatuor anni temporibus sive anni partibus sunt duo solstitia et duo equinoctia. Dicitur autem solstitia non quia sol aliquando stet set quia est in maximo accessu a cenith capitis nostri, vel iterum in maximo recessu a cenith capitis nostri. Equinoctium vero dicitur quando dies artificialis adequatur nocti. In quibus signis contingunt solstitia et equinoctia patet per hos versus:

Hec duo solstitia faciunt Cancer Capricornus,

Set noctes equant Aries et Libra diebus.[End cc329vb]

Solstitium estivale est circa principium Cancri, [U52v] quoniam tunc maxime sol accedit ad cenith capitis nostri vel ad nostram habitabilem. Solstitium hiemale est circa principium Capricorni, quoniam tunc sol maxime recedit [A111va] a cenith

capitis nostri sive a nostra habitabili. Quando autem sol recedens a Capricorno [C35va] versus Cancrum venit ad locum medium inter Capricornum et Cancrum, tunc est equinoctium, et quia contingit in vere dicitur equinoctium vernale, in Martio circa principium Arie[Ba19vb]tis. Quando vero sol recedit a Cancro tendens versus Capricornum venit ad locum medium inter Cancrum et Capricornum, tunc est aliud equinoctium, et quia contingit in autumpno [U53r] dicitur equinoctium autumpnale, in Septembri circa principium et introitum solis in Libram.

De certis autem diebus solstitiorum et equinoctiorum dubium est. Dicunt tamen compotiste quod sol intrat novum signum .xv. kalendas mensium. Unde versus:

Semper quindenis ponuntur signa kalendis.

et octavo die post debet equinoctium intrare vel solstitium. Unde patet quod cum sol intret Capricornum 15 kalendas Ianuarii, et octavo die post debeat esse solstitium, erit solstitium hiemale in die natalis Domini, octavas kalendas Ianuarii. Similiter cum sol intrat Cancrum .xv. kalendas Iulii erit solstitium estivale in die natalis beati Iohannis Baptiste, octavas kalendas Iulii. Similiter patet de equinoctiis:[U53v] cum sol intret Arietem .15. kalendas Aprilis erit equinoctium vernale ubi annuntiatio Domini notatur, scilicet octo kalendas Aprilis; cum iterum sol intret Libram .15. kalendas Octobris erit equinoctium autumpnale in die conceptionis beati Iohannis Baptiste, scilicet octo kalendas Octobris. Quod autem solstitium fuerit hiemale in nativitate Domini, solstitium estivale in nativitate beati Iohannis [Ba20ra] Baptiste, videtur probari hac auctoritate Mathei de beato Iohanne: *Illum oportet crescere, me autem minui*; quia dicit quedam glosa quando Dominus natus erat dies incipiebant crescere, [A111vb;U54r] quando autem Iohannes, decrescere. Set licet tunc hoc fuerit verum, in nostro tamen tempore non est ita, quia recesserunt equinoctia et solstitia per hoc quod

attribuimus cursui Solis plus temporis quam deberet attribui; quantum enim ad veritatem sol moratur in quolibet signo per .30. gradus et .30. trientes hore et .29. bisse momenti. Unde in quolibet signo computamus superflue unum bisse, et cum .xii. sint signa, erunt .xii. bisse momenti, que valent .8. momenta, id est quintam partem hore. Et ita in .5. annis computamus superflue unam horam. Et cum .24. hore faciunt unum diem naturalem, [U54v] in quinquies .24. annis invenitur superflue unus dies naturalis, id est in .120. annis. Set a nativitate Domini elapsi sunt .1200. anni et eo amplius, in quo numero sunt decies centum et decies viginti; [C35vb] et ita per decem dies recessit iam solstitium hiemale a nativitate Domini, et estivale a nativitate beati Iohannis Baptiste. Similiter intelligendum est de equinoctiis. Unde [Ba20rb] versus:

Solstitium decimo Christum preit atque Iohannem,

Nuntia sic matris nox equa diemque Iohannis.

[14. De ieuniis]

Notandum etiam quod quolibet quatuor temporum est quoddam ieunium trium dierum. Ieiunamus enim in vere quia tunc omnia virent, ut in nobis vireant virtutum opera; vel ut in nobis temperetur humor ille qui assi[U55r]milatur [B70r] veri, scilicet sanguis, qui est calidus et humidus. Ieiunamus etiam in estate ut simus ferventes in caritate; vel ut in nobis temperetur humor ille qui assimilatur estati, colera scilicet, que est calida et sicca. Ieiunamus in autumpno ut in nobis proveniat fructus bonorum operum; vel ut in nobis temperetur ille humor qui assimilatur autumpno, scilicet melancolia, que est frigida et sicca. [A112ra] Ieiunamus itaque in hieme ut sicut defluunt folia et moriuntur herbe, ita in nobis moriantur vitia et defluant; vel ut in nobis ille humor temperetur qui assimilatur hiemi, fleuma scilicet, [U55v] quod est

frigidum et humidum. Quibus autem diebus ista ieiunia debent celebrari scitur hiis versibus:

Dat Crux Lucia Cineres Carismata dia,

Ut sit in angaria quarta sequens feria.

Quoniam vigilie quorundam apostolorum habent ieiunium ex institutione quorundam [Ba20va] non, que habent et que non, scitur per hos versus:

Petrus et Andreas, Paulus cum Symone Iudas,

Ut ieiunemus nos admonet atque Matheus.

Sunt autem sex apostoli vigiliis habentes, set tantum quatuor habent dies in quibus ieiunamus, quoniam duo apostoli habent unum diem, Petrus scilicet [U56r] et Paulus, alii duo unum diem, scilicet Symon et Iudas, Andreas unum, Matheus unum. Si autem scire velis quare in vigiliis aliorum apostolorum non ieiunamus, in Suma magistri Iohannis Belet huius plenius invenitur. [A112rb;U57r]

[15. De adventu Domini]

Quoniam autem adventus Domini variatur per litteras dominicales et feriales que considerantur in anno solari ad habendum certum diem adventus Domini sciuntur hii versus:

Andree festo vicinior ordine quovis,

Adventum Domini prima colit feria.

Si cadet in lucem Domini celebratur ibidem.

[C36ra] Et sic breviter patet ubi adventus Domini semper celebretur.

[16.] Sequitur de anno lunari.

Est autem quadruplex. Primus [U57v] enim est spatium quo luna recedit ab uno puncto firmamenti rediens iterum ad idem. Secundus est idem quod lunatio paulo

maior primo. Tertius est spatium .xii. lunationum qui dicitur annus communis.

Quartus est spatium xiii lunationum qui dicitur embolismalis. De hiis communiter age[Ba20vb]tur per ordinem.

Primus igitur annus continet in se .27. dies et .8. horas, quod sic patet: luna moratur in quolibet signo per duos dies et .6. horas et bisse hore. Ex eo quod moratur in quolibet signo per duos dies, et .xii. sunt signa, habemus duodecies duos dies, id est .24. dies. Ex eo iterum quod moratur per .6. horas erunt .3. dies. .xii. vero bisse hore sunt .8. hore integre. Et ita habemus in universo dum luna circuit zodiacum, ab uno puncto exiens et rediens ad idem, transac[U58r]ti sunt .27. dies et .viii. hore.

[A112va]

Secundus annus est illud spatium quo luna semel accensa a sole peragrat circulum suum, rediens ad idem punctum ubi accensa fuit; set cum ibi solem non invenit, quia fere sol processit per unum signum, attingit solem spatio duorum dierum et .4. horarum. Unde iste annus habet in se .29. dies et .12. horas, propter duos dies et .4. horas adiectas primo anno; et est idem iste annus quod lunatio, sive mensis lunaris. Ex predictis patet quod quelibet lunatio est .29. dierum et .12. horarum, set cum ita non computat compotista, immo .12. horas unius lunationis transfert ad .12. horas alterius lunationis, computans lunationem [Ba21ra] un[U58v]am .30. dierum, reliquam .29. Set hoc quandoque impeditur per bisextum, per embolismum, per saltum lune. Cum igitur una lunatio sit .30. dierum, alia .29. secundum compotiste computationem, lunatio parium dierum [B70v] attribuitur mensi impari. Unde versus:

Impar luna pare, par fiet impare mense.

Lunatio iterum dicitur esse illius mensis in quo terminatur. Unde versus:[cc330ra]

Mensi luna datur cui fine suo sociatur.

Si autem due lunationes terminentur in uno mense, altera illarum erit irregularis, scilicet embolismalis, id est [U59r] hoc fiet mediante embolismo. Isti versus iam dicti habent instantiam per bisextum et embolismum. Qualiter bisextus [C36rb] impedit sic patet: regula est quod semper in anno bisextili lunatio Februarii erit 30 dierum, in aliis annis 29; et hoc est propter unum diem excrescentem in bisexto. Unde in anno bisextili erunt 3 lunationes continue 30 dierum, Ianuarii, Februarii et Martii.

Notandum etiam quod quotiens lunatio Martis incipit ante locum bisexti, et si sit annus bisextilis, videtur duplex inconueniens contingere: quod lunatio Martis scilicet habeat 31 dies, [A112vb] quod est inauditum, et quod lunatio Februarii sit tantum 29 dierum, quod est contra regulam iam datam. Ad [Ba21rb] hoc solvendum, nota quod in tali casu ubi lunatio Martis deberet pronuntiari prima, lunatio Februarii pronuntiabitur trecesima, ita quod numerus signans primationem lunationis Martis intelligatur poni in secundo loco. Hoc etiam notatur in quibusdam kalendariis per quendam numerum extra scriptum a tertio nonarum Februarii usque ad locum bisexti, ita quod 19 scribatur extra contra pridie nonas, 8 vero contra nonas, et sic descendendo usque ad locum bisexti. Hoc autem solet notari quibusdam lineis [U60r] oblique protractis ab eisdem locis usque ad locum bisexti.

[17. De aureo numero]

Ad habendum quidem etatem lune singulis diebus, id est tempus post accensionem eius a sole, primo inueniebantur tabule a Romanis; deinde Chaldei invenerunt aureum numerum et Romam miserunt. Romani igitur numerum illum propter eius facilitatem et utilitatem aureis litteris kalendariis suis scripserunt; unde adhuc appellatur aureus numerus. In primo igitur anno cicli decennovenalis per totum

kalendarium primationes notantur per unitatem, in secundo per binarium et sic de aliis. Ex hoc patet quod cum iste ciclus [U60v] contineat .19. annos in numeris predictis, maximus numerus erit .19.

Ponitur igitur in principio Ianuarii ternarius, quoniam de necessitate ita contingit quod quando sumus in tertio anno istius cicli [Ba21va] semper in prima die Ianuarii luna erit prima. [cc330rb] Ab isto numero formantur alii numeri sequentes per additionem octonarii, ita tamen quod si excrescat maior numerus quam .19., reiectis .19. residuum sumatur. Vel sic formetur: si numerus propositus fuerit .12. vel maior numerus, subtrahantur undecim et residuum ponatur loco sequenti, si autem minor quam .xii. ad[U61r]de viii. In aureo quidem numero fere per totum kalendarium minor numerus sequetur maiorem immediate, [A113ra] vel maior minorem mediate. [C36va] Istud autem habet instantiam in xii locis in kalendario, ita quod in vi locis iuxta principia vi mensium signatorum pari numero, ut secundo, quarto, etcetera. Relique .vi. instantie sunt iuxta finem .vi. mensium continue sumptorum, habito initio a Iulio. Quod totum patet per hos versus:

Aureus hac arte numerus formatur aperte:

Prima dies Iani que ianua dicitur anni,

Ternarium re[U61v]tinet ne posterus ordo vacillet;

Per precedentem numerum dant octo sequentem.

Si decimum nonum superabis sic numerando,

Tolle decem, pariter novem, reliquum retinendo.

Si duodenarius numerus tibi venerit aut plus,

Undenas tollas et quod superest ibi ponas.

Si duodenario numerus fuerit minor illi,

Octo coniungas, coniunctum postea scribas.

Maiori numero debetur tertius ordo; [Ba21vb]

Si minor assequitur, maiori continuatur.

Per loca bisseña non est hec regula firma:

Tres Februi quarto nonarum continuato

Quatuor apponas sub Aprilis pridie nonas.

Tot Iunius lacerat ubi nonas .iiii.^{or} aptat;

[U62r] August[B71r]i capite .3. debes continuare;

Quatuor Octobris lateratim pone kalendis;

In quartis nonis duodeni denique mensis;

Linea tredecimum tenet una simulque secundum.

Excipe .6. menses, Iulium prius atque sequentes,

Hiis quamvis crescat undenis summa propinquat.

Octo, minor numerus, sequitur nec continuatur.

Tali quippe modo describitur aureus ordo.

Notandum quod ciclus decennovenalis et ciclus lunaris eiusdem sunt quantitatis, quia uterque est 19 annorum, set in hoc differunt, quod ciclus decennovenalis noster prius incepit scilicet [U62v] tribus annis, quoniam primus annus [A113rb] cicli lunaris est in quarto [cc330va] anno cicli decennovenalis. Est autem ciclus decennovenalis secundum quem procedimus primationes lunationum assignando et cui deservit aureus numerus in kalendariis nostris scriptus. Ciclus autem lunaris est secundum quem veteres Romani procedebant assignando veras ascensiones lune per multiplicem laborem multiplicationis et divisionis, et solet notari in quibusdam kalendariis veteribus per quendam numerum posita unitate in kalendis

[C36vb] Ianuarii, deinde facta formatio[Ba22ra]ne ad modum aurei numeri per additionem .8.; et ita uterque ciclus incipit a Ianuario. [U63r] Si autem velis scire in quoto anno cicli decennovenalis simus, annis Domini adde unitatem et totum divide per .19., et si nichil est residuum tunc sumus in ultimo anno illius cicli; si aliquid, illud ostendet in quoto anno sumus. Si in quoto anno lunaris cicli simus scire velis ab annis Domini subtrahe duo vel adde .17. et divide ut prius.

[18. De anno communi]

Sequitur de tertio anno lunari, scilicet de anno communi. Et dicitur communis quia habet .12. lunationes sicut annus solaris .12. menses; vel quia fere contingit quod semper duo anni communes simul conveniunt, ut patebit in collatione embolismorum. Iste autem annus continet in se .354. dies, quod patet ex hoc, [U63v] quod habet .6. lunationes .30. dierum et alias .6. .29. dierum, que summa dierum est .354. Patet etiam quod annus solaris excedit hunc annum communem spatio .xi. dierum; unde si illi duo anni simul incipiant, prius terminabitur annus communis quam annus solaris, sicut patet quando sumus in tertio [C37ra] anno cicli. Quare si luna fuerit prima in kalendis Ianuarii eodem die anno revoluto erit duodecima propter illud excrementum [Ba22rb] .xi. dierum. Consimilis erit variatio in principio cuiuslibet mensis [A113va] et etiam in quolibet die anni.

Et propter hoc rectificandum invenerunt compotiste duos numeros, scilicet epactas et regulares lunares. Ad sciendum etiam cuius etatis sit luna in kalendis mensium ex [U64r] isto excessu .xi. dierum dantur quedam regule de etate lune respectu preteriti temporis et futuri. Si luna igitur supponatur hodie alicuius certe etatis, et velis scire in anno futuro cuius etatis [cc330vb] erit hoc eodem die, vel 3^o vel 4^o etc., etati lune quam modo [B71v] habet adde xi, et tante etatis erit in anno futuro;

illi iterum adde .xi., et tante etatis erit anno tertio eodem die, et ita in infinitum, hoc tamen notato, quod si excrescat .30. maior numerus, .30. reiciantur et residuum ponatur pro etate lune. Si autem velis scire cuius etatis fuerit luna in eodem die anno preterito, vel tertio, vel quarto, illi etati lune quam modo habet adde .19., et habebis etatem [U64v] lune in anno preterito, etati iterum lune anni preteriti adde .19. et habebis etatem lune tertii anni, et ita deinceps, hoc etiam notato quod si maior numerus triginta excreverit, reiciantur .30. et residuum indicabit tibi etatem lune. Unde versus:

Quinque dies et sex ponas pro luce futura, [Ba22va]

Et pro preterita quinque bis atque novem.

[19. De anno embolismali]

Sequitur de quarto anno lunari, scilicet de anno embolismali, qui constat ex .13. lunationibus, ex diebus autem .384. Unde excedit annum lunarem communem .30. diebus, [U65r] annum vero solare[m] [A113vb] .19. diebus. Dicitur autem embolismalis annus ab *embolismo*, interceptio, sicut bisextilis a bisexto. Quare videndum est quid sit embolismus, et unde oriatur, et ubi interponatur.[C37rb] Est igitur embolismus lunatio .30. dierum nulli mense attributa, et dicitur embolismus ab *embolismos* quod est idem quod excrementum. Provenit autem ista lunatio ex .xi. diebus quibus annus solaris excedit annum lunarem communem. Ut igitur melius pateat ortus embolismorum, notandum quod ciclus decennovenalis dividitur in ogdecaden et endecaden. Ocdecas est spatium .8. annorum, endecas est spatium .xi. annorum. [U65v] In ogdecade .3. proveniunt embolismi, in endecade .4.; unde totali ciclo erunt .7. embolismi, quod sic patet: in primo anno, secundo et tertio excrescunt .33. dies, ex quibus in tertio anno est lunatio quedam .30. dierum; et supersunt tres

dies. Unde tertius annus cicli dicitur embolismus a lunatione ita excrescente. In quarto anno, quinto et sexto excrescunt .33. dies. Ex .30. diebus fit embolismus, sive lunatio excrescens. Unde sextus annus est embolismalis; [Ba22vb] et supersunt .3. dies qui coniuncti cum tribus precedentibus sunt .vi. In septimo vero et octavo anno [U66r] excrescunt [cc331ra] viginti et duo dies, quibus si addantur .6. supradicti erunt .28. Set ad completionem huius embolismi qui debet esse in octavo anno mutantur duo dies a tempore sequenti. Unde octavus annus erit embolismalis. [A114ra] Et ita habemus in ogdeade .3. embolismos. In nono autem et decimo et .xi^o. anno excrescunt .33. dies. Ex .30. diebus fit embolismus. Unde .xi^{us}. annus est embolismalis. Resignatis duobus diebus superius mutuatis restat unus dies. In duodecimo et .xiii^o. et .xiiii^o. excrescunt .33. dies. Ex .30. fit embolismus. Unde .xiiii^{us}. est annus embolismalis; et supersunt .3. dies [U66v] qui coniuncti cum uno superius relicto .iiii^{or}. erunt. Quintodecimo et .xvi^o. et .xvii^o. excrescunt .33. dies. Set ex .30. diebus fit embolismus. Unde .xvii^{us}. annus est embolismalis; et supersunt .3. dies, qui coniuncti cum .4. precedentibus fiunt .7. In .xviii^o. et .xix^o. excrescunt .xxii. dies, quibus si iungantur .7. dies superius relicti fiunt .29. Set quia quilibet embolismus constat ex .30. diebus, mutuetur unus dies a lunatione Iulii in ultimo anno cicli ad completionem ultimi embolismi. Unde [Ba23ra] cum in omnibus aliis annis cicli lunatio Iulii sit .30. dierum, in ultimo anno cicli [U67r] erit .29. dierum. [C37va] Et iste dies ita subtractus dicitur saltus lune, de quo patebit inferius. [A114rb]

Ad sciendum autem quoto mense et quoto die mensis interponitur embolismus in kalendario sciatur iste versus:

Mobilis ibo cifis ace liber habeto coevum.

In hoc versu sunt .7. dictiones [U67v] servientes .7. em[B72r]bolismis, prima primo et

ita deinceps. Vide igitur quota sit littera prima alicuius dictionis in abecedario: a tanto mense est embolismus cuius dictionem sumpsisti. Vide etiam quota sit prima littera secunde sillabe eiusdem dictionis, et tanto die eiusdem mensis erit sedes embolismi.

Quotus autem annus cicli decennovenalis sit embolismus scitur per hunc versum:

Christus factus homo levat omnia reddita trono.

Vide quota sit litera prima prime dictionis in abecedario, et tantus annus est embolismalis.

Notandum autem quod multiplex error contingit in kalendario per embolismum, scilicet error vicissitudinis, [cc331rb] error terminationis et error variationis. Error vicissitudinis est quando simul sunt plures lunationes 30 dierum; error terminationis quando lunationes terminantur extra suos menses; error variationis quando mensis [U68r] positus in impari loco imparem habet lunationem, positus in numero pari [Ba23rb] habet parem. Preterea error contingit ex eo quod mentiuntur epacte.

Primus igitur embolismus incipit secundo die Decembris et terminatur ultimo die eiusdem; et contingit error vicissitudinis, quia lunatio embolismalis et lunatio Ianuarii simul sunt 30 dierum, et si sit bisextus, 4 erunt lunationes 30 dierum, scilicet lunatio embolismalis, Ianuarii, Februarii et Martii. Preterea embolismus iste intercipitur secundo anno cicli nostri cum tamen secundum eius originem [A114va] deberet intercipi in tertio. Et ratio huius est quia cum ciclus illorum qui embolismos invenerunt incipiat a Septembri et .4. mensibus precedat [U68v] ciclum nostrum qui incipit a Ianuario, cum simus in fine secundi anni cicli nostri ipsi iam de tertio anno cicli sui peregerunt .4. menses. Secundum hoc embolismus iste intercipitur tertio anno

cicli illorum et in secundo cicli nostri.[C37vb]

Secundus embolismus incipit secundo die Septembris, et terminatur prima die Octobris. Et contingit error vicissitudinis, quia lunatio Septembris et embolismus simul sunt .30. dierum. Preterea iste embolismus assignatur in .5^o. anno cicli nostri, cum deberet assignari in .6^{to}. Ratio huius est quia, cum adhuc daret quintus annus cicli nostri, iam incipit sextus annus cicli illorum.

Tertius embolismus incipit .6. die Martis et terminatur quarto die A[U69r]prilis. Et contingit error vicissitudinis, [Ba23va] quia lunatio Martis et embolismus simul sunt 30 dierum, et si sit bisextus, .4. lunationes Februarii, Ianuarii, Martis et embolismi. Et contingit etiam error terminationis, quia lunatio Aprilis terminatur tertia die Maii, et lunatio Maii secunda die Iunii, lunatio Iunii primo die Iulii. Eo etiam anno mentiuntur epacte in principio Maii et Iulii, ut patebit infra. Notandum etiam quod in anno quarto, cum lunatio Martis incipiat ante locum bisexti si sit annus bisextilis, videbitur lunatio Martis esse .31. dierum et lunatio Februarii tantum [cc331va] .29. dierum. Ad istos errores vitandos [U69v] ut supratactum est, lunatio Martis [A114vb] deberet postponi per unum die, ita quod ubi lunatio Martis deberet dici prima lunatio Februarii pronuntietur .30., et ita in crastino lunatio Martis prima.

Quartus embolismus incipit tertia die Ianuarii et terminatur prima die Februarii. Et contingit error vicissitudinis, quia lunatio Ianuarii et embolismus simul sunt .30. dierum, et si sit bisextus .4. lunationes erunt simul .30. dierum, scilicet Ianuarii, embolismi, Februarii et Martis. Contingit etiam error terminationis, quia lunatio Februarii terminatur in Martio, lunatio Martis in Aprili. Embolismus iste interceptur in undecimo anno quoad nos et quoad [U70r] illos, et ita bene. Preterea

tunc [Ba23vb] mentiuntur epacte in principio Martis nisi sit bisextus.[C38ra]

Quintus embolismus incipit secundo [B72v] die Novembris et terminatur primo die Decembris. Et contingit error vicissitudinis, quia lunatio Novembris et embolismus simul sunt .30. dierum. Et notandum quod iste embolismus est causa quare in secundo die Decembris in una linea ponantur duo numeri, scilicet .13. et .2.: si enim .13. ponerentur in primo die Decembri duplex error contingeret, scilicet quod embolismus precedens esset .29. dierum tantum et lunatio Decembris .30. dierum, cuius contrarium semper continget. Preterea iste embolismus intercipitur .xiii^o. anno cycli nostri et [U70v] .xiiii^o. cycli eorum.

Sextus embolismus incipit secundo die Augusti et terminatur ultimo die eiusdem. Et contingit error vicissitudinis, quia embolismus et lunatio Septembris simul sunt .30. dierum. Preterea videtur quod male assignetur [A115ra] iste embolismus, quia iste annus .xvi^{us}. est tam cycli eorum quam cycli nostri. Iste autem embolismus debet intercipi in .xvii^o anno quoad nos et quoad illos. Ratio huius est hec: .xvi^{us}. annus existens communis suas .xii. lunctiones terminat in prima die Augusti. Unde iste embolismus statim subsequens attribuitur anno .17. sequenti, et est tanquam eius initium. Unde [U71r] potest sic assignari in .17^o. anno quoad nos et quoad illos.

Septimus [Ba24ra] embolismus incipit .v^o. [cc331vb] die Martis et terminatur tertia die Aprilis. Et contingit error vicissitudinis, scilicet quod lunatio Martis et embolismus simul sunt .30. dierum, et si sit bisextus .4. lunctiones contingunt simul, scilicet Ianuarii, Februarii, Martii et embolismi. Contingit etiam error terminationis, quia lunatio Aprilis terminatur secunda die Maii et lunatio Maii prima die Iunii. Mentiuntur etiam epacte ad ostendendum etatem lune in principio Maii et Augusti.

[C38rb] Preterea in hoc anno cum lu[U71v]natio Martis incipiat ante locum bisexti si sit bisextus, videbitur .31. dierum esse. Set ita faciendum est sicut fecimus in tertio embolismo. Quare autem isti .vii. embolismi in predictis mensibus et predictis locis intersecantur ratio est quia si alibi ponerentur plures contingerent errores et plures mentierentur epacte.

[20.] Sequitur de epactis et regularibus lunaribus.

Epacta est numerus .30. non excedens, proveniens ex superhabundantia anni solaris ad annum lunarem communem. Non excedens .xxx^a. dico, quia cum offi[U72r]cium epacte sit ostendere etatem lune, nulla autem etas lune est maior quam .30. dierum, nec epacta debet esse maior. Proveniens ex superhabundantia etc. dico, quia epacta provenit ex cremento .xi. dierum ex quo [Ba24rb] et embolismus.

Primus igitur annus cicli decennovenalis non habuit epactam, quia non precessit annus ex cuius inequalitate potuerit habere epactam; vel hac ratione non habuit [A115rb] epactam, cum ultimus annus decennovenalis sit quasi proximus ante primum annum cicli, et ille habuit .18. pro epacta, et in eodem anno excrescunt .xi. dies et unus de saltu lune, erunt in universo .30. .30. autem est [U72v] quasi nulla epacta, quia .30. iuncta cum regulari aliquo debent deleri; et secundum hoc primus annus epactam non habuit. Secundus habuit .xi. pro epacta, tertius .22., quartus .3., quia reiciuntur .30., et ita formetur deinceps per additionem .xi. Idem autem scitur hiis versibus:

Que tenet undenas Aprilis luna kalendas [cc332ra]

Epacte numerum monstrat per quemlibet annum.

Vide cuius etatis sit luna .xi. kalendas Aprilis et tantus numerus erit epacta illius anni.

Vel sic docetur per additionem illorum .xi. ad epactam anni precedentis:

Predocet epactam [U73r] Maii lux prima futuram.

Ad sciendum autem epactam sine kalendario sciatur iste versus:

Deme unum, post adde novem, post undevicenos.

Ponatur primus annus cycli in radice [C38va] pollicis, secundus in media iunctura, tertius in summitate, quartus iterum in radice pollicis, et ita circulariter computes annos cycli donec occurrat annus cuius epactam [Ba24va] queris. Ille igitur vel est in radice pollicis vel in media iunctura vel [U73v] in summitate. Si in radice subtrahatur unitas, si in media iunctura adde .ix., si in summitate adde .19. et habebis epactam anni quesiti [B73r].

Dicitur autem epacta quasi *epi aucta*, quod est supra aucta, propter illud crementum superius dictum; vel epacta quasi *epi adiecta*, quia ipsa superadiecta regulari ostendit etatem lune.

Regularis lunaris est numerus .30. non excedens qui iunctus cum epacta manifestat etatem lune in kalendis mensium. .30. non ex[U74r]cedens: expone ut prius. [A115va] Set illud membrum coniunctum cum epacta ostendit tam officium epacte quam regularis. Origo autem regularium lunarium talis est, quod quilibet mensis habet adhuc tot pro regulari quota fuit luna in kalendis mensium in principio compositionis kalendarii et semper habebit. Ad hoc sciendum supponamus quod simus in primo anno cycli, et patet propositum in Februario et in sex mensibus sequentibus; quoniam in primo anno cycli decennovenalis aureus numerus est unitas .x. die ante kalendas Februarii et sic luna est decima in kalendis [U74v] eius; unde .x. habet pro regulari. Similiter considera aureum numerum scilicet unitatem ante kalendas aliorum .vi. mensium sequentium et manifeste patebit regularis. Set de Septembri et .4^{or}. mensibus sequentibus illum supponatur .19^{us}. annus cycli, quia ille

fuit quasi proximus ante primum, et secundum hoc habet September .5. pro regulari.

Et si velis omnes alios formare uno supposito, sume [U35r] dies Septem[Ba24vb]bris et adde suum regularem, et a totali subtrahatur lunatio eiusdem mensis, et [cc332rb] residuum est regularis lunaris sequentis mensis. Similiter de aliis. Unde versus:

Quinque Sep, Oc dantur No De, .7. ter tria Ia Mar,

Feb a decem sumant, post unum cuilibet addas.

Vel sic:

Post .e. bis, .g. bis, post .i. .k. bis manet ordo.

Vel sic:

Estuat esurit gramen gravat igne kalendas,

Ignē kalendarum licet mihi nominis ordo.[U75v]

Vide quota sit prima litera alicuius dictionis ultimorum versuum etc. Habito quidem quid [C38vb] sit epacta et quid regularis lunaris, si vis scire etatem lune in kalendis alicuius mensis, sumatur epacta [A115vb] anni et regularis illius mensis, et ex illis coniunctis vel proveniet .30. vel maior numerus vel minor. Si .30. vel minor numerus, tante etatis fuit luna in kalendis illius mensis cuius regularem sumpsisti; si maior, reice .30., et residuum manifestabit etatem lune. [U76r]

Notandum etiam quod epacte et regulares lunares sicut embolismi incipiunt a Septembri. Et est epacta numerus variabilis, regularis numerus invariabilis.

Mentiuntur autem epacte et regulares lunares in toto ciclo decennovenali quinquies quoniam bis in octavo et simul in .xi. et bis in ultimo anno; unde versus:

Fallitur octavo cum Maio Iulius anno.

Dicunt regulares et epacte quod in octavo [Ba25ra] anno in kalendis Maii luna sit .28.

dierum, cum tamen sit revera .27. dierum. Dicunt etiam in eodem anno quod in kalendis Iulii luna sit .30. dierum, cum tamen revera sit .29. dierum. [U76v] Item versus:

Ni sit bisextus fallit Martem a deca primus.

Dicunt enim epacte et regulares quod .xi^o. anno in kalendis Martis luna sit .29. dierum, cum tamen sit .28., set si sit bisextus tunc duo dies computantur super .6. kalendas Martis. Unde non tunc fallunt epacte.

Ultimus Augustum fallit, fallit quoque Maium.

Item dicunt epacte et regulares quod in ul[cc332va]timo anno cicli in kalendis Maii luna sit .29. dierum, cum tamen sit .28. Dicunt etiam in kalendis Augusti lunam esse duorum dierum, cum tamen sit trium dierum, quod contingit propter saltum lune, quia lunatio Augusti prius incipit uno die quam deberet si non esset saltus lune.

Si autem vis scire in quoto anno cicli epactarum simus, utendum est eodem artificio quo utebatur [A115+ra] ad sciendum in quoto anno cicli decennovenalis essemus, addendo unitatem annis Domini etc. Et notandum quod iste[U77r] ciclus non differt ab illo nisi quod iste incipit spatio 4 mensium, scilicet a Septembri, ille vero a Ianuario.

[21.] Sequitur de saltu lune.

Est autem saltus lune sub[C39ra]tractio unius diei a lunatione Iulii in ultimo anno cicli decennovenalis. Et nisi fieret talis [Ba25rb] subtractio dicunt quod post unum ciclum luna diceretur prima ubi esset secunda. Similiter post .15. ciclos peractos luna diceretur prima ubi esset quintadecima. Perceperunt enim compotiste quod magis temporis attribuitur [B73v] cuilibet lunationi quam deberet attribui, .4. mome[U77v]nta, scilicet, et una uncia, et unus athomus.

Qualiter ex hiis .iiii^{or}. minutiis colligatur unus dies videamus in toto ciclo decennovenali, prius numerantes summam lunationum totius cicli. In ciclo igitur decennovenali sunt .12. anni communes et .vii. embolismales. In .12. annis communibus .144. sunt lunationes. In .vii. embolismalibus sunt .91. lunationes, que lunationes iuncte cum superioribus faciunt .235. lunationes. Si igitur a qualibet istarum lunationum subtrahantur .4. momenta, erunt in universo .940. momenta. Unde si ille numerus momen[U78r]torum dividatur per .40., erit numerus horarum .23.; et sunt in residuo .20. momenta, una scilicet dimidia hora. Cum etiam in qualibet lunatione superflue sumatur una uncia, erunt tot uncie quot lunationes, qui numerus si dividatur [cc332vb] per .12., erunt .19. momenta; et sunt in residuo .vii. uncie. Cum iterum in qualibet lunatione superflue sumatur unus athomus, erunt tot athomi quot lunationes; qui numerus si dividatur per .47., erunt .5. [Ba25ra] uncie, ita quod nihil est residuum; que coniuncte cum .vii. unciis faciunt unum momentum. [U78v] Illud etiam momentum sumptum [A115+rb] cum .19. momentis collectis ex unciis faciunt .20. momenta, id est dimidiam horam; que si addatur .23. et dimidie prius collectis, erunt in universo .24. hore, et ita unus dies naturalis. Iste igitur dies sic collectus artificialiter subtrahatur a lunatione Iulii, sicut a lunatione .30. dierum ultima in ultimo anno eorum qui annum suum incipiunt a Septembri. Et dicitur saltus lune, quia ultimo anno cicli cum deberet pronuntiari lunatio Iulii .30.pronun[U79r]tiatur lunatio Augusti prima, et remanet lunatio Iulii .29. dierum. Unde ibi simul sunt .3. lunationes .29. dierum, scilicet Iunii, Iulii et Augusti. Set notandum quod cum hec subtractio sit ab autoribus autentica, tamen habet in se multiplicem questionis scrupulum et falsitatis admixtionem que alias pro loco et tempore verificatur.

[22.] Sequitur de festis mobilibus.

[C39rb] Sunt autem quinque festa mobilia: Septuagesima, Quadragesima, Pa[U79vb]scha, Rogationes et Pentecoste. Dicitur autem Septuagesima a .70., quia illud tempus recolit Ecclesia ad memoriam .70. annorum in quibus filii Israel erant [Ba25vb] in servitute Babilonica. Quadragesima dicitur a .40., et illud tempus recolit Ecclesia quia Moyses tot diebus ieiunavit et legem recepit, Helyas tot diebus ieiunavit et raptus est in celum vel in locum Dei secretum, Christus etiam tot diebus ieiunavit et diaboli vicit temptationes. [U80r] Triginta autem sex dies et dimidius sunt anni .x^a. pars, set quatuor dies cinerum superadditi faciunt [A115+va] .40.. Set sicut res nostras decimamus, ita nostram vitam decimare debemus.[cc333ra] Pascha, *phase*, transitus idem sonant, et sic dicitur vel propter transitum angeli exterminatoris in veteri lege in Egipto; vel quia Dominus transivit de morte ad vitam resurgendo. Dies dominicus precedens ieiunia Rogationum appellatur Rogationes in compoto propter Rogationes sequentes. Pentecoste dicitur a *penta* quod est quinque [U80v] et coste quod est decem, quasi quinquies decem: sunt enim 50 dies inter Pascha et Pentecostem, utroque die incluso.

Notandum igitur quod plura genera numerorum inveniuntur ad sciendum hec festa sicut inferius patebit. Et dies ante festum ubi terminantur huius numeri appellantur termini. Est autem regula in compoto quod terminus et festum nunquam simul sunt, et hoc ne videamus Iudeos imitari, qui simul ponunt terminum et festum; vel hac ratione, quia terminus Pasche semper est .xiiii^o. [Ba26ra] die lunationis Aprilis, set cum illa .14^a. dies non semper sit [81r] prima feria, non potuerunt simul esse terminus et festum. Cum terminus iterum sit .xiiii^o. die lunationis Aprilis, et Pascha magis accedens ad terminum sit .15. die, non potuerunt simul esse terminus et

festum.

Quare autem festa mobilia non habeant certa loca in kalendario hec est causa: Pascha sicut cetera festa mobilia semper habet celebrari die dominica. [B74r] Set cum unus et idem dies non semper denominetur in kalendario a prima feria, non potuit Pascha nec cetera festa mobilia habere certum locum in kalendario. [U81r]

Quidam iterum dicunt quod Dominus passus est .10. kalendas Aprilis, quia ibi fecit Adam, sicut dicit Theophilus Alexandrie episcopus. Dicunt enim quod voluit pati eodem die pro primo homine [C39va] et suo genere redimendo quo die primum hominem formavit. Alii sicut Ieronimus dicunt quod .8. kalendas Aprilis passus est Dominus, quia [A115+vb]ibi sumpsit carnem de Virgine, et in eadem carne pro homine redimendo passus est, cum secundum divinitatem pati non posset. Preceptum [cc333rb] autem erat in veteri testamento agnum paschalem im[U82r]molari ad vesperum post 14 diem lunationis Aprilis, hoc est in principio .xv.ⁱ diei eiusdem lunationis. Ita Dominus qui verus est agnus, et Ba26rb] per illum agnum figuratus passus est in plenilunio, ut sicut eo tempore lumen copiosius nocti attribuitur, ita per passionem suam humane nature gratia redemptionis plenius exhibetur. Cum igitur lunationes Aprilis quandoque sint prius, quandoque posterius, non potuit Pascha in certo loco assignari in kalendario.

Est autem infimum Pascha .xi^o. kalendas Aprilis, [U82v] quod sic patet: infima enim lunatio Aprilis incipit .8. idus Martis, ubi assignatur extra .16. pro aureo numero. Lunationes enim due proximo precedentes sunt embolismales, due relique precedentes illas sunt lunationes Martis, licet posterior illarum duarum terminetur primo die Aprilis, quod contingit per quartum embolismum. Si igitur a prima lunatione Aprilis que est contra octavum idus Martis computentur .14. dies, ibi erat

primus terminus paschalis; erit .xii. kalendas Aprilis, et bene potest contingere mediante variatione litterarum dominicalium quod Pas[U83r]cha celebretur in crastino illius termini, scilicet .xi. kalendas Aprilis. Unde ibi solet notari primum Pascha, scilicet infimum. Ex predictis etiam patet quod bene datur hec regula. Unde versus:

Post nonas Martis ubi primum Pascha prima notatur,

Bis septem completo dies ut Pascha sequatur.

Omnes etiam lunationes Aprilis incipiunt post nonas Martis. Quod autem ultimum pascha [Ba26va] celebretur .vii^o. kalendas Maii sic patet: nam ultima luna[U83v]tio Aprilis signatur contra nonas Aprilis, ubi aureus numerus est extra octo, licet illa lunatio ultima terminetur tertia die Maii sicut sua precedens secundo die Maii, quod contingit propter tertium et septimum embolismum. Si igitur ab ultima lunatione Aprilis iam dicta computentur [A116ra] .14. dies, erit ultimus terminus pasche .14. kalendas Maii, et potest contingere mediante variatione litterarum dominicalium quod ille terminus sit dies dominicus, et dies Pa[U84r]sche celebretur sequenti die dominica, [cc333va] hoc est .vii^o. kalendas Maii.[C39vb] Ex hiis patet quod in illis quinque diebus dominicalibus, sive prius sive posterius, qui sunt inter .xi.^m kalendas Aprilis et septimum kalendas Maii semper habet Pascha celebrari. Unde versus:

Pascha nec undenas Aprilios ante kalendas,

Nec post septenas Maii valet esse kalendas.

23. [De clavibus]

Ad habendum autem quinque festa mobilia inventi sunt quidam numeri qui claves dicuntur, quia sicut per clavem fit introitus in atrium, ita per istos numeros habetur notitia [U84v] festorum. Set cum in ciclo decennovenali sint .19. anni, unusquisque suam habebit clavem. Primus .26. habet pro clave, a qua formantur

claves sequentes per additionem .19., hoc tamen notato quod si excrescant .40. vel maior numerus, reiciantur .30., et residuum erit clavis subsequens; vel sic for[Ba26vb]mantur secundum hos versus:

Si vicena venit ac prima minorve, sequenti

Hinc pro clave monos addito bisque novem;

Undenas tollas si sit vicena secunda,

Vel maior remanens proxima clavis erit.

Vel possunt formari claves proposita aliqua cla[U85r]ve: prima vel alia super illum numerum clavis computetur per omnes iuncturas et summitates digitorum unius manus, et numerus ultimus est clavis, hoc tamen notato quod si in hac computatione proveniant .40. dicatur .10., et procedatur naturaliter numerando, et ultimus est clavis. Si autem ex a[B74v]brupto queratur clavis alicuius anni sciatur versibus istis:

Vicenos quinos, tresdecim, plus asse tricenis,

Undeviginti epta digitis pro clavibus apta.

Computetur etiam per omnes summitates unius [U85v] manus digitorum donec venias ad annum cicli de quo queritur, sumpto initio a summitate pollicis, et si annus quesitus sistat in summitate pollicis, numero illius anni adde .25., si [A116rb] n summitate indicis tresdecim, si in summitate medii digiti .31., si in summitate medici .19., si in summitate auricularis .7.; et manifeste claves manifestantur, et versus predicti, hoc etiam notato, quod si excrescant .40. etc.

Loca clavium [cc333vb] possunt haberi per hos versus:

In Iano [U86r] prima, supremaque [C40ra] Marte secunda.

Aprilis tertia .g. monstrat, et ultima claves.

[Ba27ra] Habitis igitur clave et loco clavis, si festa mobilia velis scire in aliquo anno,

sumatur clavis illius anni, et ad habendam Septuagesimam tot dies computentur a loco clavis Septuagesime quot unitates clavis continet, et dies [U86v] ubi terminatur computatio talis dicitur terminus Septuagesime, et proxima die dominica sequente erit Septuagesima. Similiter fit de omnibus aliis festis mobilibus, hoc tamen prenotato quod ad habendum Septuagesimam vel Quadragesimam in anno bisextili oportet addere unitatem clavi; aliter enim contingeret quandoque Septuagesimam vel Quadragesimam per claves prius celebrari quam deberet .viii. diebus.

Per hos etiam versus potest sciri terminus Septuagesime et per consequens cetera festa mobilia:

A festa stelle numerando perfice lune

Quadraginta dies et Septuagesima fiet.

Si cadat in lucem Domini suppose sequentem,

Si sit bisextus lux additur una diebus.

Si cadat in fe[U87r]riam septenam fitque bisextus,

Linque diem primum Domini retinendo secundum.

A principio igitur illius lunationis in qua est Epiphania, que proprie dicitur festum stelle, sive illa sit in Ianuario sive in Decembri, computentur .40. descendendo, et .40.^{us} dies est terminus Septuagesime, et proxima die dominica sequenti erit Septuagesima. Si sit bisextus addatur unus [Ba27rb] dies, sicut manifestant predicti versus.

Ad habendum terminum Pasche sciantur hii versus:

Esse gravem nobis bello karnem kanomius,

Bellum sepe gerens etenim puto deicit hostem,

[U87v] *Mox anime lucrum invenies cum religiosus.*

In hiis versibus sunt .19. dictiones servientes .19. annis cycli decennovenalis, prima primo, secunda secundo et sic deinceps. Si igitur alicuius [cc334ra] anni cycli decennovenalis [A116ra] terminum velis invenire paschalem, sumatur dictio serviens illi anno, et si illa terminatur in .m., terminus Pasche erit in Martio tot diebus computatis a fine Martis ascendendo quota est prima littera illius dictionis in alphabeto, et ubi terminatur talis computatio, ibi est [C40rb] terminus Pasche. Si autem non terminetur in .m., terminus paschalis erit in Aprili tot diebus computatis a principio Aprilis descendendo quota est prima littera eiusdem dictionis in abecedario.

Per hos versus scitur quot sep[U88r]timane sunt inter dominicam proximam, sive ante sive post natale Domini, et Quadragesimam:

*In gravibus causis hastam gerit improbus hostis,
Laudatur iustus, gladio caret hoste gravatus,
crudeles homines fur incitat hoste karente.*

In hiis versibus sunt .19. dictiones servientes .19. annis cycli decennovenalis, prima primo, secunda [Ba27vb] secundo et sic deinceps. Si velis igitur in aliquo anno cycli scire quot septimane sunt inter dictam dominicam et Quadragesimam, vide quota sit littera prima dictionis servientis illi anno in alphabeto et tot erunt septimane in tempore quesito.

[24.] Sequitur de lustris, indictione, seculo et evo.

[U88v] Est autem [B75r] lustrum spatium quinque annorum a Romanis consideratum ad tempus dictaturarum, et dicitur a lustris, quia in fine quinquennii cuiuslibet et in principio alicuius dictature circuebant civitatem cum cereis et candelis.

Indictio est spatium .15. annorum, et dicitur ab *indico*, *indicis*. Cum enim

Romani fere dominarentur in universis nationibus terras fecerunt sibi tributarios, precipientes ut terre remotiores propter difficultatem transitus in fine primi [A116vb] quinquennii persolverent aurum ad dominationis typum, in fine secundi quinquennii argentum [U89r] ad stipendia militum, [cc334rb] in fine tertii quinquennii es et ferrum ad reparationem armorum; unde a quibusdam indictio dicitur erea ab *ere* propter es solutum in tertio quinquennio. Unde instituerunt Romani quod nullum privilegium, nulla conventio scripto commendata esset stabilis nec firma nisi haberet indictionem annotatam, et [Ba27vb] hoc ne tributorum solvendorum memoria laberetur. Nos vero in tribus utimur indictione, in privilegio, in cereo pascha[U89v]li, in dedicationibus ecclesiarum. Incipit autem ciclus indictionum in Septembri, quia cum tunc sit ubertas fructuum posset bene solvi tributum.

Si vero placet scire in quoto anno indictionis [C40va] simus, annis Domini adde .3., quia Dominus dicitur natus in .4.^{to} anno indictionis, et totum divide per .15. Si nichil est residuum, tunc sumus in ultimo anno indictionis. Si aliquid, ostendet in quoto anno sumus. Et notandum quod indictio est equivocum ad [U90r] denominandum spatium 15 annorum et ad quemlibet annum illius spatii sive cicli.

Seculum dicitur spatium centum annorum, unde *multa preteriere secula*. Seculum autem dicitur mundus et tota machina mundana cum suis contentis.

Evum vero a compotista dicitur spatium mille annorum. Dicitur etiam evum idem quod etas, unde *homo magni evi*, id est magne etatis. Et dicitur evum idem quod mora. Unde Boetius:

Qui tempus ab evo ire iubes.

Explicit compotus.

THE ECCLESIASTICAL COMPOTUS: translation.

[1. The nature of compotus]

Compotus is the science which studies time defined according to solar and lunar motion. 'Science' is posited as the genus; 'which studies time' is added to denote the subject-matter of compotus. For although time is the subject-matter that concerns the compotist, it is not studied in every [possible] way; therefore 'defined according to solar and lunar motion' is added. For compotus studies time measured according to the motion of these two planets: 'For God made two great lights, the greater one to rule the day (i.e., the Sun), the lesser one to rule the night (i.e., the Moon).' It takes no account of the motions of the other planets, and so it is clear that compotus differs from astronomy and astrology, which studies the motions of all the planets. [The sort of] time which is the subject-matter of the compotus is described by Cicero in this way: Time is a part of eternity fixed by measure as of a certain length: a year, month, week, day or night.

[2. The parts of time]

The compotist deals sometimes with the parts of time larger than the day, sometimes with [those that are] smaller. The parts of time larger than the day are the week, month, year, lustrum, indiction, century and era. What each of these is will appear sufficiently in what follows. The parts smaller than the day are the quarter, hour, moment, *uncia*, and atom. The *quadrans* is the fourth part of the natural day, i.e., six hours. The hour is the twenty-fourth part of a natural day. The moment is the fortieth part of an hour. The *uncia* is the twelfth part of a moment. The atom is the forty-seventh part of a moment.

[3. The day.]

Days are either natural or artificial. The natural day is the space of 24 hours from sunrise to sunrise. The artificial day is the length of time the Sun spends in our hemisphere.

Note that the natural day has different starting-points according to different [authorities]. Christians begin and end the natural day from midnight, because we read that Our Lord was born at midnight on Sunday. Arabs [begin it] at midday, because the Sun is said to have been created at midday, and they base their study of the natural day on its motion. The Jews [begin it] it in the evening, relying on the authority of Genesis: 'And the evening and the morning were one day'. Some, acting upon sense-experience, like the common people, start the natural day from sunrise, because since the Sun rises above our horizon and is the cause of the day, the day ought by rights to begin with the ascent of the Sun.

Note again that the days of the week have different names according to different [authorities]. Philosophers name each day of the week after the planet which holds sway in the first hour of that day. They say that the planets hold sway in turn through the hours. There are seven planets. Their names and the order of their cycles [from the earth] can be remembered by this verse:

Cynthia, Mercury, Venus and the Sun. Mars, Jupiter, Saturn.

Suppose therefore that Saturn governs the first hour of the Sabbath day, Jupiter the second, Mars the third, the Sun the fourth, Venus the fifth, Mercury the sixth, the Moon the seventh, fourteenth and twenty-first, Saturn the twenty-second, Jupiter the twenty-third, Mars the twenty-fourth: since there are no more hours in that natural day, it follows that the Sun governs the first hour of the following day. That day, therefore, is called Sunday. By a similar calculation you will find that the Moon governs the first hour of the day after Sunday, and that is how it gets its name; and so on for the others. According to this [theory] some doctors study whether the planet governing that [particular] hour is benevolent or

malevolent when they prescribe medicines or let blood.

Bearing in mind these considerations the following problem can be solved. The days of the week are named after the planets, and there is a certain order in the planets as regards their cycles. Why, therefore, are the days of the week not named according to the order of the planets, so that Thursday [*dies Iovis*] follows immediately on Saturday, and Tuesday [*dies Martis*] straight after that, and so on? The reason is that the 24 hours are shared out among the planets. But there are seven planets: so that if each of them takes three hours for itself, there are three hours left over, which are given to three planets. It is obvious, therefore, that if any day is governed by a particular planet, the following day is governed by the planet which is next but two.

Christians like Bede, Jerome, and other religious men, call the first day of the week the Lord's Day, or the first ferial: the Lord's Day, because on that day Our Lord was born, on that day he rose again, on that day He created the world; ferial, because *feriare* is the same as 'celebrate'; and on the day we call the Lord's Day we ought to refrain from all work of sinning, and even manual [work]. Alternatively, *feria* is derived from bearing [*ferendis*] victims, because at one time on festival days victims and burnt offerings were borne to the temples. The second day of the week they called *feria 2*, and so on with the others. But they did not change the name of the Sabbath, to call it *feria 7*, because on that day Our Lord rested from all the work which He had made, and rested again in the sepulchre. Sabbath means the same as 'rest', and it has therefore retained this name. The Jews have other names for the days. They call the first day of the week the Sabbath, just as we do, because Our Lord rested on that day. The second day, which we call the Lord's Day, they call Sabbath 1. As the text says: The first morning of the Sabbath, that is, the first day after the Sabbath. The day we call Monday they call Sabbath 2, and so on in order.

The word *dies* is derived from *diis*, 'gods': for some say that the planets are gods, and the days are named after them. Alternatively it is derived from *dyan*, which means 'clear'; or from *dya*, 'two', because the natural day is divided into the artificial day and the night.

[4.] The week.

Note that the weeks, unlike the days, do not have specific names, partly because there are so many of them - there are fifty-two weeks and one day in a year - partly because in one year a period of a week is equivalent to parts of two weeks in another year. This can be demonstrated in this way: if this year a particular festival is on Saturday, next year it will be on Sunday, so that the festival which is at the end of the week this year will be the beginning of another week next year. But the weeks do have these names in common: *ebdomada*, *septimana*, Sabbath. *Ebdomada* is derived from *ebda*, 'seven', and *deas*, 'days', as it were 'having seven days'. *Septimana* is derived from 'seven' and *mane*: 'having seven mornings', that is 'morning times'; here part is used for whole. Sabbath is applied to the week, because we ought to rest from sin throughout the week. As the text says:

I fast twice in the Sabbath, etc.

From this it is evident that [the word] sabbath applies equally to one day of the week and to the whole week.

[5.] The month.

Note that there are three sorts of months, solar, lunar and the month which we [commonly] use. The solar month is the length of time which the Sun spends in travelling through one sign [of the zodiac]. The lunar month is the same as the lunation, of which more later. The month which we use is the number of days which is inscribed in the calendar, and which has been observed from antiquity.

Note, therefore, that Romulus was the first to distinguish months and years, instituting ten

months in his year. His reason for this was that this length of time is long enough for a pregnant woman to give birth; or because it is the length of time for which a woman must forgo remarriage after the death of her husband. He called the first of his months after his father Mars; or alternatively from *mars*, 'war', because that was the time when Roman kings were in the habit of going on expeditions. He called the second month April, from *aperiendo* 'opening', because that is the time when the earth's pores open, and the grass and the leaves on the trees come out; or April, as it were from *Afrilis*. For Venus is called Frodisa from *frodos*, which is the sea-foam from which she is supposed to have been born. She was the first of the line of Romulus through his mother. The third [month] he called May from the *maiores*, 'the elders', the fourth June from the *iuniores*, 'the young men'. Incorporating words expressing numerals he called the following months Quintilis, Sextilis, September, November, December. As Ovid says:

The third month took its name from the old, and the fourth from the young;

The months that trooped after were distinguished by numbers

September is derived as if from *septimus imber* 'the seventh rain', from *imber*, that is 'from a time of rain', just as February is; and the others in the same way. Later, however, Numa Pompilius added two [more] months, that is January and February. As Ovid says:

But Numa overlooked not Janus and the ancestral shades,

And so to the ancient months he prefixed two

January is derived from *ianua* ['door'], because just as entrance is gained to the hall through the door, so entrance to the year is gained through January. Alternatively it is derived from *Janus*, who was two-headed, just as January has two faces, because it looks backwards to the end of the year which terminates with it and forwards to the year which begins from it. February is derived from *Februus*, that is from Pluto, because at that time it was the custom to perform sacrifices for the souls of one's ancestors; alternatively, from *febre* [fever], because at that time people often suffer from fevers [febricitare]

Although Numa constructed his year from twelve months, he still left it short, because he took the months [to be] lunar months, one of thirty days and the other of twenty-nine, and so his year consisted of 354 days; and this number is not long enough for the course of the Sun. Following on, therefore, Julius Caesar, applying the last correction [to the calendar], added eleven and a quarter days. And so the Julian Year consisted of 365 days and six hours. However, he added eight moments too many, as will appear below. In Julius Caesar's time the Romans, to flatter Caesar, gave the month which was formerly called Quintilis the name of July, because, as we read, Julius was born at that time. Later in the same way, to flatter Augustus, they gave the name of August to the month formerly called Sextilis..

You can find out which calendar months have more days, which fewer by these verses:

Give thirty to September, November, June and April, one more to the remaining [months].

Unless it is a leap year, let February be less by two.

Every month the Sun is said to enter a new sign - a sign is a certain part of the zodiac [so] designated by the astronomers. And each sign has a special name, as appears in these verses:

There is Aries, Taurus, Gemini, Cancer, Leo, Virgo,

And Libra, Scorpio, the Bow-carrier [Sagittarius], the Goat [Capricorn], the Flagon [Aquarius], Pisces.

The first sign is Aries, because, as the Church believes, the Sun was created in that [sign], although the Arabs say that the Sun was created in Leo. It is called Aries, ['the ram'], because the ram is an animal which is strong in its front quarters but weak in its hindquarters: so the Sun when it is in that part of the zodiac which is called Aries in winter-time has little strength, i.e., heat and dryness, but in its front part, that is as it approaches summer, it has more strength. Alternatively, as some people say, the ram lies on its left side throughout winter, on its right side during summer; and so the Sun is travelling

towards the lower hemisphere throughout the winter, towards the upper, which is, as it were, its right side, in the summer.

The second sign is Taurus ['the Bull'], because it is then that the toiling of the bulls or oxen is to be seen. Alternatively because just as the bull is a stronger animal than the ram, so the Sun's powers are stronger in it than they were.

The third sign is Gemini ['the Twins'], because at that time the power of the Sun is doubled in heat and dryness; alternatively, because just as the Twins are depicted as young men embracing each other, so when the Sun is in that part of the heavens some of the earth-born things embrace each other with their roots and sprout up through the grass.

The fourth sign is Cancer ['the Crab'], because just as the crab is an animal that goes backwards, so the Sun at that time recedes from our hemisphere. For this reason this sign is called tropical, 'turning about', as it were; and in this [sign] is the summer solstice.

The fifth [sign] is Leo ['the Lion'], because just as the lion is an animal of the most fiery disposition and implacable anger, so the Sun when it is in that part of the heavens is at its most fiery and most parching. For this reason is not good to let blood or use purges at this time, because of the lack of fluid in a time of heat and drought.

The sixth [sign] is Virgo ['the Virgin'], because just as a virgin is infertile, so that time is infertile and produces nothing; although what has been produced ripens.

The seventh [sign] is Libra ['the Scales'], because at that time the artificial day is balanced with the night, and it is the autumn equinox.

The eighth [sign] is Scorpio ['the Scorpion'], because just as the scorpion stings with its tail, so at that time the cold in the morning nips those who not careful enough.

The ninth [sign] is Sagittarius ['the Archer'], because it is then that the arrows of time are

loosed against us, stormy weather, that is, showers of rain, hail-storms and that sort of thing.

The tenth [sign] is Capricorn ['the Goat'], because just as the goat climbs when it is grazing, so at that time the Sun ascends from the lower hemisphere towards our hemisphere; and this sign is called the tropic, because it is then that the Sun is turned round towards us; and then is the winter solstice.

The remaining two signs, Aquarius and Pisces ['the Water-carrier' and 'the Fish'], indicate an abundance of water, because when the Sun is in these [signs] then there is a great abundance of rain; and the word Aquarius is derived from '*aqua*' and '*qualitas*' and '*aer*'.

Some say that these signs are named after the position of the constellations, which are [to be found] in those parts [of the zodiac] in the shape of animals.

[6. Calends, nones and ides]

Note that in each month there are three days which have principal names, from which, with the addition of words denoting number, all the other days of the month are named, i.e., the calends, nones and ides. Calends is derived from *colende*, 'worshipping', because the first day of every month was celebrated in honour of Juno. As Ovid says:

The worship of Juno claims Ausonia's calends.

Alternatively, calends is derived from *calo*, 'call', because on the first day of each month the herald used to go up to a prominent place in the city and call out four times if the market was to be four days long, six times if six days. And so [the word] calends is in the plural, because they call out *calo* more than once. Or again, calends is derived from *calon*, which means 'good', because it used to be the custom among friends to exchange gifts on the first day of the month, to ensure good luck for themselves throughout the month.

Nones is derived from *non*, because no god has a festival on the nones. As Ovid says:

The Nones lack a guardian god

Alternatively, [the word] is derived as it were from *nove* ['new'], because at one time among the Romans statutes were instituted and renewed month by month. Or again, it derives from *nundine* ['markets'], because the latter lasted as long as the nones.

Ides is as it were 'divisions', because they divide the months nearly into two equal parts; or because the markets are divided then.

From these days with the addition of words denoting number the other days of the month are named, so that they precede a greater number according to what is greater and a lesser according to what is less. If the question is asked, why we do not say 'second calends', the answer is that this word 'second' comes from the verb *sequor*, *sequeris*, so that if this day is rightly called 'second', it ought to follow; and so it is better that it is called *pridie*, that is 'the day before the calends'. All the months have eight ides; hence the verse:

All the months in general have eight ides.

But some months have more nones, some fewer; hence:

Give six to March, May, July and October; to the remaining [months] twice two nones.

Knowing therefore how many days each month has as is clear from what has been said above, and how many nones, and how many ides, if the nones and the ides are subtracted the remaining days will be the calends

. [7. Egyptian days]

Note that in each month there are two days which are called sick, unlucky, Egyptian. Sick, because according to the opinions of some, anybody who falls sick on these days never or hardly ever recovers. Unlucky, because it is unlucky to start any task [then] because the constellations are unlucky. Egyptian, because they were discovered by the Egyptians. For as well as the ten well-known plagues

many evils befell them, which were marked in their calendars twice in each month. Some [people], indeed, used to sacrifice human blood on these days; so that blood-letting is forbidden [then] in case it appears that sacrifices are being made to an evil spirit. Augustine forbids the observance of these days, saying:

You should not observe the calends of the months nor the Egyptian days.

But because these days cause apprehension, to identify them these verses should be borne in mind:

Augurio decies audito limite clangor

Linquit olent abies coluit colus excute gallum.

In these verses the twelve words stand for the twelve months, the first for January, and so on. To find the first Egyptian Day in any month the initial letter of the first syllable of the word that stands for that month is selected. Whatever its number in the alphabet count down the same number of days from the beginning of the month. The first Egyptian Day is where you stop counting. To find the second day, take the initial letter of the second syllable of the same word and count upwards from the end of the month, as many days as its number in the alphabet, and you will find what you are looking for; noting beforehand that H is not counted as a letter.

[8.] The year.

We must see what the year is, why it is so called, and where it begins.

Note that there is more than one sort of year. There is the solar year and the lunar year. The solar year is the length of time it takes the Sun to travel from one point of the zodiac, circling the whole zodiac under its own motion and returning to the same point. Hence it was the custom amongst the ancients to depict it as a serpent devouring its own tail, because of the way that time revolves. Year [*annus*] is derived from *an*, which means 'round', and *eo, is* ['to go'], because of this revolving.

The year has different starting-points, according to different [authorities]. Numa Pompilius, indeed, began his year at the winter solstice, because that is when the Sun starts to ascend towards us. As Ovid says:

Midwinter is the beginning of the new Sun and the end of the old one.

Phoebus and the year take their start from the same point -

(not on the same day but at the same time). Romulus began his year from March, round about the spring equinox, because it is then that everything grows green and flowers. According to the theologians the world was created on 18 March, [according to] the Arabs at the summer solstice; it was their opinion that the Sun was created in [the sign of] Leo. Some [authorities] begin it in September, or at the autumn equinox, because of the text in Genesis:

The earth brought forth the green grass yielding fruit after his kind
for autumn is the season of fruits. So they say that the world was created in the autumn. In some way, we imitate [all these] starting-points: for we begin the keys of the terms and the golden number in January, the concurrents and the solar regulars in March, the epacts, lunar regulars and embolisms in September.

Note that there are fifty-two weeks in the year, and one day. This left-over day causes the weeks to vary, and is the reason why Saints' Days vary in separate years and are celebrated on different days of the week; and again, why the Sunday letters vary; and why the calendar begins with .a. and ends with .a.; and it is the origin of the concurrent. That the Saints' Days vary because of this day appears from the following: suppose that a particular festival is on Sunday this year; next year it will be on Monday, or, if it were a leap-year, on Tuesday. There is the same variation in the first days of the months.

[9. The concurrent]

By an ingenious general rule, two numbers have been invented to locate the day with which each month begins, one variable, namely the concurrent, the other invariable, which is called the solar regular.

The concurrent is a number not exceeding seven, resulting from the superabundance of the year divided into weeks. Number, I say, in a general sense, so that one is called a number because sometimes one is the concurrent. Not exceeding seven, I say, because 'the concurrent does not go beyond seven, but returns to one'; for since there are only seven days in a week, and the concurrent and the regular have the function of indicating the first day of the month, neither of them should exceed seven. 'Resulting from,' etc., I say, because the day which is left over and above the weeks is the cause of the concurrent.

I say therefore that the first year of the cycle of concurrents has one for the concurrent, on account of that day, the second two, the third three, the fourth five, with one day added because of the bissextile, the fifth six, the sixth seven, the seventh one, the eighth three because of the bissextile. And you should count in the same way until you get to the twenty-eighth year, where seven is the concurrent, and the year is bissextile: and afterwards exactly the same situation in the formation of the concurrents will return. So that this period of twenty-eight years is called the cycle of concurrents.

These verses indicate the concurrent in any year:

Whatever day of the week the letter .f. will indicate

The concurrent of its equivalent number will serve for the year.

See what day of the week is signified by the first .f. in March: that number is the concurrent for that

year. Or the concurrent can be found in this way:

.a. has six, .b. holds five fast, .c. four, and .d.

has three, and .e. two, .f. one, and also .g. has seven.

Whenever .a. is the Sunday Letter, six is the concurrent; whenever .b., five; and so on. The concurrent changes in March, because it begins and ends in March. It varies from year to year, but one [concurrent] serves for the whole of one year. And 'concurrent' is derived from *con*, which means 'together,' because it runs together with the regular to show what day with each month begins with.

The solar regular is a number not exceeding seven which, joined with the concurrent, indicates the first weekday of the month. 'Number', I say, in a general sense, as above; 'not exceeding seven', as above. The phrase 'which joined' etc. shows the function of concurrent and regular added together. Each month has now and will always have the same number for regular as the day of the week that it began with at the Creation of the world. The world was created on 18 March, as the Church believes, so that it is there that it is customary to mark the first day of the era, with the Sun in Aries; as the verse has it:

Let the third [Sunday letter] .g. repeat the beginning of the world.

It is accepted that the first day of the era was a Sunday. G therefore was the Sunday Letter. Supposing that it is the Sunday Letter throughout the whole of the following year, it is clear what the first days of the months are, and so also the regulars. March has 5 as regular, and so do all the days belonging to it. Having found one regular, for instance, the regular for March, the others should be formed in this way: take all the days of March and its regular, and join them together, and when you have joined them subtract seven from them as often as you can; one is left over, which is the regular for April. The same method should be followed for all the following months, bearing in mind that if nothing is left over,

seven is the regular of the following month. The regulars of all the months can be known through these verses:

Five for November, March; June, February six; April, July one; September and
December seven;

October, two; May and January have three; August has twice two regulars.

or these:

Expugnans alios casus facit aspera dives

Gaudet blandus egens, gaudia cessa ferens

Here are twelve words standing for the twelve months, the first for March and so on. Whatever the number in the alphabet of the initial letter of any particular word, that is the regular for the month that word stands for.

Having established the concurrent and regular, therefore, join them together, and if the result of joining them is seven or less, that is the first weekday of the month whose regular you have taken; if more than seven, subtract seven, and the remainder is the number of the first weekday of the month whose regular you have taken. It is called the regular because it regularly runs with the concurrent to show what the first day of the month is; and it is called solar to distinguish it from the lunar regular.

Note that having found what the first weekday of the month is with the concurrent and the regular, if you do not know the Sunday Letter, it can be located with the following verses:

Altitonans dominus divina gerens bonus exstat

Gratis celi fert aurea dona fideli

In these verses the initial letters of the twelve words show the letters with which the months begin.

Having the number of the day which begins any particular month, and also the first letter of the month from the words of these verses, that letter stands for that weekday from which the month begins; then if

you count down the letters and the weekdays until you come to day 1, the Sunday letter is immediately revealed. The verses above, furthermore, will tell you how many days each month has, if you were to suppose that each month had twenty-eight days. Then look at the distance between the initial letter of one word to the initial letter of the following word, in such a way however that the former is included, the latter excluded from the reckoning, and the number of units making up that distance is added to 28: this is the number of days of the month which the first word represents. Note that for the month of December, you should include both letters. And this is because the calendar begins with .a. and ends with .a. These verses begin from January.

[10.] The bissextile.

We must see what it is; why it is called bissextile; where it is intercalated; how it can be found through the Years of Our Lord; what sort of error results if the bissextile is not observed.

It should be noted therefore that Julius Caesar and other learned men perceived the Sun to remain in each sign for 30 degrees and 30 *trientes hore* and 30 *bisse momenti*. A degree is the length of time which the Sun takes to journey through a natural day. And therefore because the Sun remains in each sign for 30 degrees (and there are 12 signs) there will be 12 x 30 degrees, that is, 360, and as a result the same number of days. A *triens* is the third part of any whole number: so 30 *trientes hore* makes 10 hours, and since there are twelve signs, there will be twelve times 10 hours, that is ten times 12, that is five times 24 hours, which is five days. And so we have 365 days made up of degrees and *trientes*. A *Bisse* is two-thirds of any whole number divided into three equal parts, and so 30 *bisse* of a moment make 20 moments, that is, half an hour; and since there are 12 signs, there will be 12 half-hours, that is 6 whole hours. And thus in each year we have 365 days and 6 hours. But because it would

be difficult to continue these six hours successively in each year in such a way that, since they are not made into a day, but placed anywhere - ie, according to this [calculation], if the preceding year began in the morning, the second would begin at midday, the third [at six o'clock] in the evening, the fourth at midnight; similarly the Saints' Days would vary, and so the beginning of January would ascend [the calendar] until it was about the [time of] the autumn equinox, or further still, so that the beginning of the year would be in days as long as those of the summer solstice - for this reason it was arranged that the six extra hours in the first year, the six in the second and the six in the third should be transferred to the six hours of the fourth year; and there are 24 hours in the fourth year, i.e., one [complete] day. And this [day], put together from parts in this way, is intercalated in February, because it is the shortest of the months. And because the six hours from which this day is made up result from the *bisse momenti*, the day which is four times these six hours is called bissextile. Alternatively, it is called bissextile because when it is the bissextile year in cathedral churches when reading from the Martyrology they pronounce the sixth calends of March twice, placing two days on the same letter. And it should be understood that when two days are counted on the same letter, St Matthias's's Day should be celebrated on the second day, as these verses record:

Let the sixth calends of March hold fast the bissextile On the following day are celebrated the festivities of Matthias

The reason why the bissextile is intercalated on this day is this: six is the first perfect number. Because therefore this day is as it were the perfecting of the year, it is placed on the day named after the perfect number. A perfect number is a number whose constituent parts, whether multiplied or added together, complete that number exactly. And for this reason, it can be said, it is intercalated in February, because the days of February constitute the second perfect number, that is 28. Whether a year is bissextile or not can be known in this way: take the date of the year and divide it by four: if there is a remainder, it is not bissextile, and the remainder, whether it is one, two or three, shows how many years

after the bissextile the year is. If there is no remainder, the present year is bissextile, as these verses record:

Then it will be bissextile when you can divide the years into four equal parts.

It should be noted, moreover, that if the bissextile is not observed, in 364 years Christmas Day will occur in days which are as long as where at present the Annunciation is celebrated. This is evident because in that number of years, since the fourth year is always bissextile, there are 91 [bissextile] days: this is a quarter of 364 days. From 91 days can be made three months, two of thirty days and one of thirty-one, and these three months are a quarter of a year. If this were to be taken away, the previously-mentioned inconvenience would occur; or perhaps worse, that Christmas Day would be celebrated in those long days where St John the Baptist's Day is celebrated now. This is evident when you think about it if you double 364 years.

[11.] The [solar] cycle.

We have seen what the concurrent and the bissextile are: now for the solar cycle which is as it were the consequence of these.

The solar cycle is the revolution of time which takes account of all the variations in the solar year which are caused, by the concurrent and bissextile; and this cycle is completed when none of the days extra to the year made up of weeks is left (which is the reason for the concurrents), and none of the six hours extra to the separate years (which is the reason for the bissextile). This is a period of twenty-eight years, because in this length of time all these variations are completed, as is depicted in the table of concurrents.

Since a cycle is, as it were, a circle, and you can put the beginning wherever you like in a

circle, it is not surprising that the solar cycle begins in different places according to different [authorities]. And so our solar cycle according to the assumption of Dionysius and Church usage does not begin where we and Gerland have established that the beginning should be, but from the twelfth year of that cycle, which has concurrent 1, as in the first year, Sunday Letter F, and which is bissextile. So it is evident that the first year of the cycle according to Gerland begins twelve years before the beginning of the solar cycle according to Dionysius.

You can find out how to distinguish the solar cycle according to Church usage and Dionysius with the aid of these verses:

*Fallitur Eva dolo, cibus Ade gaudia finit,
Et cum botrus adhuc germinet; Eva dolet.
Christus bella gerit, finitur eo duce bellum;
Ad gravida fit dux, cuncta beavit ave.*

In these verses there are twenty-eight words which stand for the twenty-eight years of the solar cycle, the first for the first year, the second for the second, and so on.

The first use of these verses is for the Sunday Letter to be known. The initial letter of any word is the Sunday Letter throughout the year which that word stands for, unless it is bissextile. If it is bissextile, then it is the Sunday Letter for ten months beginning from March, and the extra letter is the Sunday Letter for the two previous months.

The second use is that if you know the Sunday Letter through [it], you can immediately identify the concurrent by means of this verse:

Place the concurrents beside .f.e.d.c.b.a.g.

Whenever the Sunday Letter is .f., the concurrent is 1; when .e., 2; and so on for the others, observing

the order of the letters in the verse.

The third use is to find the bissextile year. Count the 28 years on the seven fingers of the two hands, so that the first year of the cycle is at the tip of the index finger of one hand, the second on the joint next to it, the third on the next, the fourth at the base of the index finger, the fifth at the tip of the middle finger of the same hand; and in this way count down until the cycle is completed. The seven years at the tips of the fingers are therefore, I say, bissextile; the ones on the adjacent joints the first years after the bissextile; and so on. This can be understood by this alphabet - .g.f.e.d.c.b.a. - written backwards. In the above verses, whenever a letter of the alphabet is skipped, the year is bissextile, and the letter which has been skipped will be the Sunday letter for two months, as has been said above. The next letter after the point at which this transition has been made is the Sunday Letter for ten months. You can also learn whether the year is bissextile with this verse:

Fallit amor cautos extant grave basia dantes.

In this verse there are seven words standing for the seven bissextile years in the whole cycle. Since the first year of our cycle is bissextile, the first word corresponds to the first year, and *fallit* to *fallitur*; the word following this word *fallit* beginning with .a., stands for the second year, and *amor* corresponds to *ade*; and so on.

By the following device we can find the year of the Dionysian Cycle. Take the date of the year [annos Domini] and add 9:

For when Christ was born it was the tenth year of the sun

Divide the sum by 28. When this division is made, if there is no remainder, we are in the last year of the cycle. If there is any remainder, it shows what year of the cycle we are in.

[12.] The division of the year.

The year is divided into four parts, spring, summer, autumn and winter. Spring [*ver*] is derived from *vireo vires*, because at that time everything is green; summer [*estas*] from *estu* ['heat']; autumn from *autumos*, a Greek word of which our equivalent is sickly [*morbidum*] or stormy [*tempestuosum*]: this is because it is a time of cold and drought. Winter [*hiemps*] is derived from *emi*, 'half', because the common people divide the year into winter and summer, with imprecision calling winter half a year.

The following verses give the beginnings and endings of these parts:

Clement's Day is the beginning of approaching winter.

Winter recedes backwards with the Feast of Simon Peter's Chair.

Urbanus puts spring to flight, Simphorianus the summer.

Summer and autumn both have 91 days, winter 92, because one day is left over when the year is divided into four parts. Spring has 92 days if [the year] is bissextile: otherwise 91. And if the number of days in the above verses are not assigned to each part as we have just assigned them, this is because the endings and beginnings of the parts we have described are intended to be marked by well-known festivals: it doesn't matter if one or two days of one part are reckoned with the days of another part.

[13. Solstices and equinoxes]

In these four parts or seasons of the year there are two solstices and two equinoxes. They are called 'solstices' not because the Sun stands still at any time, but because it is at its nearest approach to our zenith, or again, at its greatest distance from it. The equinox is when the [length of the] artificial day

equals the night. The following verses give the signs in which the solstices and equinoxes occur:

Cancer and Capricorn make these two solstices

But Aries and Libra make the nights equal to the days.

The summer solstice is around the beginning of Cancer, because at that time the Sun is at its closest to our zenith, or to our habitable region. The winter solstice is around the beginning of Capricorn, since at that time the Sun is at its most distant from our zenith, or from our habitable region. When the Sun moving away from Capricorn towards Cancer comes to a place half-way between, it is the spring equinox; and because it happens in spring it is called the spring equinox, in March, around the beginning of Aries. When the Sun moving away from Cancer towards Capricorn comes to a place half-way between, it is the other equinox; and because it happens in the autumn it is called the autumn equinox, in September about the beginning and the entrance of the Sun into Libra.

There is doubt about the actual days of the solstices and equinoxes, although the computists say that the Sun enters a new sign on the fifteenth calends of the month. As the verse says:

Always on the fifteenth calends are placed the signs

And on the eighth day after that [the Sun] ought to enter the equinox or the solstice. So it is evident that since the Sun enters Capricorn on 18 December [*xv kal. ian.*], and that the eighth day after should be the solstice, the winter solstice will be on Christmas Day, 25 December [*viii kal. ian.*]. In the same way, since the Sun enters Cancer on 17 June [*xv kal. iul.*], the summer solstice will be on St John's Day, 24 June [*viii kal. iul.*]. And similarly with the equinoxes: since the Sun enters Aries on 18 April [*xv kal. apr.*], the spring equinox will be where the Annunciation is noted, i.e., 25 March [*viii kal. apr.*]; and

again, since the Sun enters Libra on 17 September [*xv kal. oct.*], the autumn equinox will be on the day of the Conception of John the Baptist, that is 24 September [*viii kal. oct.*]. That the winter solstice used to be on Christmas Day, the summer solstice on St John's Day, seems to be proved by this authoritative text of Matthew [*sic*] concerning St John: 'He must increase, but I must decrease.' For there is a certain gloss which says that when Our Lord was born the days began to increase, when John was born, to decrease. But although this was true at that time, it is not true now; for the equinoxes and the solstices have moved back, because we have attributed more time to the course of the Sun than ought to have been attributed. Inasmuch as the Sun actually remains in each sign for thirty days and 30 *trientes hore* and 29 *bisse momenti*, in each sign there is an overestimation of one *bisse*; and since there are twelve signs, there will be twelve *bisse momenti*, which makes 8 moments, that is a fifth part of an hour. And so in five years we overestimate by one hour; and since 24 hours make one natural day, in 5x24 years one natural day is found: that is in 120 years. Now, since the birth of Our Lord, 1200 years, or a little more, have elapsed. 1200 is 10x100 and 10x20: and so by now the winter and summer solstices respectively precede Christmas Day and St John's Day by ten days. And the same should be understood about the equinoxes. As the verse says:

The solstice precedes Christ and John by ten days,

The equinox the annunciation of the Mother (of Jesus] and John's day.

[14. Fast days]

Note that in each of the four seasons there is a certain fast of three days. We fast in the spring when everything is flourishing, so that good works may flourish in us at that time; alternatively so that

the humour which is associated with spring, i.e. blood, which is hot and wet, may be moderated in us. We fast again in summer so that we may be fervent in charity; or so that the humour which is associated with summer, choler, which is hot and dry, may be moderated in us. We fast in autumn so that we may bring forth the fruit of good works; or so that the humour which is associated with autumn, i.e., melancholy, which is cold and dry, may be moderated in us. We fast in winter so that just as the leaves wither and the grass fades, so vices may wither and fade in us; or so that the humour which is associated with winter, i.e., phlegm, which is cold and wet, may be moderated in us. On which days these fasts should be celebrated is given in the following verses:

Holy Cross Day, St Lucy's Day, Ash Wednesday, Pentecost

Give notice that we should be on our knees on the following Wednesday.

The Vigils of some of the Apostles are marked by fasts, others not. Which these are is shown by the following verses:

Peter and Andrew, Paul with Simon and Jude

And Matthew remind us that we should fast.

There are six Apostles who have Vigils, but only four have days on which we fast, since two of the Apostles, i.e., Peter and Paul, share a [feast-]day, and so do another two, i.e. Simon and Jude. Andrew and Matthew have a day each. If you want to know why we do not fast on the Vigils of the other Apostles, you can find more about the matter in the *Summa* of Master John Beleth.

[15. Advent]

Advent varies because of the Sunday Letters and the weekdays which are taken into account in the solar cycle: these verses should be learnt to obtain the right day for Advent:

The Sunday next to St Andrew's Day whether before or after

Celebrates the Advent of Our Lord.

If [St Andrew's Day] falls on that Sunday, it is celebrated at the same time.

Thus briefly where all the dates for Advent should be celebrated appear.

[16.] The lunar year

The lunar year is four-fold. The first is the period of time in which the Moon recedes from one point in the firmament and returns again to the same [point]. The second is the same as the lunation, which is a little greater than the first. The third is the period of twelve lunations, which is called the common year. The fourth is the period of thirteen lunations, which is called embolismalic. We will go through these in order.

The first year, therefore, comprises 27 days and eight hours, which can be demonstrated in this way. The Moon remains in each sign of the zodiac for two days, 6 hours, and *bisse hore*. And because it remains in each sign for two days, and there are twelve signs, we have twelve times two days, which is 24 days. And again because it remains for [another] six hours, there will be 3 days. 12 times *bisse hore* is 8 whole hours. And so altogether we have it that while the Moon circles the zodiac, setting out from and returning to the same point, 27 days 8 hours have gone by.

The second year is that period of time in which the Moon having at first been lit up by the Sun travels round its circuit, returning to the same point where it was lit up; but since it does not find the Sun there, because the Sun has journeyed through nearly one sign [since then], it catches up with the Sun in a period of 2 days and 4 hours. So this year comprises 29 days and 12 hours on account of the 2 days and 4 hours which are additional to the first year. And this year is the same as the lunation, or lunar month. From what has been said it appears that each lunation is 29 days 12 hours long; but since

the compotist does not reckon in this way, he transfers instead the twelve hours from one lunation to the twelve hours of the other, counting one lunation as 30 days, one as 29. But this is sometimes impeded by the bissextile, the embolism, and the *saltus lune*. Since, therefore, according to the compotist's reckoning, one lunation is 30 days long, the other 29, the lunation made up of even days is attributed to the [solar] month of unequal days. As the verse says:

The uneven lunation is formed in the even month, the even in the uneven.

Moreover, the lunation is said to be the lunation of the month in which it ends. As the verse says:

The lunation is given to the month which is associated with its end.

If two lunations terminate in one month, one will be irregular, or embolismal; i.e., it results from the embolism. There are exceptions to the verses just given because of the bissextile and the embolism.

How the bissextile is an impediment can be demonstrated in this way: the rule is that in the bissextile year the February lunation will always be thirty days long, in the other years 29, because of the extra day in the bissextile year. As a result, there will be three 30-day lunations in succession in a bissextile year, January, February and March.

It should also be noted that whenever the March lunation begins before the place of the bissextile, and if it is a bissextile year, a double inconvenience seems to occur: namely that the March lunation would have 31 days, which is unheard of, and that the February lunation would be only 29 days long, which is contrary to the rule which has just been given. To solve this [problem], note that in this case, when *luna 1* of the March lunation should be pronounced, *luna 30* of the February lunation is pronounced [instead], so that the number which indicates March *luna 1* is understood to be put in the second place. This is marked in some calendars by a special number written additionally from 3 February as far as the bissextile, so that an additional 19 is written against 4 February, then 8 against 5 February and so descending as far as the place of the bissextile. It is the custom to mark this with some

oblique lines extending from these same places as far as the place of the bissextile.

[17. The golden number]

To find the age of the Moon for each day, that is from the new Moon, tables were invented first of all by the Romans. Then the Chaldeans invented the golden number and sent it to Rome. The Romans, because it was easy and useful, inscribed it in their calendars in letters of gold; and so to this day it is called the golden number. In the first year of the nineteen-year cycle, therefore, the primations [new Moons] are indicated throughout the calendar by the number 1, in the second by 2, and so on with the others. From this it is clear that since this cycle contains nineteen years' worth of these numbers, the largest number will be 19.

The number 3, therefore, is placed on 1 January, since it is the rule that *luna 1* always falls on 1 January in year 3 of the cycle. From this number all the following numbers are formulated by the addition of 8, in such a way that if the result is larger than 19, 19 is subtracted and the remainder is selected. Alternatively, it can be formulated in this way. If the number in question is 12 or a larger number, 11 is subtracted and the remainder put in the next place; if it is less than 12, add 8. Where the golden number is concerned, almost throughout the calendar a smaller number follows a larger number without a space between them, a larger number a smaller after a space. There are exceptions to this rule in twelve places in the calendar, six places around the beginnings of the six months which are distinguished with even numbers, e.g. the second, the fourth, etc. The remaining six exceptions are around the ends of the six successive months beginning in July. All this is demonstrated in these verses:

The golden number is formed by this well-known device:
 The first day of January which is called the gate of the year -
 [This day] retains three, lest the following order should waver;
 With the previous number eight gives the [number] following.
 If you should exceed nineteen in counting in this way,
 Subtract ten, and nine as well, and keep the remainder;
 If the number twelve or more is the outcome for you,
 Subtract eleven and set down there [the number] that is over.
 If the number should be less than that twelve,
 Add eight, and afterwards write down the addition.
 The third place is for the larger number;
 If a smaller number follows, it is continuous to the larger one.
 In twice six places this rule does not hold:
 Three [numbers] are joined together from 2 February;
 You should place four [numbers together] under 4 April;
 June destroys [the order] by the same amount when it appropriates 2 June;
 At the beginning of August you should join three together;
 Place four side by side on 1 October;
 Then on 2 December of the twelfth month
 The line holds thirteen at one and the same time as two.
 Take the six months, July first and those following,
 Although it is larger than these elevens the addition follows straight on.
 Eight, a smaller number, follows but is not continuous.

In this way, therefore, the golden number is explained.

Note that the 19-year cycle and the lunar cycle are of identical length, because each is nineteen years long, but they differ in that our nineteen-year cycle begins three years earlier, because year 1 of the lunar cycle is year 4 of the nineteen-year cycle. The nineteen-year cycle is the one by which we operate in assigning lunations and to which the golden number as it is written in our calendars applies. The lunar cycle is the one by which the ancient Romans operated, assigning the actual primations of the Moon by a complicated process of multiplication and division. It is the custom in some old calendars to note it by a specific number. One is put on 1 January, and then it is formed by the addition of 8 in the same way as the golden number; and so both cycles begin from January. To find what year of the nineteen-year cycle we are in, add 1 to the year of Our Lord and divide the total by 19. If there is no remainder we are in the last year of the cycle. If there is a remainder, that indicates which year we are in. If you want to know what year of the lunar cycle we are in, subtract 2 or add 17 from the Year of Our Lord and divide as before.

[18.] The common year.

Next the third lunar year, that is the common year. It is called common because it has twelve lunations just as the solar year has twelve months; alternatively, because it nearly always happens that two common years come together, as will appear in the collation of the embolisms. But this year comprises 354 days, which can be shown from the fact that it has six lunations of 30 days and six more with 29, which add up to 354. And it is evident that the solar year exceeds this common year by a period of eleven days; so that if the two years begin at the same time, the common year will finish earlier than the solar year, as is obvious when we are in the third year of the cycle. So that if there

should be a new Moon on 1 January, on the same day after the revolution of the year it will be twelve days old because of the extra eleven days. There will be a similar variation in the beginning of each month, and indeed, in every day of the year.

To reconcile this, the compotists have invented two [sorts of] numbers, the epacts and the lunar regulars. And to find out how old the Moon is on the first day of the months as a result of this extra eleven days there are some special rules with respect to the past and the future about the age of the Moon. Suppose therefore that the Moon is a particular age today, and you want to know how old it will be on the same day next year, or the year after, or the year after that: add eleven to the age the Moon as

it is at the moment: this will be how old it is next year. Add eleven to that again, and that is how old the Moon will be in the year after; and so on *ad infinitum*, only noting that if a number exceeds 30, you should subtract 30 and adopt the remainder as the age of the Moon. If you want to know how old the Moon was this day last year, or the year before, or the year before that, add 19 to the present age of the Moon and you will have the age of the Moon last year; add 19 again, and it will give you the age of the Moon the year before, and so on; noting only that if a number exceeds 30, you should subtract 30 and the remainder will tell you how old the Moon is. As the verses say:

Set down five days plus six for a future day,

And for one that is past twice five plus nine.

[19.] The embolismic year.

This is the embolismalic year, which consists of thirteen months, or of 384 days. It thus exceeds the common lunar year by 30 days, and the solar year by 19. It is called the embolismalic year

from embolism, 'interception', as bissextile is derived from *bissextus*. Let us see what the embolism is, what its origin is, and where in should be intercalated. The embolism, then, is a lunation of 30 days not assigned to any particular month, and it is derived from *embolismos*, which is the same as an increase. This lunation results from the 11 days by which the solar year exceeds the common lunar year. The origin of the embolism will be clearer if you note that the nineteen-year cycle is divided into *ogdoas* and *hendecas*. The *ogdoas* is a period of 8 years, the *hendecas* of 11. There are 3 embolisms in the *ogdoas*, 4 in the *hendecas*, and so there are seven in the whole cycle, which can be demonstrated in the following way. In years 1, 2 and 3 there are an extra 33 days: from which in year 3 therefore is a lunation of thirty days; and there are three days left over. So the third year is called embolismal from the lunation which is thus extra. In years 4, 5 and 6 there are an extra 33 days; from 30 days the embolism, or extra lunation is produced, so year 6 is embolismal. There are three days left over, which added to the three preceding [left-over days] make six. In years 7 and 8 there are an extra 22 days, to which if the 6 above are added there will be 28. To complete this lunation which should occur in the eighth year, two days are borrowed from the next period. So year 8 is embolismal, and so there are 3 embolisms in the *ogdoas*. In years 9, 10 and 11 there are 33 extra days. 30 of these make the embolism, so that year 11 is embolismal. 2 days are cancelled, because they have been borrowed by year 8; there is one day left. In years 12, 13 and 14 there are 33 extra days. 30 make the embolism, so year 14 is embolismal. There are three days left over which added to the one left over above will make four. In years 15, 16 and 17 there are 33 extra days. 30 days make the embolism. So year 17 is

embolismal and there are 3 days left over, which added to the 4 above make seven. In years 18 and 19

there are 22 extra days, which added to the seven left-over days above make 29. But because the embolisms are all 30 days long, one day is borrowed from the July lunation in the last year of the cycle to complete the last embolism. So that although in all the other years of the cycle, the July lunation is 30 days long, in the last year it will be 29. The day that is subtracted in this way is called the *saltus lune*: about which more will be said below.

This verse will tell you the month and the day of the month where the embolism is intercalated in the calendar:

Mobilis ibo cifs ace liber habeto coevum

In this verse there are seven words which serve for the seven embolisms, the first for the first [embolism] and so on. The number in the alphabet of the initial letter of any word indicates the month in which the associated embolism is to be found. The initial letter of the second syllable of the same word gives the seat of the embolism. And what year of the nineteen-year cycle is embolismal is indicated by this verse:]

Christus factus homo levat omnia reddita trono

Find the number in the alphabet of the initial letter of the first word: that is the embolismal year.

Note that many errors occur in the calendar as a result of the embolism. They are the errors of vicissitude, termination and variation. The error of vicissitude is when there is a succession of 30-day lunations. The error of termination is when lunations end outside the months to which they are assigned. The error of variation is when one of the uneven months has an uneven lunation, or an even month an even one. Besides these, there is the error which causes the failure of the epacts. in the calendar:

The first embolism, therefore, begins on 2 December and ends on the last day of the same month. And the error of vicissitude occurs, because the embolism and the January lunation are both of 30 days, and if it is a bissextile year, there are four 30-day lunations - the embolism, January, February and March. Moreover, this embolism is intercalated in year 2 of our cycle, when, in keeping with its origin, it ought to be intercalated in the third. The reason for this is that the cycle of those who invented the embolisms began from September, so that it precedes our cycle, which begins from January, by four months; and so when we are at the end of the second year of our cycle, they have already passed through 4 months of year 3 of their cycle. Accordingly, this embolism is intercalated in the third year of their cycle and in the second of our cycle.

The second embolism begins on 2 September and ends on 1 October. There is an error of vicissitude, because the September lunation and the embolism are both 30 days. Moreover, this embolism is assigned to the fifth year of our cycle, when it ought to be assigned to the sixth. The reason for this is that it is still year 5 of our cycle when year 6 of theirs begins.

The third embolism begins on 6 March and ends on 4 April. There is an error of vicissitude, because the March lunation and the embolism are both 30 days, and if it is a bissextile year, there are four 30-day lunations - January, February, March and the embolism. There is also an error of termination, because the April lunation ends on 3 May, the May lunation on 2 June, the June lunation on 1 July. And in that year the epacts are wrong at the beginning of May and July, as will be explained below. Note also that in the 4th year, since the March lunation begins before the bissextile if it is a bissextile year, the March lunation will seem to be 31 days long and the February lunation only 29. To

avoid these errors, as has been touched on above, the March lunation should be postponed by one day, so that *luna 1* of the March lunation is called *luna 30* of the February lunation, and *luna 1* of March is the next day.

The fourth embolism begins on 3 January and ends on 1 February. There is an error of vicissitude, because the January lunation and the embolism are both 30 days, and if is a bissextile year, there are four lunations - January, the embolism, February and March - all of 30 days. There is also an error of termination, because the February lunation ends in March, and the March lunation in April. This embolism is intercalated in year 11 of both cycles, and so all is well. Moreover, the epact is wrong in that year at the beginning of March, unless it is a bissextile year.

The fifth embolism begins on 2 November and ends on 1 December. There is an error of vicissitude, because the November lunation and the embolism are both 30 days. And note that this embolism is the reason why two [golden] numbers, 13 and 2, are placed on the same line on 2 December; for if 13 was placed on 1 December, there would be a double error: the preceding embolism would be only 29 days long, and the December lunation 30; and the contrary should always happen. Moreover this embolism is intercalated in year 13 of our cycle, year 14 of theirs.

The sixth embolism begins on 2 August and ends on the last day of the same month. There is an error of vicissitude, because the embolism and the September lunation are both 30 days. Moreover, it seems that this embolism is wrongly assigned, because this is year sixteen of both cycles, when this embolism ought to be intercalated in year seventeen in both. This is the reason why: if year 16 were a common year, it would finish its twelve lunations on 1 August. This embolism therefore following

immediately after is assigned to year 17, and is, as it were, its beginning. Thence it can thus be assigned to year 17 in both cycles.

The seventh embolism begins on 5 March and ends on 3 April. There is an error of vicissitude, because the March lunation and the embolism are both 30 days, and if it is a bissextile year there are four lunations - January, February, March and the embolism, all of 30 days. There is also an error of termination, because the April lunation ends on 2 May and the May lunation on 1 June. Again, the epacts which should indicate the age of the Moon are wrong at the beginning of May and August. Moreover, since in this year the lunation begins before the place of the bissextile day, if it is a bissextile year, it will be seen to be of 31 days. But this can be dealt with in the same way as in the third embolism. The reason why these seven embolisms are intercalated in the months and days of the month which have been indicated is because if they were put anywhere else there would be more errors and more epacts would be wrong.

[20.] The epacts and the lunar regulars.

The epact is a number not exceeding 30 resulting from the excess of the solar over the common lunar year. 'Not exceeding 30', I say, because since the function of the epact is to show how old the Moon is, and no Moon is older than 30 days, the epact should not be more than 30 either. 'Resulting from the excess' etc., I say, because the epact derives from the same extra 11 days as the embolism.

Year 1 of the nineteen -year cycle had no epact, because there was no preceding year from whose inequality it could derive; alternatively because year 19 of the nineteen-year cycle is, as it were, the one before year 1, and that year has epact 18; there are 11 extra days in that year, plus one from the *saltus lune*, which in total is 30. But 30 is the same as no epact, because when 30 is added to any [lunar]

regular it has to be deleted. So year 1 has no epact. Year 2 has epact 11, the third year 22, the fourth 3, because 30 are subtracted; and so on, adding 11 [each time]. The same thing may be learnt through these verses:

Whatever the age of the moon on 20 March [*xi kal.Apr.*]

It shows the number of the epact through each year.

Find how old the Moon is on 22 March: that number is the epact for this year. Alternatively, 11 can be added to the epact of the preceding year:

The first luna 1 in May shows the epact of the next year.

And to find the epact without a calendar these verses should be known:

Subtract one, then add nine, then nineteen.

Year 1 of the cycle is placed at the base of the thumb, year 2 on the middle joint, year 3 at the tip, year 4 again on the base of the thumb, and so you count the years in a circular manner until you come to the year the whose epact you are looking for. This will be either at the base of the thumb, or on the middle joint, or at its tip. If it is at the base, subtract 1; if in the middle, add 9; if at the tip add 19, and you will have the epact of the required year.

Epact is, as it were, *epiaucta*, 'an extra increase', because of the increase described above; alternatively, epacta is as it were *epi adiecta*, because when it is added to the regular it shows how old the Moon is.

The lunar regular is a number not exceeding 30 which added to the epact indicates how old the Moon is on the first day of the month. 'Not exceeding 30': explain as above. But the phrase 'added to the epact' shows the function of both epact and regular. This is the origin of the lunar regulars: each month

has, and always will have the same number for regular as was the age of the Moon at the beginning of the composition of the calendar.

To understand this, suppose that we are in year 1 of the cycle, and, placed as it appears, in February or the following 6 months; in year 1 of the nineteen-year cycle 1 is the golden number on *x kal feb*, so that 1 February has *luna 10*. So that it has 10 for regular. In the same way consider the golden number, i.e. 1, before the first days of the other six months [March - August] to find the regulars. But suppose that from September and the following 4 months we are in year 19 of the cycle, which is as it were the one before the first; and according to this, September has 5 for regular. To form all the other [regulars] if you have this one, take the days of September and add its regular; subtract the September lunation, and the remainder is the regular of the following month. And similarly for the others. As the verses say:

Five are given to September, eight to November and December, three times three to January and March;

Let February and April take ten; afterwards, add one to each month.

Alternatively:

After twice E, twice G; after twice I and K the order is kept.

or:

Estuat esurit gramen gravat igne kalendas

Igne kalendarium licet mihi nominis ordo.

Find the number of the initial letter of any word of the last verses, etc. Having found the epact and the lunar regular, you can find how old the Moon is on the first day of any particular month in the following way. Add the epact for the year and the regular for the month: the result will be 30, or a larger or smaller number. If 30 or a smaller number, this is the age of the Moon on the calends of that month the

regular of which you are seeking. If larger, subtract 30, and the remainder will show the age of the Moon.

Note that the epact and the lunar regulars, like the embolisms, begin from September. And the epact is a variable number, the regular an invariable number.

The epacts are wrong five times in the whole cycle: twice in year 8, once in year 11 and twice in the last year. As the verse says:

July with May is wrong in the eighth year.

The epacts and regulars tell us that in year 8 the Moon is 28 days old on 1 May; but it is in fact *luna* 27. In the same year they say that the Moon is 30 days old on 1 July, when in fact it is 29. Again, the verse says:

Unless it is a leap-year, the eleventh [year] is wrong in March.

The epacts and regulars tell us that in year 11 the Moon is 29 days old on 1 March, although in fact it is 28. But in a bissextile year two days are counted on 24 February [*vi. kal. mar.*] , so that then the epacts are right.

The last year [of the cycle] lets down August, and also May.

Again, in the last year of the cycle, the epacts and regulars tell us that the Moon is 29 days old on 1 May, when it is in fact 28; and 2 days old on 1 August, when it is in fact 3. This happens because of the *saltus lune*, because the August lunation starts a day earlier than it would if there was no *saltus*.

If you want to know what year of the cycle of epacts we are in, use the same device as for finding the year of the nineteen-year cycle (add 1 to the Year of Our Lord, etc.). And note that there is no difference between the two cycles, except that this one starts four months earlier, from September, the other one from January.

[21.] **The *saltus lune*.**

The *saltus lune* is the subtraction of one day from the July lunation in the last year of the nineteen-year cycle. If this subtraction were not made, after one cycle the Moon would be called *luna iI* where it should be *luna ii*. In the same way, after the completion of 15 cycles the Moon would be called *luna I* where it should be *luna xv*. For the compotists have perceived that more time is attributed to each lunation than ought to be, i.e., 4 moments, 1 *uncia* and 1 atom.

Let us see how one day in the whole nineteen-year cycle is collected together out of these 4 small particles, first reckoning the sum total of the lunations of the whole cycle. In the nineteen-year cycle, therefore, there are 12 common and seven embolismalic years. In 12 common years there are 144 lunations. In seven embolismalic years there are 91 lunations, which added to those above makes 235. If 4 moments are subtracted from each lunation, there will be altogether 940. If this number of moments is divided by 40, there will be 23 hours and 20 moments left over, that is half an hour. Since each lunation has an extra *uncia*, there are as many *uncie* as lunations. If this number is divided by 12, there will be 19 moments and 7 *uncie* over. Since each lunation has an extra atom, there will be as many atoms as there are lunations. If this number is divided by 47, there will be 5 *uncie*, and no remainder. These five joined with the 7 *uncie* makes one moment. This moment joined with the 19 moments collected from the *uncie* makes 20 moments, that is, half an hour. If this is added to the 23½ hours collected above, there will be altogether 24 hours, which is 1 natural day.

This one artificially collected day is subtracted from the July lunation, as though from the last 30-day lunation in the last year of those who begin their year from September. It is called the *saltus lune* because in the last year of the cycle *luna 30* of the July lunation is called *luna 1* of the August lunation, and the July lunation has 29 days left, hence there are three 29-day lunations together - June, July and August. But note that although this subtraction has the backing of authority, it is the source of many difficult questions and an admixture of inaccuracy, which will be set right at another place and time.

[22.] The moveable feasts.

There are five moveable feasts: Septuagesima, Quadragesima, Easter, Rogationtide and Pentecost. Septuagesima is derived from seventy, because at that time the Church calls to mind the seventy years in which the children of Israel were in servitude to Babylon. Quadragesima is derived from forty: at that time the Church recalls that Moses fasted forty days and received the law; that Elijah fasted forty days and was rapt up into heaven or into the secret place of God; that Christ also fasted forty days and overcame the temptations of the devil. Thirty-six and a half days is a tenth part of a year, and four added days of fasting [*cinerum*] makes 40. Just as we tithe our possessions, so we should tithe our lives. *Pascha*, *phase*, *transitum* all mean the same ['passing over'], and it is called this either because of the passage of the angel of death in the Old Testament in Egypt; or because Our Lord passed from death to life by His resurrection. The Sunday preceding the Rogation fast is called Rogationtide in the *compotus* on account of the following Rogation days. Pentecost derives from *penta*, 'five' and *coste*, 'ten', as it were 5x10, for there are fifty days between Easter and Pentecost, each day included.

Note that many kinds of numbers have been invented to locate these feasts, as will appear below. The days before the feast where numbers of this kind terminate are called terms. It is a rule in compotus that the term and the feast never coincide, lest we seem to imitate the Jews, who observe the term and the feast on the same day. Alternatively, it is because the Easter term is always the fourteenth day of the April lunation, but because this fourteenth day is not always on Sunday, the term and the feast cannot coincide. Again, since the term is the fourteenth day of the April lunation, and the nearest Easter to that term is the fifteenth day, the term and the feast cannot coincide.

The reason that the moveable feasts do not have fixed positions in the calendar is because Easter and the other moveable feasts are always celebrated on Sunday; but since Sunday is not always on one and the same date in the calendar, neither could Easter or the other moveable feasts have a fixed position on the calendar.

Some [authorities] say that the Passion of Our Lord was on 23 March [*x kal. apr.*], because it was then, according to Theophilus, Bishop of Alexandria, that He made Adam. For they say that He wanted to suffer to redeem the first man and his issue on the same day that He created that first man. Others, for instance Jerome, say that Our Lord's Passion was on 25 March [*viii kal. apr.*], because it was then that He was born of the flesh of the Virgin, and He suffered in the same flesh to redeem mankind, since in His divinity He could not suffer. But it was laid down in the Old Testament that the Paschal lamb should be sacrificed in the evening after the fourteenth day of the April lunation, that is in the beginning of the 15th day of the same lunation. So the Passion of Our Lord, Who is the true lamb, and Who is symbolized by it, was at the time of the full Moon. For just as at that time light is attributed more abundantly to the night, so through the Passion of His human nature the grace of redemption is more fully revealed. Because the April lunations are sometimes earlier, sometimes later, Easter cannot

be assigned to a fixed place in the calendar.

The earliest date for Easter is 22 March [*xi Kal. Apr.*], as can be demonstrated in the following way. The earliest April lunation begins on 8 March [*viii Id. Mar.*], against which 16 is assigned as the golden number. The two lunations immediately before it are embolismal, the two next before them are the March lunations, although the last of these two terminates on 1 April, because of the fourth embolism. If 14 days is counted from the earliest April lunation, which is [marked] opposite 8 March, the first Paschal term will be found there. This will be 21 March, and it can perfectly possibly happen because of the variation of the Sunday letters that Easter can be celebrated on the day after the term, i.e., 22 March [*xi Kal. Apr.*] So that it is the custom to note the first, that is the earliest, Easter there. From what has been said above the following rule holds good:

After the Nones of March [7 March] where at first the first Easter is noted

Complete twice seven days that Easter may follow.

All the lunations of April begin after the 7 March [*Non. Mar.*]. The latest date for Easter is 25 April [*vii Kal. Maii.*]. This can be shown in the following way. The latest April lunation begins on 5 April [*Non. Apr.*] opposite which the golden number 8 is marked, although it actually terminates on 3 May, just as the preceding one terminates on 2 May, because of the third and seventh embolisms. Count 14 days from the [beginning of] the last April lunation: the latest Easter term will be 18 April [*xiv Kal. Maii.*], and it can happen because of the variation of the Sunday letters that that term falls on a Sunday. So Easter Day should be celebrated on the Sunday following, which is 25 April. From what has been said it is evident that Easter must always be celebrated on the five Sundays, be they earlier or later, between 21 March and 25 April. As the verse says:

Easter should prevail neither before 22 March [*xi Kal Apr*]

Nor after 27 April [*vii Kal. Maii.*]

[23. The keys]

To locate the five moveable feasts some numbers have been invented which are called 'keys', because just as entrance to the hall is gained through the key, so information about the feasts is gained from these numbers. Since there are 19 years in the 19 year-cycle, each has its own key. The key of the first year is 26, and from this is formulated the following keys by the addition of 19, first taking into account that if the result of this reckoning is 40 or a larger number, you should subtract 30, and what remains will be the next key. Or the keys can be formed by the following verses:

If twenty-one or less appears,

hence for the following key add nineteen [$1+(2 \times 9)$]

Subtract eleven if [the number] is twenty-two or more;

What remains will be the next key.

Alternatively, you can find the keys in this way assuming you know the first key. Count through all the joints and finger-tips of one hand, and the last number is the [next] key. Note however that if 40 is the result of this calculation, call it ten, and go on counting in the usual way: the last is the key. If you are looking for the key of any year out of context [*ex abrupto*], these verses should be known:

Twenty-five, thirteen, then thirty-one,

Nineteen, seven on the fingers match the keys.

Count round the tips of the fingers of one hand until you come to the year you are looking for,

beginning from the tip of the thumb. If the required year lands on the tip of the thumb, add 25 to the number of the year; if on the index finger, add 13; if the middle finger, 31; if the ring finger 19; if the little finger 7. In this way the verses given above show the keys, noting that if 40 is exceeded, etc. The starting-point of the keys can be identified by these verses:

In January the first and last G, in March the second

In April the third and last.

Having found the key and its starting-point, if you want to locate the moveable feasts in any particular year, the number of the key of that year is taken, and to find Septuagesima as many days as the numbers the key contains are reckoned from the starting point of the key of Septuagesima: the day where that reckoning finishes is called the Septuagesima term, and the following Sunday will be Septuagesima itself. The same process is used for the other moveable feasts, bearing in mind that to find Septuagesima and Quadragesima in a bissextile year you must add one to the key; otherwise Septuagesima and Quadragesima would sometimes be celebrated by use of the keys 8 days too early.

These verses will give you the Septuagesima term and as a result the other moveable feasts:

From the Epiphany complete by numbering the moon

Forty days and Septuagesima is effected.

If it falls on Sunday, substitute the following one;

If it is a leap year, one day is added to [these] days.

If it falls on the seventh day and it is a leap year,

Leave the first Sunday and retain the second.

From the beginning of the lunation in which Epiphany, or more properly the Feast of the Star falls, whether this is in December or January, 40 days are reckoned counting down: the fortieth day is the Septuagesima term, and the following Sunday will be Septuagesima. In a bissextile year one day is added, as the preceding verses show.

The Easter term should be learned through these verses:

Esse gravem nobis bello karnem kanomius

Bellum sepe gerens etenim puto deicit hostem

Mox anime lucrum invenies cum religiosus.

In these verses there are 19 words which stand for the 19 years of the nineteen-year cycle, the first for the first [year], the second for the second [year], and so on. If therefore you wish to find the Easter term of any year of the nineteen-year cycle, take the word that stands for that year, and if it ends in M, the Easter term will be in March, counting up as many days from the end of March as the number in the alphabet of the initial letter of that word. The Easter term will be the day on which this reckoning finishes. If on the other hand it doesn't end in M, the Easter term will be in April, counting down as many days from the beginning of April as is the number in the alphabet of the initial letter of that word.

These verses will tell you how many weeks there are between the nearest Sunday and Quadragesima (whether it is before or after Christmas):

In gravibus causis hastam gerit improbus hostis,

Laudatur iustus, gladio caret hoste gravatus

Crudeles homines fur incitat hoste carente

In these verses there are 19 words standing for the nineteen years of the nineteen-year cycle, the first for the first [year], the second for the second [year], and so on. If you want to know how many weeks there

are between this Sunday and Quadragesima, see what the number in the alphabet is of the initial letter of the word that stands for that year: that will be the number of weeks in the time you are looking for.

[24.] The lustrum, the indiction, the century and the era.

A lustrum is a period of five years which was taken into account by the Romans at the time of the Dictators. It is derived from *lustrum*, *lustras* ['purify'], because at the end and the beginning of such a period of five years the Dictators used to process round the City with wax tapers and candles.

An indiction is a period of fifteen years. It is derived from *indico*, *indicis* ['indicate']. For when the Romans held sway over almost the whole world, they made the different lands tributaries to them; and because of the difficulty of travelling, they ordered the more distant territories to pay gold as a symbol of their domination at the end of the first quinquennium; silver for the wages of the army at the end of the second; and bronze and iron for repairing weapons at the end of the third. Some people call the indiction era from *es* ['bronze'], on account of this bronze paid in the third quinquennium. Because of this [custom], the Romans instituted [the rule] that no privilege, no written contract would be stable or firm unless the indiction was recorded; this was to prevent the time when the taxes were due from being forgotten. We for our part make use of the indiction in three [ways]: in privileges, in the paschal candle, and in the dedication of churches. The cycle of indictions begins in September, because the abundance of fruits at that time makes it a good time to pay tax.

If you want to know the year of the indiction, add 3 to the year of Our Lord, because Our Lord is said to have been born in the fourth year of the indiction, and divide the sum by 15. If there is no remainder, then we are in the last year of the indiction. Any remainder shows in which year of the indiction we are. Note that 'indiction' is the name given both to the period of fifteen years and to each year of that period or cycle.

A century is a period of 100 years. As the text says:

Many centuries passed by

Seculum also means the universe and the fabric of the universe with all that it contains. An age is said by the computist to be the period of a thousand years. It is the same as *etas* ['age'], so that a man is said to be of a great age [*magne etatis*]. And *evum* means the same as *mora* ['a space of time']. As Boethius says:

Who bids time move from eternity.

THE END OF THE COMPOTUS

2 Capitulum .1. U; Hic incipit compotus Roberti Grosseteste/Capitulum 1 de 2ci anno. Multiplex est annus scilicet solaris et lunaris, quia secundum cursum istorum duorum planetarum solis et lunae considerantur tempora secundum ecclesiam. Set quia quedam incidunt in anno solari ut bisextus et concurrentes et regulares feriales, et quedam in anno lunari ut embolismos et alia sunt que variantur ut V festa mobilia, scilicet septuagesima quadragesima pascha rogationes et pentecostes, propter necessitatem fuit scientiam invenire que omnia ista posset rectificare, et hec compotus nominatur. Subiectum autem huius scientie est tempus. Non dico tempus secundum substantiam temporis nec in quantum est motus primi mobilis, set in quantum describitur in partes suas que considerantur ab ecclesia secundum motus solis et lune. Set quia in unocunq[ue] oportet scire quod sit dicimus quod B 3 motum] motus C ponitur ut genus] tamquam C; apponitur pro genere B 4 additur] dicit B. denotatur] notatur BC 5 compoti] illius B Tempus ... materia] *om* B tamen] enim A quolibet 6 modo] qualibet materia B; consideratum] considerata B considerant C consideratur tempus U subiungitur] subiungit C motum] motus 7 Compotus] compotista ABU motum] motus C 8 deus] *om* CU duo] ista duo BC magna] *om* C; Ba *adds* scilicet lunem maius] Ba *adds* scilicet solem non] nec BU 9 curat] curat autem C; curant U motus] de motibus AU unde] et propter hoc B; et per hoc C 9 10 unde ...planetarum] *om* U 10 et astrologia] et ab astrologia C; *om* B que considerant] quia hec considerat B motus] motum A 11 Tempus] tempus igitur BCU; tempus ergo A describitur] distinguitur B eternitatis] eternitatis cum AUC 12 annui ... ebdomatici] *om* B ebdomatici] ebdomatici et Acc nocturnive] nocturni Ba certa] cum certa B dimensione] demensione U 14 Compotista autem] *om* C; Item compotista B assumit] adsumit C; sumit U temporis *om* B diei] die AC 15 temporis] *om* B diei] die AB; *om* C indictio] indicio Ba 16 et] *om* B Quid sit ...consequenti] Quid dies, quid septimana, quid mensis, quid annus patet omnibus. Lustrum est spatium V annorum. Indictio est spatium XV annorum. Seculum est spatium C annorum, Evum vero mille annorum. Et secundum istas partes procedimus in tractando C; Quid sit septimana, quid mensis, quid annus satis scitur. Lustrum autem est spatium V annorum, indictio XV annorum, seculum centum annorum, evum M annorum. Et secundum has partes procedemus in tractando B satis] bene sic U consequenti] sequenti U partes] item partes B; partes vero U 18 diei] die ABCU 17 sunt] sunt iste C 18 id est sex hore *om* B; scilicet vi hore C vero] autem C; *om* AB vigesima quarta pars diei naturalis] vi^{ta} pars quadrantis B; 12^a pars diei naturalis U 20 quadragesima septima] xlviii^a A 22 Dierum vero] Nota ergo quod dierum C; Notandum ergo quod dierum B; *preceded by* 2 in margin U alius ... alius] alia ... alia U Dies] *om* BC spatium] spatium temporis Aucc 1 ad] usque ad AccU ortum] ortum id est spatium AUBC sol est] sol moratur Acc

8-9 Gen. 1,16.

12-13 Cf Ciceronis *De inventione rhetorica* 1, 26, 39.

p. 5, 23-p.6, 1 nostro emisperio] emisperio nostro, id est ab ortu solis usque ad occasum U 2 Notandum] Notandum igitur AU; Nota iterum C; Item notandum B 3 media nocte] medio noctis C terminant] terminant et U hac ratione] *om* C 4 quia] quoniam legitur] *om* C quod dominus natus erat] Christus natus est C; dominum fuisse natum B; medio noctis dominice] media nocte diei dominice; B *adds* Nam posita causa efficiente et immediata et ponitur eius effectus. Set Christus est causa efficiens et immediata diei ergo quando incipit esse creatur ab ipso. Set hoc fuit dies quare tale hora incipit dies, quod supponandum est secundum ecclesiam. vero] vero sive Caldei A; *om* C; incipiunt diem B; vero econtra U 5 quia dicitur] dicentes B secundum] et secundum U 6 Iudei] Iudei autem incipiunt B; Iudei autem C; Iudei vero U vespertino] vespertino, id est apodiantes U innitentes] innitantes A; intendentes C illi auctoritati] illam auctoritatem A 7 Genesis] *om* BC autem] *om* C; vero BU 8 naturalem] *om* C sol] sol tunc B; 9 sit] et cum sol sit C; sol sit B merito] de merito cc dies] dies naturalis BC ascendat] ascendit AUBC; BC *add* et secundum hoc procedit iudicia astronomie 10 Notandum etiam] Notandum igitur A; Item nota BC 11 philosophi enim] Nam philosophi B illo] eo C 12 autem] enim B planete] *om* A 13 autem] quidem B circularum] circularum suorum U ipsorum planetarum] *om* AU; istorum B 14 possunt] *om* U retineri] haberi AU; retini B; inveniri cc hunc versum] hos versus C 15 Cinthia] Cincia C satur] U *adds* Ordine retrogrado primam quisquis tenet horam U 16 Supponitur] Supponatur AUC igitur] ergo A dominatur] dominetur BC 17 Luna] Item Luna dominetur C; Item Luna dominabitur B; 18 Iterum] et iterum U Similiter] et post BC; et rursum U Saturnus] Saturnus in ABC (*passim* in this passage) 18-19 Saturnus ... 24^a] Saturnus vero in VIII et iterum in XV et rursum in XVI et iterum in XXII Item Iupiter in IX et in XVI et iterum in XXIII. Mars vero iterum in X XVII et rursum in XXIII et sic terminatur dies naturalis U 19 illa] *om* BC die] *om* cc 20 dominatur] dominabitur B in] *om* cc subsequentis] sequentis Acc 22 et] *om* BC 21 habetis] habebis BC; habemus U 22 subsequentis] sequentis AUBCcc et inde suscipit appellationem] *om* C hoc] hoc autem AU 23 cum dant] cum dent cc; fundent Ba potiones] potionem B faciunt] faciant cc minutiones] inmutationes Ba; diminutiones C sit] *om* ACcc

7 Gen. 1, 5

1 qui] *om* CccU dominatur] dominetur C 2 Ex] et ex C; et U autem] *om* BCU solvitur hec questio] potest solvi quedam questio que sic sit BC; scitur quomodo U 3 in planetis quoad] planetarum secundum B quare igitur] quare ergo A; quia ergo quare B. 4 istum] istorum cc planetarum *om* C statim] scilicet post U 5 ratio] set ratio B; causa C 6 hore] *om* U distribute] distincte et distribute B Septem autem sunt planete] qui sunt .7. U 7 illorum] *om* Acc; istorum C; eorum B assumat] adsummat C supererunt] superflue erunt B attribuende] distribute B 8 Unde] et ex hoc BC dies] *om* B uno] uno quolibet B 9 post] post illum BC 10 autem sicut] vero ut B Ieronimus] et Geronimus C viri] *om* U primam] primum AU 11 appellaverunt] appellant B; apellant C dominicum] dominicam cc; *om* U 12 est] fuit C tali] tali etiam B resurrexit] resurrexit a mortuis C tali] et tali B feriam] feria dicitur A; feria autem C; feriam autem B 13 illa quam] illo quem BC diem] *om* ccU dominicum] dominicum sive primam feriam dominicam B cessare] celebrare U 14 omni] *om* B etiam] *om* C quia] quoniam Acc 15 ad templa ...victime] solebant ad templa offerre victimas C 16 sic] ita C vero] *om* Acc; tamen C; autem B 17 eum] eam U 18 Et iterum] posterea tali die A; Item B; et iterum tali die U enim] itaque A; autem C; *om* U idem] *om* U 19 Iudei autem] Item iudei C; Item etiam iudei B; Iudei quidem A; Iudei vero U Primum] primam U enim] *om* C 20 septimane dierum AU; *om* cc; Ba *adds* primum enim diem septimane appellationes appellant] appellant BC 20 et] *om* C 20 tali die] *om* AccU; in eo B requievit etc. AUB 20-21 quod Dominus tali die requievit] quia Dominus requievit etc AU; nos ultimum diem septimane B 21 et secundum diem illum] Diem illum AccC; Diem vero U diem] *om* AccC appellant] appellant ipsi B 22 sabati] sabati et ita per ordinem de aliis B illud] illuc A sabati] sabati etc U prima] primo Acc sabatum] *om* U Diem vero] Item C p. 7, 23-1 Diem vero ... secundum ordinem] *om* B 1 deinceps] de aliis C secundum] per A

10 *BOT* p.197, 58-59; Hieronymi *In die dominica paschae* p. 550, 53.

16 Gen. 2, 3.

19-20 Gen. 2, 2

22 Gen. 1,5

1 autem] itaque B diis] dis A quidam BC enim] *om* B dicunt] credebant B; putabant C 2 dicitur] dicitur dies B clarum] claritas C dicitur] *om* B quia] quoniam Acc 3 noctem] noctem 4 Capitulum 2 de septimana B 5 Notandum] nota ergo BC septimane habent] septimana habet A proprias appellationes] propriam appellationem A 6 cum] tum C earum] eorum U multitudinem] valitudinem C enim] autem Acc dies] diem C 7 spatium] spatium dierum B septimane] septimana AC; in septimana B quod] et BC alio est] alio illud non spatium septimana set C 8 duarum] enim A Quod sic patet] ex hoc patet B; quod ex hoc patet C 9 sit] fit Acc dominica] dominico B Unde] videtis igitur quod C 9-10 illud festum quod] ergo quod illud quod B; *om* quod C 10 in] *om* U 11 tamen] *om* U has] *om* C ebdomada septimana] ebdomadam septimanam C 12 ebda] epta C deas] doas AUBC septem] *om* C 13 habens] habent U 14 et ibi] hic C; *om* ibi B 15 appellant] aliter appellatur B; appellatur C; appellant Iudei U septimanam] septimana B quia per totam septimanam] per quod significatur quod tota septimana U a peccato] ab opere peccato U 16 illud] illuc A; illud de phariseo U Ieiunio] ieiunio inquit U etc] *om* C; id est in septimana U unam] unum B totam] *om* C 17 septimanam] septimanam. 18 Capitulum 3 de mense etc B Sequitur] Sequitur U 19 Unde notandum] et nota B; *om* unde C; unde notandum est U 19-20 Solaris est] *om* BC; est spatium temporis A 20 in signo] in aliquo signo C; in uno signo cursuum suum B peragando] peragendo BC Lunaris idem est] lunaris scilicet et dicitur C 20-21 qua dicitur postea] quo dicitur inferius BC 21 est] *om* C scilicet] *om* A kalendariis] in kalendariis A; quod in kalendariis nostris est U kalendariis nostris BC 23 Notandum itaque] Notandum igitur AU; Nota ergo BC primus] primo B distinxit] distinguit Acc annos] annum C

16 Luc. 18, 12

1 quia ut dicitur] quoniam vidit quod AUBC suffecit] sufficit CU 2 pareret] pariat BC per] *om* U abstinere] abstinere se C 3 Primum mensem suum] Primum mensem igitur AU denominavit] denominavit Marcium AU 4 bello] bella U secundum] et secundum Acc 5 ab aperiendo] *om* U 6 Aprilis] Aprilis dicitur AUBCcc quasi] id est C enim] *om* AU frodisa] frodida cc 7 maris] *om* Ba nasci] venus nasci B et] quia C 8 Romulee] Romuli U Tertium] tertium mensem AU 9 iunioribus] iuvenibus C Menses] menses vero AUBcc; menses autem C 10 Septembrem] Septembrem et U; Septembrem et ita deinceps C Octobrem Novembrem Decembrem] *om* C 11 Ovidius] December Ba; Ovidius de fastis U 12 Tertius] tertium A 13 notata]vocata U suo]sua C 14 quasi septimus ymber] quia septimus est ab ymbre U; *om* ymber ccBC id] hoc AU 15 pluvioso] imbrioso BC sicut] sicut enim A ita] similiter AU; sic C; sic deinceps B Pompeius] Pompilius BC 16 scilicet] *om* B 18 que] *om* U 19 est] fit B 20 fuit] fuit deus AU quod] *om* AUBC 21 terminantis] finientis A; terminanti U ad] in B 23 principium] principium anni AUBC 22 solebant ...23 facere] faciebant C solebant] solebant Romani AU facere] facere Plutoni AUC

12-13 Ovidii *Fasti* 1, 41-42

17-18. Ovidii *Fasti* 1, 43-44

1 licet] Set licet U suum] *om* C 2 fecerit] *om* cc egit] fecit egit U sumpsit]
 adsumpsit C; assumpsit B scilicet] id est C et] *om* C 3 suus] *om* C numerus]
 numerus dierum ccU 4 correctionem] correptionem C 5 constabat] constat C 6
 assumpsit] adsumpsit C autem] vero BC 7 prius] primo B 8 in] *om* BC tali
 tempore] tali quidem mense B; tali mense A Iulium esse natum] Iulius esse natus BC;
 Iulium fuisse natum A Postea] postea etiam C 9 prius dictum] qui primo dicunt B
 appellaverunt] appellabant AccC 10 habeant] habent CU qui] et qui Acc 11 Ap] *om*
 BaC 13 In] Item in BC; Et notandum quod in U vero] quidem A; *om* BCU sol] *om*
 U et est] est autem AU 14 astronomis] astronomis ita AU dictum] diffinitum B
 Habet etiam] et habet BC; habet autem AU 15 ut] quod A; quemadmodum U per
 hos versus] hiis versibus Ba 17 pisces] piscis U 18 signum] signum ergo BC;
 signum igitur U eo] ea U 19 licet] set C sit] est AUB; fuit C sicut] *om* BaC 20
 quod] *om* B viget] vigens B; forte est C parte autem posteriori] posteriori [autem]
 vero AU; *om* B est] *om* BC 21 existens] cedens Acc in tempore] a parte BC 22
 scilicet ... virtutis] *om* Ba 23 ut] *om* C quidam] quidam quod C tota] *om* U; totali B

1 dextro] dextro lateri C tota hieme] *om* C; totali hieme B inferius] inferius tota
 hieme C vero] autem A; *om* B 2 est] est ei BC 3 Secundum] secundum vero U
 taurorum sive bovm] bovm et taurorum B; taurorum et bovm C 4 quia] *om* U
 taurus] *om* C in] *om* U 5 fuit] fuit prima C; fuit prius B 6 signum est] *om* c; est]
 dicitur B caliditate] calore BC 7 depinguntur] *om* A 8 terre] terrena A 9 herba]
 herbam AU 10 Quartum] Quartus U signum] *om* BC quia sicut cancer est] quia est C;
 quod est B 11 recedit] retrocedit C emisperio] emisperio accedens versus inferius BC
 unde] unde enim cc tropicum] retrogradum A 12 et] quia AU 13 Quintum]
 Quintum signum AccU animal] *om* C 14 existens] cedens A celi] *om* B est] *om* C
 tunc] *om* A 15 bonum] bonum tunc A in tempore] et intemperiem BC 17 Sextum]
 Sextus A est] *om* C est] *om* U et] quia BC 19 libratur dies artificialis nocti et] *om*
 BaBC est] *om* BC cum] *om* Acc; in C 21-22 parum cautos tunc] incautos C 23
 Nonum] onum C; nonum signum U est] *om* C; dicitur B tunc] *om* U temporis]
 temporis, id est C tempestates] *om* B

1 scilicet] scilicet yemis A; *om* C ymbres] *om* CU; imbres, tempestates B et] et nives et U 2 est] dicitur B; *om* C sicut in pascendo erigit se caper] capricornus pascendo derigit se caper C caper] hoc animal B sol] *om* A 3 accedit emisperium] emisperium erigit se vel accedit sol U hoc] *om* A 4 sol] *om* cc convertitur] vertitur A tunc] *om* AC 5 signa] signa scilicet B; tempora C pisces] pisces scilicet A notant] *om* U 6 sol] *om* A habundant] abundant C et dicitur] dicitur enim BC 11 Notandum etiam] Item notandum BC quod] *om* Acc 12 dies mensis] *om* mensis BC; tres A coassumptis] coadscritis cc; quo adsumptis C scilicet] *om* Acc 13 none] *om* A et] *om* BU 14 autem] *om* A 15 colebatur] celebrabatur B 16 cura kalendas] festi kalendis C 17 calo] colo cc prima] primo prima die cuiuslibet mensis] *om* B AccB 17-18 quia preco ... quater calo] *om* C 18 eminentem] preeminentem B in civitate] *om* B 19 debent durare] *om* A; durature essent B; durarent U dies] dies quater solebant preclamare calon C sexies] *om* A si] si vero B; si nundine durarent U 20 numero] *om* BC calo] calon C calon] kalo B bonum] donum Ba 21 prima] primo C mutuo] in initio Ba 23 autem] *om* AB a non] *om* Ba

16.Ovidii *Fasti* 1,55.

1 Ovidius] dicitur Ba 2 caret] daret U 3 none] *om* U 3-4 vel dicuntur ... apud Romanos] *follows* vel dicuntur ... quot sunt none C in] *om* B 4 per] *om* U 4-5 vel dicuntur ...quot sunt none] *om* B 6 vero] *om* A; autem C dicuntur] dicunt cc 7 dividuntur] dividebantur ACU 8 istis] istis autem B numeralibus] numeros significantibus C nominantur] denominantur B 8-9 dies ... antecedunt] dies sequentes at dies precedentes kalendas nonas et idus nominantur ab illis maiori numero secundum quod fuerit magis remote C; et dies precedentes kalendas nonas et idus nominantur ab illis maiori numero secundum quod magis fuerit remota B 14 quod] *om* Ba et] *om* A 10 autem] *om* B dicitur]dicatur AUCcc kalendas] kalendas sicut tertio vel ¹⁰iiii set pridie kalendas BC dicendum quod] ratio est C; dicendum est U 11 provenit ab hoc verbo] provenit a B; dicitur a C sequeris] ris CU unde] unde secundum hoc BC 12 secunda] secundo AC kalendas] *om* Ba id est] a B 13 vero]*om* ABC 14 tenent] tenens A 15 Set] item BC 16 Mar] Mars Ba oc] octo A bis duo] biduo cc 17 Habito] haberi C igitur] ergo AC dies] *om* C sicut] ut iam B predictis] supradictis B et] et etiam C 18 et quot idus] *om* A residui] relique U 20 Notandum etiam] Item nota B; Item notandum C qui dicuntur] *om* A 21-23 Egri ... constellationes] *om* C 21 in] *om* cc diebus] duobus Ba 22 evaderet] convalescet B quia] quia secundum opinionem eorum B fuit] erat AU opus] opus in hiis diebus A; *om* in BU 5 hiis] eis B erant] fuerit C; sunt B 23 Preter] preter vero cc; quia preter BC enim] *om* BCU notas] notas que per hos versus sufficienter habentur: sanguis, rana, culex, musce, moriens pecus, ulcus, grando, locuste, nox, mors prius orta necans A; nocivas que ... nox mox prius orta necans, prima ruben verba et cetera notas U

2 Ovidii *Fasti* 1, 57

1 Ba contingebant]contingerant C plura] alia B; aliqua C notabantur] vocantur Ba; notabant BC bis in] brevi Ba; om cc 2 etiam] om U in hiis diebus] om A sacrificabant] sacrificabant Plutoni AUBC 3 quis] quis hiis dies ABU sibi] om B se] om BC demoni] demoniis Ba 4 observationes] observationes autem C 5 kalendas] literas C non] ne B 6 tamen] om A ad illos habendos] om A; ad illos sciendos B; ad illos sciendos et habendos U sciantur] sunt B hii versus] hiis versibus Acc 7 limite] lumine AC 8 olent] olet BCU abies] habies B coluit] colui cc colus] lacuna Ba excute gallum] oscula gallus C 10 igitur priorem] ergo primum BC Egiptiacum] om ABC; Egiptiacum scilicet cc 11 prima] om AC deservientis] servientis CU fuerit] est BC et] om C 12 talis] om B est] om A 13 Egipciacus] egri C ad] et ad B secundum] secundam U diem] diem Egipciacum eiusdem mensis B 14 fuerit] illa fuerit BC 15 ascendendo] om A habebis] habes B queris] queritur AU; queretis cc 16 littera] littera. 17 Capitulum 4 de anno etc B 18 unde videndum est] videndum ergo B quare sic] unde A ubi habeat] unde habet A; ubi habet cc 19 Notandum igitur] Nota ergo B; nota ergo primo C multiplex] duplex C est enim] om BC solaris] annus solaris AU lunaris] annus lunaris AU 20 illud] illuc A spatium] spatium temporis AccU quo] om C moratur] movetur BC 21 proprio motu] om U idem] eundem B 22 solebat] solet Acc; annus solet U; annus solebatur B devorans] vorans BC 22-23 propter temporis revolutionem] om AU; et hoc, scilicet, propter revolutionem temporalem BC 23 predictam] temporis AccU; iam dictam BC

5 Augustini *Epist. Ad Gal.*, PL 35, 2130

1 revolutionem] circuitiōnem BC 2 autem] *om* AUBC enim] *om* BC 3 Pompeius]
Pompilius BC 5 prima] prima est C solis] solis id est anni B 6 Phebus] Phebum
Ba. 7 licet] set B; *om* C tempore] tempore id est in hieme B; tempore scilicet in
hieme C 8 vero] *om* B; autem C 9 etiam] *om* AU 10 Arabes] Arabes vero AU;
Arabes autem cc; Arabes annum suum incepit B fuit] erat A 11 erat] est AccBC
quidam] quidam vero AU BaBC incipiunt] incipiunt annum suum B ab] iuxta U
illud] illuc A 13 terra] terram Acc facientem] et ferentem Acc; et facientem U 14
et] set AUBC fructuosum] fructus B factum esse] *om* Ba; quod mundus factus fuit
C 15 imitamur] imitemur C 18 Notandum] notandum igitur AU; nota ergo BC
quingenta due] *om* C Iste] ille unus C; ille cc. 19 residuus] *om* C variantur
et] *om* BC 20 litere] dies Ba quod] quare BC; quia U 21 incipit] incipiat C et] et
etiam B 22 propter] per AUBC in] *om* BC 23 idem] illud idem festum B; illud
etiam festum C erit] fuerit U in] *om* B fuerit] venerit U in] *om* BC

5-6 Ovidii *Fasti* 1, 163-4
13 Gen 1, 11, 12

1 est] erit U 3 igitur] ergo AccBC et artificiose] *om* CU incipiat] *om* cc 4 unus]
 numerus C scilicet] sicut BC et] *om* C 4-5 qui dicitur] sicut BC 7 dico] *om* A;
 dicitur U 9 petit assem] set post 7 redit ad unum. Unde versus: concurrans septem
 non transit set petit assem U quia] quare non transit septem quia; et hec est causa
 quod C cum] *om* B sint] sunt B 10 habeant] habent AUBC ostendere] ostendere
 C 10-11 primam feriam] feriam primi diei BCU 11 illorum] eorum U excedet]
 excedit AUBC etc] ex superhabundancia C; ex superhabundancia anni divisi per
 septimaneas cc dico quia] Quare dicitur U 12 septenarias] septimanam Acc est]
 esse U 13 igitur] ergo BC primus] proximus Ba cicli] illi Ba; *om* U
 concurrentium] concurrentis C habuit] habet B 14 propter] per C diem] diem
 excrescentem U quinarium] quaternarium Ba 16 perveniatur] perveniat A 17
 bisextilis] bisexti A 18 penitus] omnino BC in formatione concurrentium] quod
 prius in concurrentium formatione A; prius in concurrentium formatione cc;
 formatione concurrentium B; in formationis concurrentium C 18 Unde] Idcirco BC
 19 ciclus] circulus C autem] *om* AUBC sit] est U 20 anno] anno cicli Acc 21 -p.
 17, 3 quam feriam ...quoque septem] *om* B

p.16, 23-1 Vide quota feria ...illius anni] *om* Ba: *inserted after* quoque septem (*line* 3); Unde [vide cc] quota feria [que BC] significatur per primam f in Martio tantus numerus est concurrens Acc 1 potest] possunt BC concurrens] concurrens per hos versus Acc; concurrentes BC 3 eque duos] e duos Ba 4 Quotiens] Quotiens enim AccU est] fuerit U senarius] litera senarius cc; semper senarius BC .quotiens .b. quinaris] *om* ABC 5 Mutatur autem concurrens] cum concurrens autem mutatur C a] in CU in ipso] in Martio AU; in Martium BC 6 variatur] variantur B unus] unus concurrens C servit] serviet Acc uni] *om* B 7 concurrens] *om* U a con quod est simul] *om* BC simul] simul et currere A; simul et currens U (*second*) simul] *om* BC 8 quilibet] *om* cc incipiat] incipiat etc U 9 est] *om* C qui] qui 7 U 10 prius] supra B 10-11 non excedens septenarium ut prius] *om* A 11 septenarium] septenarium Capitulum 6 de regulari solari B illud] illud vero Acc; istud U Illud membrum] *om* B adiunctus] adiunctus concurrenti C; adiunctus est U ostendit] hoc membrum ostendit B 12 autem] enim U nunc] *om* U 13 a] *om* U incepit] incipit mensis AUBC 14 unde ibi] ubi B notari]annotari B; vocari Ba 15 versus] *om* U 16 renovat] serviat AC 23 17 Constat] cunstat C autem] ergo AB illa] ergo BC igitur] litera igitur cc; *om* BC 18 Supposito ... dominicalis] *om* Ba 19 incipiunt] incipiant B ita] ita per consequens AccU patent] patebunt U 19-20 ac sic] sicut BC .20 haberet] diceret A; habuisset B igitur] ergo ccB sicut] sincti C 21 formentur] formantur AU Martis] *om* A 22 coniunctis] iunctis ccBC relinquatur] relinquetur Ba; relinquatur C que] que unitas BC 23 et] etiam C omnibus] omnibus etiam notandum B; hoc etiam prenotato U

1 est] fuerit AUBC; sit cc est] erit B regularis] pro regulari A hos] hos autem AUB
 2 possunt] potest U sciri] sciri per hos versus C regulares omnium mensium] sine
 labore omnis regularis A; *om* regulares C 3 sex] *om* A 4 oct] oc AUBC 6
 expugnans] expugnant Acc alios] alias U casus] casu AUBC facit] fert AU; sunt
 cc 7 cessa] celsa AccUC 8] Martio] Martio, secunda Aprili U ita] sic B deinceps]
 de aliis C 9 igitur fuerit] fuerit cc; ergo est BC 10 servit] deservit AccU 11 habitis]
 habito AU igitur] ergo BC concurrenti] concurrente AUBC insimul] simul AU;
om C illorum] eorum B 12 coniunctione] iunctione C excrescat] excrescit B 13-
 14 Si maior ... mensis incepit] *om* C 13 reice] eice B est] erit AU; fuerit cc
 numerus] mensis Ba 14 tanta] tali B; tota U incepit] incipit AUBC sumpsisti]
 sumpsistis cc; assumpsisti U 15 demonstrandum] ostendendum AccU 15-16 et
 dicitur...regularis lunaris] *om* U 17 etiam] ergo B quod] *om* C concurrentem]
 concurrentes C qua] a qua BC 18 per hos versus] *om* BCU invenitur] ex facili sic
 scitur BC; sciri potest U 19 gerens] gerit B 20 fert] fuerit cc 21 hiis] *om* C 22
 habito] habito igitur AU; habito ergo cc iterum] item B habita] habito Acc 23
 dictiones versuum] predictos versus B incepit] incipit AB; incipiat C

1 litteris] feriis C feriis] sillabis Ba; literis C statim] et statim BaA 2 per predictos
 etiam] per predictos cc; item per predictos BCU versus] versiculos U scitur] potest
 scire BC habet] habeat AUBC 3 quod una] quod una prima cc; ut prima litera B; ut
 si prima litera C 5 reliqua] et reliqua AccU computando] in numerando B;
 numerando C fuerit] est BC distantia] distantia in alphabeto ccU 6 ille] *om* C
 servit] deservit AU dictio] illa dictio A hoc] hoc etiam Acc notato] prenotato U 8
 habent autem versus initium a ianuario] *om* BC autem] *om* A versus] versus illi
 ABC; versus predicti U 9 Sequitur de bissexto. 10 Unde] *om* BC; *preceded by* .8. U
 10 quid] quod Acc; quit U; et quare sic dicatur] *om* CU sic] Capitulum 7 de bissexto
 B et ubi interponitur] *om* B; interponitur. et quare sic dicatur C interponatur et quare
 sic dicatur U 11 inveniri] incipere U 12 si ... non] nisi BC 13 Notandum igitur]
 Nota ergo B; Notandum ergo C Cesar] *om* C sapientes] sapientes astronomi AccU
 15 appellant] appellant compotiste CU spatium] spatium temporis AccU quantum]
 quantus A; quod C assumit] consumit BccU 16 igitur] ergo AUC 17 triens autem]
 item triens BC 2 alicuius integri] alicuius integri divisi per tres partes AccU 18
 integri] toties scilicet integri C ergo] igitur AU et] et ita C 19 hoc est] id est BC
 decies] duodecies A 20 sic] ita BC dies] *om* U Bisse vero] item bisse BC tertie]
 tertie partes A 21 igitur] ergo B; *om* C .xx.] x C hoc est] id est BC 22
 medietatem] medietatem unius AU hore] *om* C id est] et ita C hore] *om* C 23
 unde] secundum hoc ergo C; per hoc ergo B; unde secundum hoc genus U cuilibet]
 in quilibet U

1 alicubi] alieni Acc 2 quia] quod cc; si] *om* U incipiat] incipit BC; inciperet
 AccU secundus] secundus inciperet U 3 similiter] et similiter BC variantur]
 variarentur AC; variantur B et ita] ita quod U 4 in tantum] *om* BC 5 vernale]
 hyemale cc vel ulterius ita] et C sicut] sicut modo A sunt] *om* C 6 Ideo] quare
 BaAUB; *om* U ut] quod AccU et sex] vi C excrescentes] crescentes cc 8 hoc est]
 id est BC; et ita cc U dies] dies naturalis U Et] *om* BC interponatur] interponitur
 A; et interponitur B; ponitur U in] *om* B 9 mensium] mensis U 10 iste] ille U
 momenti] momentis Ba iste] iste autem Acc; et iste BC illis] istis C quater] quater
 qualis B 11 bisextus] bissextus. unde versus. Bissextus quartus facit anno sex quater
 horis B; (*verse in margin* C) quia] vel sic U 12 pronuntiant] pronuntiat Ba Martis]
 Martii U 13 sciendum] nota BC computentur] computantur BCU 14 sequenti] in
 sequenti C festum] festum beati Acc; sancti U 16 Posteriori] posteriore AccUB
 Mathie] Mathie. Si bisextus erit *F* fuit utrique diebus C 17 interscaletur]
 intersecabitur A; interponitur BC senarius] senarius enim U 18 igitur] ergo BC
 perfectio] perfectissimus C inponitur] interponitur UBC; imponitur Acc
 denominato] denotato U 19 a numero] anno cc autem] *om* U est] dicitur cc; dicatur
 C 19-21 perfectus ... numero perfecto] *om* A 19 multiplycate] aliquote simul sumpte
 perficiunt ipsum perfectum ut 6 et 28 vel cuius partes multiplicatione U 20 Et] *om*
 BCU hac] hac eadem C quod] quia ccC 21 sistunt] consistunt B; sistant C 21-22
 id est in 28] scilicet in 28 Acc; scilicet 28 U 22 autem] *om* B bisextilis] bissextus B
 scitur] scietur Acc Domini] incarnationis Domini B divide] divide illos annos C
 23 in .4.] per quatuor A; in iiij partes equales C; per 4 partes equales B sit] fuerit
 AccU; est BC non] tunc non U non est annus bisextilis; set illud residuum] *om* Ba
 sive] *om* BC sit] est C

1 vel] sive Acc manifestat] manifestant Ba; manifestum C Si] Set si U nichil]
 nichil est quod A sit] est BC; fuerit U 2 presens] primus U 5 Notandum etiam] *om*
 etiam A; Item nota BC 364] 264 Ba 6 diem natalis] natale BC celebrari] *om* Ba;
 dominica celebrari B; domini celebratum cc celebratur] celebretur C; colebatur U 7
 Domini] dominica AU sic] *om* Acc enim] *om* Acc semper] *om* U quartus]
 quartus annus AccC 8 contingunt] contingeret C; semper contingeret U 9 unus]
 cuius C Ex 90] Ex 9 C; ex 90 dierum A ex 91 U igitur et uno die] *om* U igitur ... et
 unus 31] *om* A; duo 30 dierum et unus 31] *om* cc menses] *om* A 10 ablata] ablata id
 est non observatur B; ablata et non observatur C contingeret] continget cc
 inconueniens simile autem inconueniens est B; inconueniens simile etiam
 inconueniens C forte] *om* C 11 in tam longis diebus] *om* A modo] *om* B 12
 sancti] beati Acc; *om* C si] quia Acc .364.] .264. Ba 14 quid] quid sit Acc
 sequitur] sequitur Capitulum 8 de ciclo solari B 16 igitur] enim B 16-20 revolutio
 temporis ... proveniunt bisexti] *om* A (*lacuna*) 16 qua] quo BC 17 fiunt] sunt cc
 repletur] tunc repletur B; tunc completur C; completur ccU .18 septimanas]
 septenarias Ba 16 annum ebdomaticum] anni ebdomadas C concurrentium nec de
 sex horis excrescentibus] et residuum de excrescentibus vi horis B 20 bisexti] bisexti
 in iiiito anno BC illud] illuc A 21 complentur] complentur omnes AU iste] ille C
 22 tabulam concurrentium] concurrentium et ciclum solarem A; concurrentium cc 23
 Cum autem] Si ergo C autem] Si ergo C contingit] contingat Acc sumere] sume C

1 volueris] veletis C 1-2 non est mirum ... habeat principia] *om* BC 2 itaque] igitur
 Acc; *om* BCU solaris] *om* U et] *om* C 3 anno] anno cicli C; anno cicli
 concurrentium B principium] principium anni C; primum B 5 annus] annus ille
 xii^{cim} C; xiius B unde] ex hiis C; et ex hoc B 5-6 Gerlandum ... Dionisium] *om* A
 6 Dionisium] usum ecclesium et Dionisium U incepit] incipit AUB 7 habetur]
 habens C 8 versus] versus qui sic notificantur A 9 cibus] cibet BaA 10 Et] eta C
 12 Ad gravidam] A gravida Ba cuncta] cunta BC 14 ita] sic BC 15 horum]
 istorum BC dominicalis] dominicalis semper per duos menses precedentes C 16
 alicuius] *om* U Que enim littera est ... est dominicalis] *om* A 17 fuerit] sit BC 18
 .x.] .xii. C menses] *om* C signatur] significatur C 20 Secunda] Et secunda A est]
om Acc per versus] per dictiones ut B; *om* U scitur] dictiones scitur C; sciatur U
 22 posuere] posuere id est ordinavere BC 23 ita] sic C

1 positarum] posito Acc; ponitur C versu] versu. Unde alii versus: sex habet .a., .b.
 quinque, .c. iiii., .d. tres habet, que duos .e.; .f. unum, .g. quoque vii. BC 2 Tertia] Et
 tertia A Sumantur] Sumatur C igitur] *om* AUB; ergo C 3 ita] *om* BC ut] quod
 AccU 3-4 supra summitatem] in summitate AUBC 4 indicis] dicis cc; in digitis U
 unius] illius Ba proxima] proxima illi summitati BC alia] media AccU 6 igitur] *om*
 A; ergo BC 7 sunt] qui vero sunt AccU; *om* B proximis] proximus C 8 deinceps]
 de aliis BC retrogradum] *om* Acc 9 enim] *om* BC ab aliqua] aliqua UBC; alia A
 10 et] *om* C littera] litera autem BC; litera vero ccU fuit] sit C; est U dominicalis]
om Ba menses] menses initio sumpto a Marcio U 13 etiam] autem BC an sit] auc
 fit C 14 extant] errant AccUC dantes] dentes AC 15 ciclo] anno Ba; uno ciclo A
 igitur] ergo BC 16 serviet] deserviet B; servit C fallit] fallit decie B 17 fallitur] et
 fallitur AU Dictio vero] Item dictio BC dictionem] dictionem scilicet A incipiens]
 incipiens est C; incipit B serviet] et serviet BC 18 sic] ita C 19 autem] *om* U quo]
 quoto AccBU 20 Dionisium] Dionisium et usum ecclesium U 21 Nam solis
 decimus christo nato fuit annus] Nam annus erat .x.^{us} solis luneque secundus quando
 Christus de sacra virgine natus U solis] ciclus BaBC Christo nato] Christus natus A
 annus] anno A 22 illam] et illam AU; postea illam C; posterea illam B totam] *om* U
 igitur] ergo B 23 aliquid] aliquid est residuum C illud residuum] illuc A; illud ccU
 est residuum] B ostendit] ostendet A

1 sumus] sumus sine dubio B 3 autem] enim C et] *om* AU 4 ver dicitur] dicitur
 autem ver BC vires] res BCU virent] virent et florent BC Estas] Estas dicitur BC;
 Estas autem dicitur U estu] estas cc Autumpnus] Autumpnus dicitur BC 4-5 ab
 autumnos *om* Ba 5 idem sonat] est idem BC vel] et U 6 hoc] hoc est U illud]
 illuc A Hyemps] hiems autem A emi] yemi U 7 annum] totum annum cc
 hiemem] hiemem scilicet BC 8 Harum] harum autem BC 10-12 Festum clementis ...
 symphorianus] ver Petro detur, estas exinde sequitur. Hanc dabit Urbanus,
 autumpnum Simphorianus. Festum [finit U] Clementis hiemis capud est orientis
 AccU 13 dies] diem C hiemps] hiemps vero AccU 2 illum] illum unum C; illam U
 14 partes] septimanas U autem] *om* AccU .92.] 9 et duos C 15 bisextus] annus
 bisextilis BC autem] *om* B dies] diem Ba; *om* BCU In versibus quidem predictis]
 tribus autem predictis versibus BC; *om* quidem Acc assignentur] assignetur AccC
 16 iam in] *om* BC hoc ideo contingit] hoc ideo diximus. hoc ideo contingit A *om*
 ideo C 17 notata] nota BC; Ba; notabilia U volunt notificari] volumus notificare. et
 non sunt festa alia notabilia hiis et [*om* et C] propinquiora. ideo sunt principia et
 terminationes ab hiis BC non] non igitur AccU 18 constituitur vis in hoc] constituit
 vim in hoc B; constituentes in hoc vim dies] *om* BC computentur] computerentur C
 21 anni temporibus] partes Acc; temporibus BC 22 quia] quia tunc AccU 23
 iterum] etiam C a cenith capitis nostri] *om* 22-23 C accessu ... capitis nostri]
 accessu vel etiam maxime recessu ad cenith capitis nostri scilicet centrum emisperii B
 vero] autem BC

1 dies artificialis] dies estivalis cc; dies nocti B; nox C nocti] artificialis B; diei
 artificiali C quibus] quibus autem BC 4 Set] Terque cc 5 quoniam] quia A 6 vel]
 sive AU habitabilem] habitabilem zonam BC; habitabile U 7 quoniam] quia A 8
 nostra] nostro AU; habitabili] habitabili zona B Quando autem] Item quando BC
 recedens] cedit C recedit U venit] et venit B 9 tunc] et tunc AU; om BC 10 dicitur]
 hic dicitur B ideo dicitur C equinoctium] om C in Martio] in Martio scilicet AU; hoc
 est BC principium] principium et introitum U Arietis] solis in Arietem AU 10-11
 Quando vero] Item quando C versus] ad BC venit] et venit BC et 12
 Capricornum] om C tunc] et tunc AU 13 dicitur] ideo dicitur BCU Septembri]
 Septembre scilicet A; Septembri scilicet BCU et introitum] introitus B; et introitus C
 13 certis autem] cunctis quidem A dubium est] dubium est apud modernos A tamen]
 autem BC 16 mensium] mensis AU unde versus ... signa kalendis] om BC 17
 intrare] esse AUBC vel] et BC 18-19 Unde patet... solstitium] om U 18 Unde] ex
 iam dictis ergo BC 19 intret] iam intrat B debeat esse solstitium erit] debet A 20
 natalis] nativitatis B Domini] Domini scilicet AUBC 21 intrat] intret AC die
 natalis] die nativitatis AB; festo U beati] om BC 22 viii^{as}] scilicet 8 AU Similiter
 patet de equinoctiis] Similiter est equinoctium ubi annuntiato notatur dominica scilicet
 viii kalendas aprilis A patet] om BCU intret] intrat in C; intrat U 23 Domini]
 Dominica ABU

1 15 cum iterum] Item cum BC intret] intrat CU 2 in die ... scilicet] *om* BaBC 3
nativitate] die natale U solstitium] et solstitium AU; *om* BC 4 nativitate] die U
.beati] sancti BU videtur probari] sic patet A; videtur U 4-5 videtur probari ... minui]
om C 16 hac] *om* AU Mathei de beati Iohanne] beati Mathei de beati Iohanne A; *om*
B 5 Iohanne] Iohanne qui dicit U minui] minui. hec sunt verba beati Iohannis
baptiste B quia dicit] dicit enim ibi AU; ubi dicit BC 6 glosa] glosa super hoc
quod C; glosa quod] AUB quando] cum BC erat] est B; esset C incipiebant]
incipiebat A quando] cum U 7 Iohannes] Iohannes natus erat incipiebant U Set] et
Ba; *om* AU tunc] *om* Ba verum] tempus verum C; temporis verum B 8
recesserunt] retrocesserunt U 9 temporis] tempore C 10 per] *om* U .29.] per .30. B
..signo] anno B; anno superflue C 11 computamus] computatur C; computantur B
sint] sunt AU bisse ... erunt] *om* BC 12 id est] et id est U hore] unius hore BC
in] ita Ba 14 invenitur] innumeratur B; numeratur C id est] *om* BC elapsi] lapsi U
15 decies viginti] xx B; 2 A; viginti U 16 recessit] retrocessit AUBC 17 estivale]
solstitium estivale BC beati] *om* C; sancti U 19 decimo] decimo scilicet die B 20
Nuntia] et nuntia U sic] sicut B diemque] dies que BC 22 Notandum etiam] *om*
etiam A; Item nota BC. 23 in] *om* BA quia] ut sicut AU virent] virent et florent
AU ut] ita AC; sic U

5 Ioan. 3, 30.

6-7 *Biblia sacra* (Lugd.1521) fol. 196v

2 Ieiunamus etiam] Item ieiunamus BC ferventes] ferventes amore domini C 3 colera scilicet] scilicet colera Ba 4 Ieiunamus] Ieiunamus iterum A; Item ieiunamus BC proveniat] veniant B 5 ut om U ille humor] humor ille ABC 6 Ieiunamus itaque] Item ieiunamus BC; itaque] om U 6-7 defluunt folia et moriuntur herbe] tunc folia moriuntur et herbe B; folia fluunt tunc et moriuntur herbe C; defluunt folia ab arboribus et moriuntur herbe AU 7 defluant] et a nobis defluant A; defluunt B 18 vel ut] sive C; om ut U 8 frigidum et humidum] frigida et humida C; frigidus et humidum B 9 ieunia] om U debent] debeant C scitur hiis versibus] scitur per hos versus A; per hos versus sciri potest B; patet per hos versus C; dicunt scitur hiis versibus U 10 cineres] cineresque 11 feria] feria. angaria .id est. abstinencia B 12 Quoniam] Item quoniam BCU vigilie] om A ieiunium] ieiunari BC 3 quorundam] quorundam autem BC habent] habent ieiunari B habent ieiunium C et] om C scitur] patet B per hos versus] hiis versibus CU 16 habentes] habentes in quibus ieiunatur AU; quibus ieiunamus C tantum] tamen B 16-17 in quibus ieiunamus] ieiuniis institutos AU; om in C 17 quoniam] quoniam cum B diem] om C Petrus] p C scilicet] sicut U 18 alii] alii autem A; et alii B diem] om AUBC Matheus unum] om A; et Matheus unum U 19 velis] vis C ieiunamus] ieiunatur A; ieiunemus BC 20 Belet] Belet CU plenius] plene C invenitur] invenies B; invenietur C; AU add: sed quia tamen [om tamen U] quibusdam [U add causam] audire placet sciendum quod in vigilie aliorum apostolorum non instituit ecclesia ieiunare propter impedimenta. Mathias [U add autem] ieiunium non habet institutum quia festum eius semper [om semper U] fere contingit in quadragesima. vel quia non fuit de primis apostolis. set post mortem [U add inde] sortitus est [U adds apostolatum] vigilia philippi et iacobi inter pascha et pentecoste. scilicet kalendas maii non ieiunamus [56vU] quia tunc est tempus iocunditas et [om iocunditatis et U] letitie. Barnabas non habet ieiunium quia non sunt [fuit U] de numero 12. Iacobus occisus fuit [U adds in hispania] ab Herode in festa pascha. quare nec festum eius nec ieiunium potuit celebrari. [U adds set] festum illius .viii. kalendas [112rbA] augusti est [celebratur U]. quia tunc [U adds tali die] dedicata est [fuit U] ei ecclesia in hispania. U adds Item] vigilie [om beati U] bartholomei non ieiunatur quia uno die excoriatus fuit [excoriatur U]. et die sequenti obiit. et sic esset in tertia die si haberet ieiunium ante obitum quod esset contra institutionem. [U adds In] vigilie beati thome non instituitur [U adds ieiunium] quia festum eius [57rU] semper est in adventu domini ubi continuum [constitutum A] instituitur ieiunium. festum beati iohannis baptiste est tertia die post natale domini. Unde propter excellentiam festi non ieiunatur. 22 Quoniam autem] Item quoniam BC et feriales] om AU; et ferias C 23 anno] ciclo U certum diem] certitudinem A Domini om A hii] isti AUB

19-20 Iohannis Belet *De ecclesiasticis officiis* (C.C. Cont. Med. XLI A), 26-7

2-4 Andree festo ...celebratur ibidem] tres precedentes Andrean [Andreas C] tresque sequentes addeque [Andreeque C] dies adventus sit trilunies in hiis .vii. diebus iam nominatis et continue sumptis unus illorum [B *adds* de necessitate] sit dies [om dies B] dominicus in eo celebrabitur [celebratur B] Domini adventus BC 6 Capitulum 10 de anno lunari B Sequitur] 13 Sequitur U 7 autem quadruplex] igitur quadruplex annus lunaris AU primus] primus annus BC; primum U enim] om BC spatium] spatium temporis AU 8 firmamenti] firmamenti proprio motu A; zodiaci C Secundus] Secundus annus B .xii.] .xiii. A; 13 U annus communis] embolis A; embolismalis U 9-11 Quartus est ... per ordinem] om AU communiter agetur] agemus B; autem agimus C...12 luna] quia luna U 13 Ex eo] ex eo igitur AU 14 et .xii. sunt] cum .xii. sint BC id est] om AU 15 dies] om B Ex eo iterum] Item ex eo BC; ex eo U .xii. vero] Duodecim autem A; duodecim U; Item .xii. BC 16 dum] quod dum BC ab uno puncto C 16-17 exiens et] om AU 18 Secundus] Item secundus U illud] illuc A spatium] spatium temporis U quo] in quo A; quod C 19.idem] eundem B ibi] om U invenit] inveniat BCU 19-20 fere sol] iam sol fere B; sol fere iterum U 20 attingit] ipsa attinget AU; luna attingit B; ipsa luna contingit C spatio] per spatium BC 20-21 Unde iste] iste autem A; unde ille B et] om U .propter duos dies et 4 horas] om A .4.] .8. B 22 iste] ille BC 23 quelibet] om C est] constat naturaliter ex BC dierum] diebus BC horarum] horis BC cum ita] ita tamen ABU; om cum C; compotista] vulgi B; vulgus C

1 transfert] transfertur Ba 2 unam] super unam A reliquam] et reliquum AUBC .3
 per] propter B per] et propter B; et per C per] et BC Cum igitur] Cum ergo A;
 Item cum C sit] debeat esse BC 4 alia] et alia A .29.] .29. dierum AU compotiste]
 vulgi BC 5 impari] impari [imparis C] in dispositione ordinationis kalendarii et
 econtra scilicet impari lunatio attribuitur mensi pari BC; impari et lunatio imparium
 dierum attribuitur mensi pari U 6 impare mense] in impare mense A; in impari mensi
 BC 6-8 Impar ... sociatur] Impar luna pare, par fiet impare mense. Mensi luna datur
 cui fine suo sociatur. Lunatio iterum dicitur esse illius mensis in quo terminatur. Unde
 versus precedens Ba 9 illarum] earum BCU scilicet] id est BC hoc] vel hoc BC
 Isti] Isti duo BC; versus] versi U 11 et] et per A; per cc qualiter] et qualiter U
 impedit] impediatur BCU; impediatur A 12 regula] regulare Ba; regula enim AU; quia
 regula C quod] *om* B in] cum sit in BC 13 hoc est propter] propter hoc AB 14
 dierum] dierum scilicet AUBC .15 Notandum etiam] Et nota B; Et notandum C
 incipit] incipit esse BC; incipiat U bisexti] bisextilem U et] *om* U si] *om* BC 17
 habeat] habet AU; habebit BC dies] dierum AccB sit] est BC 18 iam] *om* U
 datam] dictam BC quod] quod semper BC 19 deberet] debet U 20 trecesima] .xxx.
 dierum C; .30. dierum U ita quod] et ita A signans] designans AccU primationem
 lunationis] primam lunationem BC .21 quendam] quendam qualis B 22 quod] *om* U
 22-23 a tertio nonarum ... contra nonas] ab octavo ydus februarii usque ad locum
 bisexti ita quod 16 scribatur extra contra septimum idus, quindecim autem contra 6
 idus Ba; a tertio nonarum Februarii usque ad locum bisexti] *om* A

p.29,23-1 hoc autem] hoc etiam AccU; et hoc etiam BC 1 quibusdam] in quibusdam kalendariis U eisdem locis] eis locis usque ad locum bisexti] *om* Ba 4 quidem] AUBC diebus] annis A id est] et B 5 inveniebantur] invente sunt BC 6 invenerunt] inveniunt Ba Romam] Romanis Acc igitur] ergo BC 6-7 numerum illum propter eius facilitatem] propter illius numeri facilitatem BC 7 kalendariis suis] in kalendariis A; in suis kalendariis B scripserunt] inscripserunt U unde] unde et BC 8 igitur] ergo BC 9 in] *om* Ba; notatur in secundo C sic de aliis] sic deinceps AccU 10 Ex] et U quod] *om* U cum] *om* A contineat] contineat tantum BC; continet BaAU predictis] iam dictis BC 11 maximus] *om* C numerus erit 19] .xix.^{lis} B 12 ponitur] ponatur C igitur] ergo BC 13 istius] huius A prima] primus cc; primo U luna] lunatio BC 14 isto] isto quidem AccU alii numeri] *om* A; numeri ccUBC numeri] *om* AUBC 15 ita] *om* C excrescat] crescat A numerus] *om* B quam] *om* Ba reiectes] relictis BCU 16 Vel] unde Ba; *om* C formetur] formetur numerus sequens apereunti Acc; formatur numerus sequens U propositus] positus A; precedens U fuerit] sit BC maior numerus] maior AUBC 17 subtrahantur] subtrahatur C; abiciantur AU undecim] *om* U loco sequenti] *om* Ba; sequenti loco B; in sequenti loco C; pro numero sequenti ccU autem] *om* AU; autem sit B 18 quidem] autem A; *om* BCU fere] Item fere B 19 sequetur] sequitur ABa vel] *om* A; et BC mediate] mediatem A autem] tamen AUBC 20 instantiam] instantiam in kalendariis C in] *om* B in kalendario ita quod] *om* C quod] ut B 21 quarto] et .iiii.^o BC .et cetera] et sic de aliis habito initio scilicet a februario et post ab aprili et sic semper transiliendo unum mensem usque ad finem kalendarii B 22 patet] potest patere A; patet patet U per hos versus] hiis versibus ABC

1-2 Aureus hac arte ... dicitur anni] U *reverses first two lines.* 2 Prima dies]
 principium B; principium anni C que] qua B 4-6 Per precedentem ... reliquum
 retinendo] scito per hanc artem numerum formare sequentem BC 5 superabis]
 superabit BaU 6 pariter] pariterque U 7 tibi] sibi C venerit] provenit B 8
 undenas] undenis AU; undena cc; undenos C 9-10 illi octo] octo huic numero BC
 10 coniungas] iungas ccBC 12 continuatur] continuetur C 15 Aprilis] Aprili C 16
 Iunius] iulius U lacerat] laceras cc ubi] ibi Ba aptat] aptas U 18 lateratim]
 lateratum U kalendis] kalendas Ba 20 tredecimum] om C [*lacuna*]; tresdecim C
 una] om A simulque] simul quod Ba secundum] secundo AC; secundum id est una
 linea debet continere duos numeros scilicet .xiii. et .ii. in principio decembris B 22
 undenis] undenus Ba propinquat] propincat C continuatur] continuatur id est
 quamvis maior numerus sequitur minorem ut xix sequi[tur] .xi. debet ei immediate
 continuari et minor numerus sequi debet [maiolem] C.

2 Notandum quod] Item nota BC 3 uterque] utrique A est] *om* A quod] quia U 4
 incepit] incipit BCU tribus] duobus Ba quoniam] *om* U lunaris] solaris cc 5
 quarto] tertio Ba Est autem ciclus decennovenalis] *om* C 6 cui] tibi Ba in] *om* U 7
 nostris] *om* BC Ciclus] circulus C est] est ille BC; *om* U 8 assignando]
 primationes assignando et U veras] *om* C 9 notari] poni A; annotari BC 10 posita]
om C unitate] in unitate A kalendis] kalendam A... modum] modi C 11 .8.] .vii. C
 Ianuario] principio ianuarii BC autem] *om* Acc 12 velis] vis B decennovenalis]
 lunaris Ba et] *om* C 13 .19.] x et 9 annos A est] sit A; fuerit U tunc] *om* BC
 illius] ipsius Acc; *om* U 14 aliquid] aliquid est residuum BC illud] illuc A
 ostendet] ostendit B anno] anno cicli AB Si] si vero AccU; si autem BC 15 duo]
 unum cc; duas unitates B; duos C. .17.] .18. Acc divide] deinde Acc prius] Ba
adds De anno embolismi; BC *add* Item nota quod punctus prout sumatur in tempore
 est quinta pars hore [unde et C] quinque puncta faciunt unam horam, quando autem
 luna est prima de nocte lucet per .iiii^{or}. puncta, quando vero secunda per .viii. puncta,
 id est unam horam et tria puncta [.ix. puncta et .i. horam et .iii. puncta C] et sic
 semper crescendo singulis diebus .iiii. puncta superaddantur, in decrescendo vero
 singulis diebus .iii. puncta .iii. puncta diminuunt. Luna vero .xv. lucet per .xii. horas.
 Set .xxx. utpote soli supposita nihil lucet. Si vero vis scire quot horis luna luceat
 singulis noctibus sumatur etas lune et si fuerit minor quam .xv. totalis numerus
 multiplicetur per .iiii., postea productum dividatur per .v. et numerus exiens fuit
 quotiens designat quot horis luna luceat. Si quid fuerit residuum [C *adds* de numero
 dividendo quantum fuerit residuum] tot notabit partes unius hore, scilicet puncta. Si
 vero luna fuerit maior quam .xv. [.x. C] dies, consideretur differentia illius numeri
 sive distantia ad .xxx. et illa differentia multiplicetur per .iiii^{or}. et dividatur productum
 per .v. ut prius et habebis horas et puncta horarum si quid fuerit residuum de numero
 dividendo. 17 lunari] lunari [cap] 12 U dicitur] dicitur annus iste AccU; dicitur
 annus B 9 lunationes sicut] menses lunares quemadmodum Acc; lunationes
 quemadmodum U 19 patebit] *om* U collatione] collectione AUBC 20 Iste autem
 annus continet in se] habet autem annus iste A Iste] ille C ex hoc] in hoc Ba 21
 dierum] Ba *adds* in anno communi .354.] .ccc. C Patet etiam] patet autem B quod
 patet U 22 spatio .xi. dierum] .xi. diebus BC duo] *om* C 24 incipiant] incipiunt C
 terminabitur] terminatur A annus] *om* BC solaris] solaris .xi. diebus C sicut] quod
 A

1 anno cicli] cicli decennovenalis AccU Quare] quia U prima] *om* cc 2 illud] illuc
 A 3 principio] kalendis A etiam] *om* C 5 Et] unde AccU hoc rectificandum] hanc
 variationem BC numeros] menses Ba 6 lunares] *om* C etiam] *om* ABC 7 isto] isto
 autem C regule de etate lune] *om* A; regule de etate lune respectu U regula] *om* U 8
 igitur] enim BC hodie] *om* B 8-9 in anno futuro .. vel 4^o etc] cuius etatis erit hoc
 eodem die Acc 10 habet] habet luna C illi iterum] illi iterum etati AU; item illi etati
 C; item illi etati id est illi toto numero B 11 anno] in anno BC eodem] in eodem BC
 ita] sic B in] *om* U excrescat] excrescant BC 12 .30.] *om* Ba maior numerus]
 maior numerus quam Bc reiciantur] reiciatur A velis] vis BC 13 fuerit] sit C in]
 hoc AccU eodem die] in hoc die B; quod in hoc die C preterito] preterito proximo
 U tertio] in tertio C quarto] in quarto et sic ascendendo BC illi] *om* AccU 14
 habebis] habes C in anno] hoc die in anno B 14-15 etati iterum] vel etati B 15 lune
 tertii anni] eius in anno tercio AccU ita] sic AUBC 16 etiam] autem Acc
 excreverit] excrescat ABcc 17 indicabit] indicat BC; indicabit tibi Ba 18 ponas]
 pone A 19 preterita] preterito AccBC quinque] B *adds* item etas lune anni preteriti
 per subtractionem .ix. sic haberi. Ab etate quammodo lune subtrahe .xi. si potes et
 residuum fuit etas lune tali die in anno preterito. Si vero lune etas quammodo habet
 fuerit minor quam .xi. illi etati adde .xxx. et a toto subtrahe .xi. et residuum fuit etas
 lune in anno preterito. C *adds similar passage after* novem; AccU *add* Set istud per
 embolismum quandoque in uno die [ccU *om* in uno die] fallitur sicut patet intuenti
 [incontinenti cc] 21 Ba *adds* De anno embolismali *before* Sequitur constat]
 contingit A ex] et B; et ex U 22 autem] *om* B lunarem communem .30. diebus,
 23 annum vero] *om* BC .19.] in 19 AccU

1 annus] annus iste A 2 et] *om* C et unde oriatur] *om* U interponatur] interponitur
 A; intercipitur U embolismus] *om* Ba 3-4 idem quod] *om* AccU 4 excrementum]
 incrementum C autem] enim AccU ex .xi. diebus] ex cremento .xi. dierum AccU 6
 notandum] nota C ogdecaden] ogdeaden AccU; ogdoaden B; ocdecaden C
 endecaden] in endecaden U Ocdecas est] ocdeas est A; ocdeade cc; et dicitur ogdoas
 B; et dicitur ocdecados C 7 est spatium] *om* Ba 7-8 Ocdecas est ... In endecade .4.]
U reverses order of sentences 8 totali] in toto AccU; in totali B in endecade ... 7
 embolismi] *om* C erunt] sunt AccU 9 secundo] et secundo B; et in secundo C
 tertio] in tertio C 10-11 lunatio ... embolismalis] embolismus Ba 10 annus] *om* A
 11 quinto] et quinto BU 12 fit] *om* A lunatio] lunatio .xxx. dierum B 13 et] et etiam
 C dies] *om* C qui coniuncti] quibus coniunctis Acc; qui iuncti C 14 anno] *om*
 AUBC 15 quibus] qui cc .6.] *om* Ba supradicti] supradictis cc; supra collecti C
 28] .xxviii. dies BC completionem] completitudinem C 16 sequenti] subsequenti
 Acc 17 erit] est AccU ogdeade] egdeate cc In nono autem] item in nono BC 18
 Ex] et ex BC; set ex U 19 est] erit BC resignatis] resignatis autem AUBC; vel
 resignatis cc In] Item in BC 20 duodecimo] xii^o vero A .xiii.^o] .xiii.^o anno C Ex]
 set ex BC 21 est] *om* A; sit cc coniuncti] iuncti ccBC cum uno] uni Acc; uno C
 22 erunt] fuerunt BC Quintodecimo] In .15. anno Acc; In .15. U; Item in .xv^o. BC
 .33.] .30. A Set] *om* 23 AccU diebus] *om* BCU et] *om* U

1 coniuncti] iuncti BC cum] *om* U precedentibus] precedentibus diebus BC fiunt] sunt Acc In] Item in B .xix^o.] .xix. an[no] cc 2 iungantur] coniungantur Acc dies] *om* AccU fiunt] erunt AccU Set] *om* C 3 in ultimo anno cicli] *om* A 3 ultimi] .7. AU 3-4 completionem ultimi embolismi] complendum ultimum embolismum BC cum] *om* Acc in] *om* Ba 5 .29.] tantum .xxix. BC subtractus] subtractus a lunatione iulii BC 7-8 Ad sciendum ... iste versus] AccU *substitute* Quotus autem annus cicli decennovenalis sit embolismus patet [scitur U] per hunc versum. Christe factus homo levat omnia reddita trono. Unde [vide U] quota sit litera prima [A om prima] alicuius dictionis in alphabeto est tantus annus embolismalis. Idem etiam [cc om etiam] sine labore tenetur [habetur cc; retinetur U] per hos versus. Tertius et sextus octavus et undecimalis. Et quartus decimus decaseptimus et decanonus. ad sciendum autem quoto mense et quoto die mensis interponatur embolismus sciatur iste versus. 7 quoto] quo B interponitur] interponatur BC 7-8 in kalendario] kalendariis BC 9 cifis] ciphos A; ciphis B 11-17 Vide ... est embolismalis] Vide igitur quota [A om quota] sit prima litera alicuius dictionis [A om prima alicuius dictionis] in alphabeto. a [in U] tanto mense interponatur [ponatur cc; interponitur U] embolismus cuius dictionem sumpsisti. Vide etiam quota sit litera prima [A add alicuius dictionis] secunde sillabe eiusdem dictionis et tanto die eiusdem mensis erit sedes [dies U] embolismi AU 11 igitur] ergo BC alicuius] *om* B abecedario] alfabeto C tanto] toto BC 12 embolismus] embolismus ille BC Vide etiam] Item vide BC prima] prime dictionis BC; *om* C 14 scitur] patet A 16 abecedario] alfabeto C tantus] totus BC est] erit BC 18 Notandum] Nota BC autem] igitur A; etiam U; *om* BC kalendario] kalendariis B 14 scilicet] quandoque AU; quoniam cc 19 vicissitudinis] BC add quando lunationes simul sunt .xxx. dierum. error] *om* A terminationis] BC *add* quando lunationes terminantur extra suos menses et error] *om* Ba; Item error B variationis] BC *add* scilicet quando mensis positus in numero pari habet parem lunationem [C *adds* positus in pari inparem]; Acc *add* et error absolute 19-23 Error vicissitudinis ... habet parem] *om* C 20 terminationis] terminationis est U 21 error] et error AU quando] est quando AU 22 positus] qui ponitur U in impari loco inparem] in numero impari parem Ba; pari termino parem cc; pari numero parem U 22-23 positus in numero pari habet parem] positus in numero pari habet inparem Ba; positus in pari habet parem A; positus in impari inparem ccU Preterea error contingit] Error simpliciter A; Error est U; Item contingit error B; Error Ba

1 igitur] ergo BC secundo] secunda BC 3 simul] similiter C sit] fuerit U bisextus]
 annus bisextilis B; bisextilis C erunt lunationes 30 dierum] om Ba 4 Ianuarii] et
 Ianuarii AccBC Februarii] et Februarii BC iste] om A; ille cc secundo] in secundo
 B 5 tamen] om AU tertio] tertio anno BC 6 Et] set AccU est] est hoc U quia]
 quod Acc; om BC cum] om U illorum] eorum U incipiat] incipit U 7 incipit]
 incipiat C 8 cicli nostri] om A iam] namque U secundum] et secundum AccU; om
 C 9 hoc embolismus ...tertio anno] hoc iste embolismus bisexto [*lacuna*] C 9
 illorum] eorum A et in] .a. A;et cc; etiam C secundo] secundo anno Acc secunda B
 11 prima] primo AccU 13 iste] ille C 14 deberet] deberes C huius] huius autem est
 C quia] quod Acc duret] durat AC; duraret B 15 iam] om Acc incipit incepit Ba
 illorum] eorum BaA 16 quarto] quarta C 18 .4.] erunt .4. U lunationes] sunt simul
 scilicet A; .4. lunationes erunt simul cc; scilicet U Martis] et Martis cc embolismi]
 embolismus B Et] om cc; item etiam] om BCU 19 tertia] tertio U 20 primo] prima
 Acc; etiam prima U; terminatur prima B 20 iulii] C *adds* ipsi autem de tertio anno
 cicli sui peregerunt .iiii. menses. secundum hoc iste embolismus intercipitur in tercio
 anno cicli illorum et in secundo anno cicli nostri Eo etiam] Item eodem BC
 mentiuntur] tunc mentiuntur A 21 infra] inferius BC Notandum] Nota BC etiam]
 om A 22 incipiat] incipit Acc . videbitur] videbitur duplex inconueniens contingere
 scilicet quod U 22-23 lunatio Martis] om Acc dierum] diei ABU tantum] om A
 Ad] Set ad ccU

1 vitandos] evitandos C ut supratactum est] ut dictum est A; ut supra dictum ccB;
 sicut supra tetigi C deberet] debet BC 2 ita quod] sicut B 1-2 postponi ... Martis 2
 deberet] *om* Ba 3 et] *om* C Ita] *om* AUBC prima] secundo BC 4 Ianuarii]
 Februarii A 6 sit] fuerit U lunationes ... dierum] *om* AU; 4 erunt lunationes cc
 embolismi] embolismalis cc 7 et] *om* BC Contingit etiam] et contingit B; contingit
 C in Martio] secundo die Martis AccU 8 in Aprili] prima die Aprilis AccU
 .Embolismus] Item embolismus B intercipitur] interponitur C in] *om* AccU anno]
 anno cicli BC et] *om* U 9 et ita bene] et ita [*lacuna*] Ba; *om* BC Preterea] prima et
 Ba 10 bisextus] BC *add* Notandum quod multi hunc embolismum quartum incipiunt
 quarta die decembris in xo anno secundum quod ponunt [ponit C] in versu hanc
 dictionem modo et non hanc dictionem ace. et terminatur eundem embolismum
 secundo die ianuarii et secundum hoc lunatio illa que incipit .iii. die ianuarii erit
 lunatio ianuarii licet terminatur [terminetur B] in februario [se B]. set competentius
 fieri potest priori modo quia tunc pauciores [*om* pauciores C] lunationes scilicet
 tantum due terminabuntur [significantur C] extra suos menses. et ita intercipientur
 [intercipiendus est C] sunt 30 dierum, et si sit bisextus 4 lunationes erunt simul 30
 dierum, scilicet Ianuarii, embolismi, Februarii ille embolismus in xi^o et non in x^o anno
 11 primo] prima AccU 12 contingit] est BC 13 notandum] nota BC 14 ponantur]
 ponuntur BCU ponerentur] ponentur C 15 duplex] multiplex U embolismus]
 embolismus contingens C 16 tantum] *om* AccU dierum] *om* BC contrarium]
 conversum BC semper continget] videtur semper contingere B 17 iste] ille U
 .xiii.^o] in 13 A eorum] eorum ratione superius dicta A; ciclorum ratione superius
 supradicta cc; illorum ratione predicta U; illorum B 18 ultimo] ultima AB; in ultimo
 U die] *om* C 19 Septembris] Augusti C 20 assignetur] assignatur B quia]
 quoniam A 21 eorum ... nostri] nostri ... illorum BCU Iste autem embolismus
 debet] deberet autem AccU 22 quoad] vel quo BC et] vel AUBC Ratio] Ratio
 autem A huius] *om* BC communis] *om* Ba 23 terminat] terminatur C in] *om* U
 prima] primo BC 23 statim] *om* U

1 subsequens] sequens A .17.] *om* U potest] posset U 2 .17.^o] .ii.^o Ba anno] *om* U
 quoad] non quo AccU; vel quo BC 4 tertia] tertio AUBC scilicet quod] quia AUBC
 5 bisextus] bisextilis C contingunt simul scilicet] *om* Ba; simul sunt cc; contingunt
 simul] *om* BC 6 embolismi] embolismus C Contingit etiam] contingit B; *om* C 7
 secunda] secundo AUBC et] *om* ABC Maii] Maii terminatur C prima] primo ACU
 Mentiuntur etiam] Item mentiuntur BC 9 incipiat] incipit BC 10 set] *om* U ita]
om AccU 11 intersecantur] intersecuntur B; interserantur C; intersecentur U est]
 est commoditas AccU alibi] alii C 12 plures] pluries B epacte] epacte et] et de C
 14 Epacta est numerus] Est autem epacta U 15 xxx^a dico] dico AccU; xxx dies C 16
 est] sit BC quam] *om* U 17 dierum] diebus U etc] anni B dico] dicitur U quia]
 quod cc 18 ex] de BC 19 Primus] Unde primus C cicli] *om* U 20 potuerit habere]
 haberet AU; oriretur BC epactam] *om* BC 21 cum] cum enim Acc; quia C ultimus]
om BC annus] annus cicli AU primum] ultimum A 22 habuit] habet BC; habeat
 quasi A; habeat ccU 22 unus] unus BC de] ex AccU 23 erunt] erit A; et erunt C
 .30.] .xxx. dies BC .30. autem est] triginta sunt Acc; set 30 sunt U quia .30. iuncta]
 quo adiuncte A; quia triginta adiuncta ccU

1 aliquo] *om* B; aliquando C deleri] deleri ad ostendendum etatem lune Acc et] set
 AU; vel BC 2 Secundus] Secundus annus BC; Set secundus U .22.] etiam .xii. C
 .3.].30. A reiciuntur] reiciantur B ita] sic BC 3 formetur] formatur epacta Acc;
 formetur epacta U Idem autem] Item A; Idem cc hiis versibus] per hos versus
 AUBC 4 Que] Quem Ba 6 Vide] Vide ergo BC cuius etatis sit luna] quota sit litera
 A; quota luna sit ccU tantus] totus B 7 docetur ... anno precedentis] *om* AUBC
 predocet ... futuram] Ba *places after* Ad sciendum hii versus kalendario] cc 8
 futuram] figuram Ba; AU *add* Per additionem enim illorum .xi. que ponuntur pro [in
 U] aureo numero [U *adds* scilicet] in prima die maii ad epactam anni precedentis
 haberetur epacta anni subsequentis [sequentis U]; futuram. que quanta est distancia a
 prima luna usque ad kalendas C 9 sciatur iste versus] sciantur hii versus Ba 10
 undevicenos] undevicenos. id est. .xix. B 11 cicli] cicli decennovenalis A 12
 summitate] summitate pollicis C quartus iterum in radice] *om* C pollicis] *om* AUC
 13 igitur] ergo BC vel est] vel erit BC; *om* U 14 vel] *om* Acc summitate]
 summitate est U Si] Si sit B 15 iunctura] *om* A adde] addatur U *om* C et] et ita
 AccU habebis] habes C quesiti] quesitam C 16 quod] id BC aucta] acta C illud]
 illuc A; istud U 17 ccrementum] excrementum AB; incrementum U vel] vel dicitur
 AUBC epi adiecta] equi adiecta A; superacta BC quia] quia quando C
 superadiecta] superaddita Ba 18 ostendit] ostendi A lune] lune in kalendis
 mensium] AU; lune. Capitulum 12 de regulari lunari B 19 iunctus] adiunctus AU
 20 excedens] excedens etc B expone ut] exponent Ba; dico ut B prius] supra B 21
 Set] *om* BC illud] illuc A coniunctum cum epacta] qui adiunctus etc. Acc; qui
 adiunctus cum epacta U; qui iunctus etc B; qui iunctus cum epacta C ostendit]
 manifestat B; et cum manifestat C quam] *om* B 22 quod] quod quoniam adhuc] *om*
 ccBC 23 fuit] fuerit AccU mensium] mensium eius A; eius U compositionis
 kalendarii] mundi BC A

1 habebit] habebis A supponamus] supponatur AU simus] sumitur Ba; sumus C
 cicli] cicli decennovenalis AU patet] patebit C 2 sex] in vi AU 2-6 quoniam in
 primo anno patebit regularis] *om* BaBC 6 4^{or}] de 4 BCU illum] illum dubium
 est quia incipiunt epacte et regulares lunares a septembri et non precessit BC; illis U
 7 et] unde C 8 regulari] regulari. quia .v. die ante kalendas eius est aureus numerus
 .19. et similiter considerandum est de hiis [aliis U] quatuor mensibus [*om* mensibus
 A] sequentibus AU; regulari. et in illo xix^o anno prima currit per xix B 9 velis] ciclis
 cc alios] alios sequentibus regulares A; alias regulares U; alias BC uno supposito]
 illo regulari supposito B; ab illo regulari supponitur C dies] omnes dies U totali]
 totali numero AccU lunatio] luna A 11 mensis] mensis sequentis A; lunaris mensis
 sequentis U est] erit BC lunaris sequentis] *om* A; lunaris B mensis] *om* C
 Similiter de aliis] Similiter de omnibus aliis AU; et sic de singulis BC 13 dantur]
 detur C No] ne Ba 15 vel sic] *om* Bacc 16 k bis manet ordo] liber manet ordo Ba
 17 vel sic] *om* Bacc 18 estuat esurit] extuat exurit C igne] iungere C 19
 kalendarum] kalendarum C licet mihi] lucet michi Ba; lucet michi cc; lucet mihi UB
 20 prima] *om* Ba alicuius] *om* BC dictionis] dictionis in alphabeto. et tot habet pro
 regulari [U adds lunaris] mensi cui servit illa diction AU ultimorum versuum etc] *om*
 AU; sumpto principio a septembri B; sumpto primo a septembri C quidem] iam A;
 autem U; *om* BC 21 et quid] quid AccU; sive Ba vis] velis AU etatem lune] cuius
 etatis sit luna BC 21-22 in kalendis alicuius mensis] *om* A mensis cuiuslibet B;
 mensis C 22 et] cum A regularis] regulari AU illius] ipsius AU et] *om* AccBC
 coniunctis] iunctis BC 23 proveniet] provenient BC; eveniet A; emerget U maior
 numerus] minor umerus B; minor C minor] maior BC fuit] sit A erit

1 luna] *om* BC maior] maior numerus BC 3 Notandum] Nota C etiam] *om* A; item
 U lunares] lunationes Ba sicut] sicut et U 4 regularis] regularis vero AU
 numerus] *om* U 5 Mentiuntur autem] Item mentiuntur BC lunares] lunationes Ba 6
 quoniam bis in octavo et simul in .xi. et bis in ultimo anno] in octavo et .xi. et ultimo
 anno Ba; quoniam bis in 8^{vo} in ... in ... in] *om* BCAU octavo] *lacuna* cc 8 dicunt]
 dicunt enim AUBC regulares] regulares lunares B quod] *om* U in] quod in U 9
 etiam] Item BC Dicunt etiam] dicunt epacte et regulares Ba dierum] *om* C 10 .29.]
 .xxviii. A 11 Ni] Si Ba; nisi C Martem] *lacuna* cc a] *om* AUB
] *add* scilicet primus numerus post x B 12 Dicunt enim epacte et regulares] *om* Ba
 12 Dicunt enim] Dicunt quidem AU; Item dicunt quidem cc .xi.^o anno] in ultimo
 anno cicli A .29. dierum] .xxx. dierum B; *om* dierum U 13 sit] *om* cc; revera sit
 ABC .28.] .28. dierum AU 13-17 Set si ... sit .28.] *om* U 13 bisextus] bisextilis;
 computantur computentur A 14 non] *om* Acc tunc] *om* Ba 15 Augustum] Augustus
 Acc 16 item dicunt] dicunt A; dicunt enim ccC regulares] regulares lunares B
 quod] *om* A cicli] cicli quod A Maii] Maii quod A 17 sit] esse C sit] revera sit B
 Dicunt etiam] etiam in eodem anno Au 18 sit] revera sit BC dierum] *om* BC 19 si
 non] nisi BC saltus] scilicet saltus C 20 Si autem] item C vis] velis AU cicli] *om*
 A simus] sumus C eodem] eo C 21 utebatur] utebatur prius BC in] *om* U 22
 notandum] nota BC iste] *om* Ba 23 spatio] per spatium B scilicet] scilicet iste BC

2 Sequitur] .7. Capitulum .13. de saltu lune B; [cap] .17. Sequitur U 3 in] *om* B 4
 fieret] fuerit Ba dicunt] dicunt compotista AUBC 7 ciclum] ciclum peractum AU 5
 luna] *om* Ba esset] deberet dici BC Similiter] Patet B .15.] .vi. Ba luna] *om*
 BaAU 6 esset] deberet dici BC enim] ergo U magis] plus ABC; maius U 8 unus]
 una B; *om* C 9 minutiis] *om* Ba [lacuna] dies] dies naturalis B 10 prius
 numerantes] primo annumerantes ABC; prius annumerantes U igitur] autem BC 11
 In .12.] et in .12. B anni communes] .22. A .91.] .19. A que] et iste] B; et C
 iuncte] simul iuncte BC 12-13 que lunationes235. lunationes] *om* Acc igitur]
 ergo BC 14 .4. momenta] momenta. id est. si multiplicetur ille numerus [U *adds*
 lunationum totalis] per .4. AU .940]. [-]40. A [lacuna] Unde si] si ergo BC 15 erit]
 exhibit A; et exhibit U 16 una scilicet] id est BC Cum etiam] Item cum BC 18 Cum
 iterum] Item cum BC; Cum igitur U 20 que coniuncte] que unciis iuncte BC 21.vii.
 unciis] .7. superius relictis AU; .7. unciis relicis C; .vii. unciis superius relictis B
 illud etiam] item illud BC; illuc etiam A 22 dimidiam] unam dimidiam U 23.23.]
 .23. horis AUBC prius collectis] *om* U

1 igitur] ergo BC 2 .30.] .3. U ultima] *om* U ultimo] *om* BaA annum] ciclum AU 3 ultimo] in ultimo BU cum] ubi BCU pronuntiatur] pronuntiabitur U 4 .29.] tantum .xxix. BC 5 simul] *om* U Augusti] AU *add* et sic ibi contingit error variationis quia mensis positus in pari [impari U] loco parem [imparem U] lunationem 6 notandum] nota BC; notandum est U quod] licet quod C cum] licet B sit] *om* cc tamen] cum Ba; *om* C in se] *om* C questionis] *om* C 10 que alias pro loco et tempore 8 verificatur] *om* AU pacificabimus B; verificabimus C 9 Capitulum .14. de festis mobilibus B festis] quinque festis Ba. mobilibus] mobilibus. [cap] .18. U 10 autem] igitur A; autem precipue C mobilia] mobilia scilicet AUB 11 et] *om* B .70.] septem Acc a .70. quia illud tempus recolit ecclesia] quia ieiunat ecclesia per .lxx. dies BC 12 in] *om* AU 13 Babilonica] Bibilonica C Quadragesima] Quadragesima autem 14 recepit] recepit a Domino AccU; accepit BC Helyas] Helyas autem AU ieiunavit] *om* cc 15 etiam] *om* B; autem U ieiunavit] ieiunavit similiter Acc 16 temptationes] AU *add* et cum [*om* A] omnis christi actio nostra est instructio ergo et nos [igitur U] tot diebus ieiunare debemus. et hoc rationabiliter. autem] enim AU; Item B; *om* C 17 cinerum] *om* C Set] quia AUBC res nostras decimamus] decimamus nostra BC ita] ita et AUcc; 18 transitum] transitus AU sonant] sonat ABC sic] *om* BaB 19 vel] *om* CU 20 transivit] transiit C vitam] *om* C resurgendo] resurgendo eo die B 21 appellatur] appellantur Ba Rogationes] *om* A sequentes] subsequentes BC 23 enim .50. dies] enim .xl. dies Acc; *om* BC

10-11 Hier. 25, 11

14 Exod. 24, 18

14-15 2 Reg. 2, 11

15-16 Marc. 1, 13

19-20 Exod. 12, 12, 23

1 Notandum igitur] Nota B; Notandum C inveniuntur] *om* A 2 sicut] ut B dies
 ante festum] dies qui ante festum invenitur B; dies qui ante festum inveniuntur C
 terminantur huius numeri] terminatur talis numerus B; terminantur huiusmodi U 2-3
 appellantur termini] appellatur terminus BC 3 autem regula] quidem regula Acc;
 quedam regula U; regula C 4 hoc] hoc est A vel] ut C 5 quia] *om* B .xiii.º] xl A
 set] vel Ba 6 dies] *om* C prima] in prima AC feria] feria. pascha non deberet esse
 in prima feria A; vero deberet esse in prima feria cc; et pascha semper deberet esse in
 prima feria U potuerunt] possunt C 6-7 Cum terminus iterum] Item cum terminus
 BC 7 magis accedens] secundum quod magis accedit BC 8 die] die eiusdem
 lunationis AU 9 habeant certa loca] habent certum locum cc hec est causa] hoc est
 enim A; hec est ratio BC 10 pascha] sumamus pascha quod BC sicut cetera festa
 mobilia] quemadmodum et alia A; quemadmodum cetera U; *om* BC semper] quod
 semper B habet] habebit C dominica] dominica sicut cuncta festa mobilia BC 11
 prima feria] die dominica AU non] *om* C potuit] potuerunt B; potuerit C 12 nec] et
 B certum locum in kalendario] certitudinem, id est certum diem B; certum diem C
 13 Quidam iterum] Item quidam BC; Quidem autem A; Quidam U dicunt] credunt
 U Aprilis] Martis A fecit] fecit Deus B 14 Theophilus Alexandrie episcopus]
 Alexander episcopus A; Theophilus Alexandrinus episcopus B; Tehophilus
 Alexandrie episcopus C Dicunt] dicitur B quod] quod Deus b; quod Dominus C
 eodem] eo B 15 genere] *om* U quo] qua C 16 alii] alii vero dicunt AU sicut] ut C
 dicunt] docuunt Acc; *om* C quia] qui B 17 Virgine] beata Virgine Maria A; beata
 Virgine U 18 divinitatem] deitatem AU Preceptum autem erat] Preceptum nam erat
 A; Item preceptum est BC 19 immolare] immolare immolare A diem lunationis]
 lunationes Ba 20 hoc est] id est BC 21 illum agnum figuratus] illum significatus
 Acc; illum figuratus U; illum figuratur BC plenilunio] plenissimo vel plenilunio U
 ut] vel B eo] in eo BC 22 suam] *om* BC 23 plenius *om* A exhibetur] exhiberetur
 C igitur] ergo BC

1 in] *om* BU assignari] celebrari A 2 autem] igitur AU 3 enim] *om* C incipit]
 incipiat C assignatur] assignantur BaU extra] *om* AccC aureo] aureo qualis B 4
 due] due vero C relique] illam A 5 illas] illos embolismos B; illas embolismales C
 lunationes] lunationes communes cc primo] in prima U quartum] unum C igitur]
 ergo BC; autem U 7 ibi erat] *om* AU; ibi erit BC paschalis] paschalis AU erit] *om*
 Ba . 8 xii.] .xiii. A ;ante xii B; scilicet xii C et] quod U variatione] *om* A 9
 celebretur] celebratur AccC; celebrabitur U in] *om* U crastino] ultimo Acc 10
 notari] annotari B scilicet] vel B; fine U predictis] supradictis BC 11 etiam] *om*
 AU hec] ita U unde versus] *om* AU 12 Pascha] *om* U prima] *om* A 12-13 ubi
 primum ... pascha sequatur] que sit nova luna requiras. Que postquam fuerit bis
 septima pascha patebit BC 13 sequatur] U *adds* vel sic: post Martis nonas ubi sit
 nova luna erit ferias atque dies domini tertia pasca fiet 14 Etiam] enim AccU; *om*
 BC; omnes enim AccU Aprilis] *om* U Quod] Quare BC 15 nam] *om* BC 16
 signatur] significatur contra C; assignatur circa U octo] .4. A 17 terminetur]
 terminatur C tertia] tertio B sua] suum C secundo] secunda C 18 septimum]
 ultimum B igitur] ergo BC ab] sub Ba iam] *om* cc 19 computentur] computantur
 B 20 litterarum dominicalium] litera dominica B terminus] numerus Ba dies] *om*
 U 21.et] unde AU celebretur] celebrabitur in AccU hoc] hec B 22 Ex] Et ex BC
 illis] istis Acc; hiis BC quinque dies dominicalibus] .35. diebus AUC; .xxv. B 23
 qui] que CU

1 habet] habent C 2 Aprilios] Aprileos Acc; Aprilis BC 3 valet] solet BC 5 Ad
 habendum autem] Item ad habendum BC qui] que U 6 dicuntur] dictum est B quia]
 quoniam BC atrium] domum BC istos] illos U 6-7 habetur notitia festorum] in
 notitiam festorum mobilium AU 7 sint] sunt U 8 Primus] Primus annus BC; primus
 igitur] AU clave] clave per additionem .vii. BC claves] omnes claves BC
 sequentes] subsequentes BC 9 hoc] set U 10 erit] *om* C subsequens] *om* U
 secundum] per U 11 ac] a A 12 hinc] hoc B que] quoque U 15 remanens] *om* B;
 numerus C 15 possunt formari] sicut formantur B claves] omnes claves BC aliqua]
om BC 16 computetur] *om* C et summitates] in summitate BC 17 est] erit AccU
 tamen] etiam AUB; *om* in] *om* U proveniant] provenit B; proveniunt U 18 dicatur
 .10.] .xl. reiciantur .xxx. vel dicatur B; recessentur .xxx. vel dicitur .x. C procedatur]
 proceditur B numerando] computando AU ultimus] ultimus numerus AUC est]
 erit AU clavis] clavis sequens BC 19 sciatur] scitur U istis] hiis AccUC 21
 undeviginti] viginti A; viginti epta [*lacuna*] C 22 Computetur] computentur C etiam]
 autem AU; enim ccBC donec] usque donec B 23 venias] veniat AC; venitur B
 queritur] queris C

1 sistat] sit B; consistat C anni] anno Ba 2 tresdecim] adde 13 U digiti] *om* BC 3
 manifeste sunt B; manifestate sic C manifestantur et] quod etiam manifestant BC
 versus predicti] et versus predicti BaU; in versibus dictis A; hii versus B 4 hoc etiam
40. etc] Pollice videnos cum quinque. et indice denos. Cum tribus monos mediate
 redde tricenos. Tertia da medici cum denis, auriculari septem, de .xlt^a. decies tria feria
 B; *om* C 5 Loca] loca autem AU; Item loca BC possunt haberi] habentur BC 6
 suppremaque] supprema Ba 7 claves] B *adds* scilicet Septuagesime Quadragesime
 Pasce Rogationum Pentecos. Redde signa singulis sic per ordinem, scilicet prius .g.
 Iani; Septuagesima suppositum quadra; secundum .g. Martis Pasce; tertius Aprilis
 Rogationibus et ultimum eiusdem Pentecos. Est ergo .g. locum cuiuslibet clavis; C
adds Ait ergo .g. littera locus cuiuslibet clavis. 8 habitis] habito A ergo] igitur AU
 clavis] *om* C velis] vis BC aliquo] quolibet BC 9 illius] eiusdem BC et] *om* 11
 Septuagesime] *om* C proxima] proximo BC die] dies A erit] *om* U 12 Similiter
 fit] Similiter faciendum est AU; similiter fac ccB; sic fac C aliis] hiis B festis] *om*
 Ba tamen] autem C; etiam U quod] *om* C 13 vel] et AUBC 14 enim] etiam cc
 15 .viii.] .7. U 16 Per hos versus etiam] Item per hos versus BC; Per hos versus
 autem U 16-17 cetera festa mobilia] cetera festa Ba; ceterorum mobilium festorum B
 19 Quadraginta] xx C 20 sequentem] sequentem, scilicet dominicam B 21 Si sit
 bisextus lux additur una diebus] *om* CU 3 fitque] sitque UC 23 Linque diem ...
 retinendo secundum *om* C Domini] [*lacuna*] A retinendo secundum] suppose
 sequentem U

1 in qua est epiphania] *om* A 2 illa] *om* B sit] fuerit A in] *om* cc computentur]
 computantur C .40.] .30. A; .xl. dies B .40.^{us}] .240. A 3 proxima] proximus C
 die] *om* B sequenti] sequente BC; *om* U 4 unus] una B manifestant] patent U 5
 habendum] habendum autem AccU hii] isti A 6 karnem kanomius] carnem
 ca[.]amus A; carnem caveamus U; *lacuna* cc; carnem kareamus B; turbam caveamus
 C 7 gerens] gens Ba puto] pure A; puro cc 8 mox anime lucrum invenies cum
 religiosi] *om* invenies] invenes B 9 hiis] isti U 10 sic] ita CU igitur] ergo BC
 11 decennovenalis] *om* U terminum velis invenire] vis scire terminum BC 11-12
 serviens illo anno] illus anni serviens ei B 12 Pasche] paschalis U erit] *om* A 13
 quota est] *om* A illius] eiusdem BC in alphabeto] quota est in alphabeto quota est A
 15 .m.] .m. litera tunc BC paschalis] Pasche U erit] est BC in Aprili] Aprilis Acc
 16 eiusdem] illius Acc abecedario] alphabeto que debet servire illo anno BC;
 alphabeto AU 17-18 per hos ... et quadragesimam] *appears after versus* Ba 17
 proximam] *om* A 19 causis] lusi C hastam] hasta BaB improbus] probet cc;
 improbet B 2 caret] karet] U gravatus] *lacuna* cc 3 karente] *lacuna* cc; karentes
 AUBC 23 secunda secundo] *om* AccC sic] ita U velis igitur] ergo velis B; ergo vis
 C 6 scire] scire in quo anno cicli xixlis B

2 quesito] B *adds* Capitulum 15 de lustris etc 3 sequitur de lustris indictione seculo
 et evo] *om* U indictione] inditione Ba 5 dictaturarum] dicturarum U; B *adds*
 Dictatura est quedam dignitas dicitur] dicitur lustrum B lustras] tras ccU; as B; tras
 C quinquennii] *om* U 6 cuiuslibet et] *om* Ba in] et in Bc alicuius] *om* AU
 circuibant] circuebant Ba; circuebant C civitatem] civitatem Romani A cum] *om* C
 candelis] AUBC *add* [et AU] adhuc ecclesia memorat [de hoc U] lustrum [lustra A]
 dicens lustra sex [qui A; que C] etc 7 indictio] inditio Ba; item indictio C annorum]
om A indicis] cis ABC 8 fere] *om* U in] *om* AccUB sibi] *om* Ba tributarias]
 tributarios Ba 9 primi] *om* BC 11-12 reparationem armorum] ymagines et arma
 reparanda BC 12 indictio] inditio Ba erea] ersa C 13 quinquennio] anno A nulla]
 nulla etiam A; nec ulla B; et nulla C conventio] conventio etiam U 14 nec] et BC
 indictionem] inditionem Ba ne] *om* C solvendorum] persolvendorum Acc;
 solvendorum in quinquennio BC vero] autem AUBC tribus] tribus locis BC
 indictione] indictione scilicet B 16 privilegio] privilegiis Acc in] et in AccB autem]
 quidem AccU 17 indictionum] indictionis BC posset] potest B bene] tunc bene U
 18 vero] autem AccU placet] placead A; vis BC; velis U indictionis] cicli
 indictionis C simus] sumus Ba 4 .3.] quarto C dicitur natus] dicitur natus fuisse
 AccU; natus est BC .4.^{to}] .3. Ba divide] dividatur BC per .15.] per sex cc 20
 indictionis] *om* BC ostendet] tunc illuc ostendet nobis A; ostendit cc tunc nobis illud
 ostendit U; illud ostendit BC 21 Et notandum] Set nota BC denominandum]
 denotandum AccU; nominandum BC 22 ad] *om* Acc; ad nominandum BC
 quemlibet] quodlibet BaC annum] spatium Ba sive cicli] *om* A

1 autem] etiam AB 2 vero] *om* BCU etiam] enim BC 3 magni evi] magnevi A id
est magne] sive BC Et] *om* BC 5 iubes] AU *add* stabilique manens dans omnia
[cuncta U] moveri 6 Explicit compotus] *om* A; A *adds* mitto tibi frontem Veneris
zonamque Diane atque capud Liaris cum pede leucotie augurui [A *riddle giving vale*];
Explicit liber qui vocatur compotus quod Hatfeld U; Explicit compotus magistri
Roberti Grosseteste B

5.Boethii *De consolatione philosophiae* III, IX