

UNIVERSITÉ DE COPENHAGUE

**CAHIERS
DE
L'INSTITUT DU MOYEN-ÂGE GREC ET LATIN**

84

Centre for the Aristotelian Tradition

Saxo Institute

2015

**Thomas Strzempiński, Hermann Zoest, and the Initial Stages of the
Calendar Reform Project Attempted at the Council of Basel
(1434–1437)**

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Contents

BIBLIOGRAPHICAL ABBREVIATIONS	165
MANUSCRIPT SIGLA	165
SIGNS USED IN CRITICAL APPARATUS	165
1. Introduction	166
2. Thomas Strzempiński and the genesis of Basel’s ‘calendar task force’	171
3. The proposal of 1435	183
(a) fixing the equinoxes/solstices	186
(b) new Easter limits	190
(c) excluding conjunctions	195
(d) re-setting the Golden Number	200
(e) maintaining the lunar calendar	209
4. Objections against the reform and its abandonment	212
Appendix I: Edition of the <i>Relacio</i> and draft decree of 1435	224
Appendix II: Edition of Hermann Zoest’s <i>Phaselexis</i> (1 st ver.)	236
Appendix III: The decree of 1437 in its earliest version	292

BIBLIOGRAPHICAL ABBREVIATIONS

CCCM	<i>Corpus Christianorum: Continuatio Mediaevalis</i>
CCSL	<i>Corpus Christianorum: Series Latina</i>
CSEL	<i>Corpus Scriptorum Ecclesiasticorum Latinorum</i>
PL	<i>Patrologiae cursus completus, series Latina</i> . Edited by Jacques Paul Migne. 221 vols. Paris, 1844–65.
Weber	<i>Biblia Sacra Iuxta Vulgatam Versionem</i> . Edited by Robert Weber. 2 vols. Stuttgart, 1969.

MANUSCRIPT SIGLA

C	København, Det Kongelige Bibliotek, Thott 825 4°
G	Gniezno, Archiwum Archidiecezjalne, 17
K	Kraków, Biblioteka Jagiellońska, 4164
O	Oxford, Bodleian Library, Lyell 63
R	Rostock, Universitätsbibliothek, Math.-phys. 1
U	Uppsala, Universitetsbiblioteket, C15

SIGNS USED IN CRITICAL APPARATUS

<...>	conjectural insertion
<i>a.c.</i>	<i>ante correctionem</i> (text before correction)
<i>add.</i>	<i>addidit</i> (text added)
<i>iter.</i>	<i>iteravit</i> (text repeated)
<i>mg.</i>	<i>in margine</i> (written in the margin)
<i>p.c.</i>	<i>post correctionem</i> (text after correction)
<i>s.l.</i>	<i>sub vel supra lineam</i> (written above or below the line)
<i>om.</i>	<i>omisit</i> (text missing)

1. Introduction

Among the abortive attempts to improve the Christian calendar that were undertaken during the centuries prior to the Gregorian reform of 1582,¹ perhaps none came as close to fruition as the efforts made at the Council of Basel in the years 1434–1440, which saw the matter discussed by a specially created commission or task force. Its members famously included Nicholas of Cusa, who authored a treatise *De correctione kalendarii* (1435/36) and appeared before the council in March 1437 to present his commission's findings.² Later the same year followed the drafting and submission of a reform decree, a full version of which was printed in 1876 as an appendix to Ferdinand Kaltenbrunner's seminal study *Die Vorgeschichte der Gregorianischen Kalenderreform*.³ Together with the important additions made by Wattenbach (1884), Honecker

¹ For an overview, see John North, "The Western Calendar—'Intolerabilis, Horribilis, et Derisibilis': Four Centuries of Discontent," in *Gregorian Reform of the Calendar*, ed. George V. Coyne, Michael A. Hoskin, and Olaf Pedersen (Vatican City: Specola Vaticana, 1983), 75–113.

² This appearance is reported in John of Segovia, *Historia gestorum generalis synodi Basiliensis* (8.19), ed. E. Birk, *Monumenta conciliorum generalium seculi decimi quinti*, vol. 2 (Vienna: Typ. Aulæ et Status, 1873), 709. For Cusanus's treatise, see Nicholas of Cusa, *Die Kalenderverbesserung (De correctione kalendarii)*, ed. Viktor Stegemann (Heidelberg: Kerle, 1955), and C. P. E. Nothaft, "Strategic Skepticism: A Reappraisal of Nicholas of Cusa's Calendar Reform Treatise," forthcoming in *Les temps des astronomes: astronomie, chronologie, histoire, de Pierre d'Ailly à Isaac Newton*, ed. Edouard Mehl (Paris: Les Belles Lettres, 2016).

³ Ferdinand Kaltenbrunner, "Die Vorgeschichte der gregorianischen Kalenderreform," *Sitzungsberichte der philosophisch-historischen Classe der kaiserlichen Akademie der Wissenschaften* [Vienna] 82 (1876): 289–414, at pp. 412–14. It can now be shown that Kaltenbrunner's decree text represents only the final of three successive recensions. For an edition of the decree in its original form, see Appendix III below.

(1940), and Stegemann (1955),⁴ Kaltenbrunner's account of the calendrical proceedings at Basel has remained at the basis of all modern publications on the topic, whether their focus be on the Council of Basel or the history of the Western calendar more generally.⁵ As a result, the received narrative concerning these events still rests to a strong degree on the relatively few sources known in 1876, whereas documents and facts that have come to light in the meantime remain unknown or unused.

In historical terms, the most significant of these neglected sources is the draft of another reform decree, a precursor to the decree of 1437. This draft was made in 1435 and is preserved in a codex once owned by the Polish canon lawyer Thomas of Strzempin or Strzemiński (1398–1460), who also wrote a brief report (*Relacio*) on the discussions that gave rise to it. The existence of these documents was announced 40 years ago by Jerzy Dobrzycki at the 14th International Congress of the History of Science in Tokyo (August 1974), but his published description of their

⁴ Wilhelm Wattenbach, "Über Hermann von Marienfeld aus Münster," *Sitzungsberichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin*, phil.-hist. Kl., 9 (1884): 93–109, repr. in idem, *Kleine Abhandlungen zur mittelalterlichen Geschichte* (Leipzig: Zentralantiquariat der DDR, 1970), 83–99; Martin Honecker, "Die Entstehung der Kalenderreformschrift des Nikolaus von Cues," *Historisches Jahrbuch* 60 (1940): 581–92; Stegemann, ed., *Die Kalenderverbesserung* (n. 2), xxxiv–lii.

⁵ Recent examples include Stefan Sudmann, *Das Basler Konzil: Synodale Praxis zwischen Routine und Revolution* (Frankfurt: Lang, 2005), 261–72; Tom Müller, "*ut reiecto paschali errore veritati insistamus*": Nikolaus von Cues und seine Konzilsschrift *De reparatione kalendarii* (Münster: Aschendorff, 2010), 163–75; Dirk Steinmetz, *Die Gregorianische Kalenderreform von 1582: Korrektur der christlichen Zeitrechnung in der Frühen Neuzeit* (Oftersheim: Steinmetz, 2011), 58–60. For Kaltenbrunner's account, see "Die Vorgeschichte" (n. 3), 336–54.

content, a note of merely two pages, was imprecise and appears to have been largely ignored.⁶

A similar degree of neglect has been suffered by Hermann Zoest, a Cistercian monk from Marienfeld Abbey in Westphalia, who can be identified as both the initiator and the principal scientific adviser behind the Basel ‘calendar project’.⁷ As a writer on the calculation of Easter and the need to better adapt it to the astronomical situation, Zoest was considerably more fecund than the aforementioned Nicholas of Cusa. His

⁶ Jerzy Dobrzycki, “New Sources for the Prehistory of the Calendar Reform,” in *Proceedings of the XIVth International Congress of the History of Science*, vol. 2 (Tokyo, 1975), 35–36, repr. in idem, *Selected Papers on Medieval and Renaissance Astronomy*, ed. Jarosław Włodarczyk and Richard L. Kremer (Warsaw: Instytut Historii Nauki PAN, 2010), 61–62. See also Dobrzycki, “Astronomical Aspects of the Calendar Reform,” in *Gregorian Reform of the Calendar*, ed. George V. Coyne, Michael A. Hoskin, and Olaf Pedersen (Vatican City: Specola Vaticana, 1983), 117–27, at p. 118 = idem, *Selected Papers*, 64. Previous to Dobrzycki, the texts had already been mentioned in Ludwik Antoni Birkenmajer, “Marcin Bylica z Olkusza oraz narzędzia astronomiczne, które zapisał Uniwersytetowi Jagiellońskiemu w roku 1493,” *Rozprawy akademii umiejętności, wydział matematyczno-przyrodniczy*, 2nd ser., 5 (1893): 1–164, at pp. 26, 117 n. 77; Jerzy Rebeta, “Miejsce Wawrzyńca z Raciborza w najwcześniejszym okresie krakowskiej astronomii XV wieku,” *Kwartalnik historii nauki i techniki* 13 (1968): 553–65, at p. 561 n. 28. See also the brief remarks in Mieczysław Markowski, “Marcin Biem of Olkusz,” in *The Cracow Circle of Nicholas Copernicus*, ed. Józef Gierowski (Cracow: Jagellonian University Press, 1973), 7–21, at p. 12; Markowski, “Astronomie an der Krakauer Universität im XV. Jahrhundert,” in *The Universities in the Late Middle Ages*, ed. Jozef IJsewijn and Jacques Paquet (Leuven/Louvain: Leuven University Press, 1978), 256–75, at pp. 264–65. No trace of these findings appears in the recent accounts by Sudmann, Müller, and Steinmetz (see n. 5 above).

⁷ See most recently C. P. E. Nothaft, “A Tool for Many Purposes: Hermann Zoest and the Christian Appropriation of the Jewish Calendar,” *Journal of Jewish Studies* 65 (2014): 148–68; Nothaft, *Medieval Latin Christian Texts on the Jewish Calendar* (Leiden: Brill, 2014), 478–569, with references to further literature.

preserved works include a *Tractatus phase* (1424), a *Compendium paschale* (1443) as well as two different versions of a treatise entitled *Phaselexis*, which originated as explanatory supplements to the reform proposals considered in 1435 and 1437. Until now, none of these texts has been available to scholars in a critical edition, with the result that most have failed to grasp the full extent of Hermann Zoest's contribution to the Council of Basel's efforts to improve the ecclesiastical calendar. One major exception is the work of Olivier de Solan, whose 1998 diploma thesis on *Les propositions de réforme du calendrier au XV^e siècle* considerably revises and expands upon the narrative established by Kaltenbrunner, not least by dealing up close with the evidence provided by Zoest's calendrical writings.⁸ While this splendid historical study remains unpublished, many of the sources that supported Solan's reconstruction will finally see the light of day in a volume of editions (with French translation) of key fifteenth-century texts on calendar reform, which he plans to publish in conjunction with the CNRS.⁹

The goal of the present article is to supplement the expected publication of this important work by taking a closer look at the forgotten reform project of 1435, whose details can be inferred from the aforementioned *Relacio* penned by Thomas Strzempiński, the appended draft decree, and the original version of Hermann Zoest's *Phaselexis*,

⁸ Olivier de Solan Bethmale, *Les propositions de réforme du calendrier au XV^e siècle* (Diploma thesis, École Nationale des Chartes [Paris], 1998). A summary was published in *École Nationale des Chartes: Positions des thèses* (1998): 275–81.

⁹ I am very grateful to Olivier de Solan, who is currently director of the Archives départementales de la Somme, for informing me about his publication plans ahead of time and for supplying me with a PDF copy of his excellent thesis. The latter already includes a transcription of the second version of Hermann Zoest's *Phaselexis*, as found in MS Basel, Universitätsbibliothek, A.V.25, fols. 165r–82r (copied in 1455). See Solan Bethmale, "Les propositions" (n. 8), 324–61.

which I shall hereafter refer to as '*Phaselexis* (1st ver.)' to distinguish it from the '*Phaselexis* (2nd ver.)' written in 1437. Appendices I and II below will contain critical editions of all three documents, the third of which is not planned for inclusion in Olivier de Solan's volume. Thanks to the *Phaselexis* (1st ver.), it is possible to offer a detailed analysis of the technical content of the proposal discussed in 1435, which included some remarkably sound and innovative ideas on how to improve the existing method of Easter reckoning. In the closing section of the main article, I shall discuss the objections that were voiced against this proposal as well as some other obstacles that may help explain why it was abandoned in favour of a different reform plan, the one famously championed by Nicholas of Cusa in 1437 and explained in Zoest's *Phaselexis* (2nd ver.). The decree formulated in order to put this second plan into practice has been known heretofore only in revised versions, which change the date of the anticipated (but never realized) reform from May 1439 to October 1439 or 1440. Appendix III reveals the decree's original wording, as found in a previously unknown manuscript.

2. *Thomas Strzemiński and the genesis of Basel's 'calendar task force'*

When King Władysław II Jagiełło agreed in 1433 to have Poland represented at the Council of Basel, most of the delegates initially sent came from the University of Kraków, which provided the strongest support base for the conciliar project in Władysław's kingdom.¹⁰ Among the cohort of Krakówian academics to arrive in Basel in the autumn of that same year was Thomas Strzemiński, who had been chosen as a representative by Wincenty Kot, the archbishop of Gniezno. A doctor of canon law by training, Strzemiński had already served two semesters as rector of his home university (1432/33) and would later return to Kraków to attain a doctorate of theology (1443), followed by another stint as rector (1443/44). In 1454, he was named both chancellor at the university and vice-chancellor at the court of King Kazimierz IV, before finally ending his ecclesiastical-political career as bishop of Kraków (1455–1460).¹¹ His

¹⁰ Stanisław Kot, "Basel und Polen (XV.–XVII. Jh.)," *Zeitschrift für schweizerische Geschichte* 30 (1950): 71–91, at pp. 71–73; Paul Knoll, "The University of Cracow and the Conciliar Movement," in *Rebirth, Reform and Resilience: Universities in Transition, 1300–1700*, ed. James M. Kittelson and Pamela J. Transue (Columbus: Ohio State University Press, 1984), 190–212, at pp. 198–205; Thomas Wünsch, *Konziliarismus und Polen: Personen, Politik und Programme aus Polen zur Verfassungsfrage der Kirche in der Zeit der mittelalterlichen Reformkonzilien* (Paderborn: Schöningh, 1998), 93–122. On the Council of Basel more generally, see Johannes Helmrath, *Das Basler Konzil 1431–1449: Forschungsstand und Probleme* (Cologne: Böhlau, 1987); Sudmann, *Das Basler Konzil* (n. 5); Michiel Decaluwe, *A Successful Defeat: Eugene IV's Struggle with the Council of Basel for Ultimate Authority in the Church 1431–1449* (Brussels: Belgisch Historisch Instituut te Rome, 2009); Michiel Decaluwe, Gerald Christianson, and Thomas Izbicki, eds., *A Companion to the Council of Basel* (Leiden: Brill, forthcoming).

¹¹ Mieczysław Markowski, *Dzieje wydziału teologii Uniwersytetu Krakowskiego w latach 1397–1526* (Kraków: Wydawn. Naukowe Papieskiej Akad. Teologicznej, 1996), 149–51; Markowski, "Tomasza ze Strzempina koncepcja teologii jako nauki

activities in Basel are attested from 17 October 1433, the date on which he was formally incorporated into the council.¹² Subsequent protocol entries show that he joined as a member of the *Deputatio pacis*, which was one of the four deputations that made up the main decision-making body of the council, the others being the *Deputationes fidei, reformationis* (or *pro reformatorio*), and *pro communibus*.¹³ Only for the latter of these have substantial protocol records survived. They last mention Strzemiński in an entry for 6 March 1436, when the *Deputatio pro communibus* approved his request to enjoy ‘privileges and freedoms’ connected to his delegate status in absence from the council.¹⁴

Codices preserved in Kraków’s Jagiellonian Library and the Archdiocesan Archive of Gniezno, where Strzemiński was a member of the cathedral chapter, show that he repeatedly used his free time in Basel for the acquisition of books, with a clearly noticeable focus on patristic, theological and exegetical literature.¹⁵ Next to the spoils of this book hunt,

spekulatywnej, praktycznej i afektywnej,” in *Benedyktyńska praca: studia historyczne ofiarowane O. Pawłowi Szczanieckiemu w 80-rocznicę urodzin*, ed. Jan Andrzej Spież and Zbigniew Wielgosz (Kraków: Tyniec, 1997), 191–97; Teofil Wojciechowski, “Działalność soborowa (bazylejska) Tomasza Strzemińskiego,” *Prace Historyczno-Archiwalne* 11 (2002): 5–22; Wunsch, *Konziliarismus* (n. 10), 78–79 (with further references).

¹² *Concilium Basiliense: Studien und Quellen zur Geschichte des Concils von Basel*, ed. Johannes Haller [et al.], 8 vols. (Basel: Reich [et al.], 1896–1936), 2:505.

¹³ *Ibid.*, 3:407, 606; 4:9, 15, 52. For further information on the council’s organisation and rules of procedure, see Paul Lazarus, *Das Basler Konzil: Seine Berufung und Leistung, seine Gliederung und seine Behördenorganisation* (Berlin: Ebering, 1912).

¹⁴ *Concilium Basiliense* (n. 12), 4:73: “Super supplicacione domini Thome de Stampino canonici Gnesnensis, petentis in absencia gaudere privilegiis et libertatibus incorporatorum etc., placuit et admissa fuit huiusmodi requesta ut petitur.”

¹⁵ Paul Lehmann, “Konstanz und Basel als Büchermärkte während der großen Kirchenversammlungen,” *Zeitschrift des deutschen Vereins für Buchwesen und*

the Jagiellonian Library also houses dozens of manuscripts documenting legal proceedings at the Council of Basel, among them MS 4164 (= K), which contains the text of a *Relacio in causa episcopatus Albiensis provincie Biturricensis facta coram sacro concilio Basiliensi in congregacione generali per Thomam de Strzampino, decreti doctorem, canonicum Gneznensem, 1435 7^a Decembris* (fols. 116r–18r).¹⁶ It reflects the fact that Strzemiński, between June and December 1435, served on a legal commission created to adjudicate in a dispute between two claimants to the episcopal see of Albi: Bernard de Cazilhac, who had been elected by the cathedral chapter, and Robert Dauphin (bishop of Chartres), the candidate favoured by Pope Eugene IV. Strzemiński's report found in favour of Bernard de Cazilhac, whom the council confirmed as bishop on 19 December 1435.¹⁷ In MS K, the *Relacio* on the episcopal dispute is preceded by a *Relacio deliberacionis prime super materia kalendarii in*

Schrifttum 4 (1921): 6–11, 17–27, repr. in idem, *Erforschung des Mittelalters: Ausgewählte Abhandlungen und Aufsätze* (Leipzig: Hiersemann, 1941), 253–80, at pp. 276–78; Jerzy Zatycki, "Biblioteka Jagiellońska w latach 1364–1492," in *Historia Biblioteki Jagiellońskiej*, vol. 1, 1364–1775, ed. Ignacy Zarębski (Kraków: Uniwersytet Jagielloński, 1966), 3–130, at pp. 96–100.

¹⁶ The beginning of the text on fol. 116r is in the hand of Thomas Strzemiński. MS K was once owned by Antonius Krzanowski, *sacre theologie doctor et prepositus Cleopardiensis*. On the sections relating to Strzemiński, see also Grażyna Rosińska, *Scientific Writings and Astronomical Tables in Cracow: A Census of Manuscript Sources (XIVth–XVIth Centuries)* (Wrocław: Polish Academy of Sciences Press, 1984), 86, 162, 308–9 (nos. 377, 776, 1570); Mieczysław Markowski, *Astronomica et Astrologica Cracoviensia ante annum 1550* (Florence: Olschki, 1990), 195 (no. 123).

¹⁷ *Concilium Basiliense* (n. 12), 3:599. Protocol entries relating to Strzemiński's involvement are edited *ibid.*, 3:417, 419, 580, 589, 593–95. For an account of the whole Albi-affair, which continued long after the council passed its verdict, see Heribert Müller, *Die Franzosen, Frankreich und das Basler Konzil (1431–1449)*, 2 vols. (Paderborn: Schöningh, 1990), 2:684–701. See also Solan Bethmale, "Les propositions" (n. 8), 119–21; Wojciechowski, "Działalność soborowa" (n. 11), 9–12.

concilio Basiliensi, 1435^o (fols. 113r–15r), which is our only evidence that Thomas Strzemiński was also involved in the work of another commission, charged with preparing a reform of the ecclesiastical calendar.

One of the few sources to help us trace the fate of this calendrical task force is the monumental *Historia* of the Council of Basel written by John of Segovia (d. 1458), who begins by mentioning a formal plea (*cedula cum exhortacione*) the notary of the *Deputatio pacis* read to the general assembly on 18 June 1434. The author of this plea demanded that the council should tend to the concerns of the lower clergy and the general population, who were bothered by the increasing inaccuracy of the ecclesiastical calendar and in particular its system of Golden Numbers, which were supposed to indicate the dates of the new moon. Owing to its inherent flaws, the mobile feast days were frequently celebrated at the wrong time, which, so the author claimed, made the Church an object of derision for infidels and led believers to correct written calendars on their own initiative.¹⁸ The council reacted to these complaints by putting Antonio Correr, cardinal bishop of Ostia (1369–1445), in charge of looking after the calendar, a task for which he was supposed to consult

¹⁸ John of Segovia, *Historia* (8.19), ed. Birk (n. 2), 709: “Siquidem XVIII^a. die per notarium deputacionis de pace in generali congregacione lecta est cedula cum exhortacione ecclesiam intendere debere ad supplicationes eciam simplicium et minorum, et quia a tempore prime indiccionis aurei numeri esset nimius error in computo, propter quod quadragesima festaque mobilia non celebrarentur tempore debito, de quo infideles irridebant christianos, multi vero ex fidelibus iam correxerant iuxta veritatem kalendaria sua, ut igitur omnes conformarentur veritati, quod dignaretur sancta synodus deputare aliquos, qui cum consilio peritorum in astrologia providerent ad correccionem kalendarii.”

with expert astronomers.¹⁹ It can be shown that one of these experts was Hermann Zoest, who gave a very brief retrospective account of the beginning of the reform project in *Phaselexis* (2nd ver.), which he produced in 1437 to accompany the calendar reform decree submitted that year. This version of the treatise still survives in at least fourteen manuscripts (plus one fragment), half of which append the decree in question.²⁰ A marginal gloss in one of these codices, once kept in the library of Tegernsee Abbey, reveals that Zoest was also the author of the *cedula* presented to the council in June 1434:

Note that the author of this present little work introduced this matter to the holy synod of Basel and was made an associate of the Lord Cardinal, but, for humility's sake, he did not make any mention of himself.²¹

¹⁹ Ibid.: “Legatus autem respondit, quod hanc materiam prosequeretur cardinalis Bononiensis, et placuit, ut cardinalis ipse Bononiensis deputatus esset super dicta correccione, secum assumpturus de quibus sibi videretur.” *Concilium Basiliense* (n. 12), 3:126: “Lecta fuit cedula concernens kalendarium reformandum; placuit quod huiusmodi negocium committatur et commissum extitit reverendissimo domino cardinali Bononiensi, qui vocatis secum peritis in astronomia provideat circa huiusmodi materiam.” See also *ibid.*, 5:94; Honecker, “Die Entstehung” (n. 4), 585; Solan Bethmale, “Les propositions” (n. 8), 133–35.

²⁰ For a list of manuscripts containing *Phaselexis* (2nd ver.) and a discussion of the redactional history of the appended decree text (with an edition of its original form), see Appendix III below.

²¹ MS München, Bayerische Staatsbibliothek, Clm 18470, fol. 13r: “Nota quod editor huius opusculi presentis introduxit hanc materiam in sacrum Basiliensem Sinodum et adiunctus erat domino Cardinali, tamen non facit de se aliquam mencionem humilitatis causa.”

While there is no guarantee that this gloss goes back to Hermann Zoest himself,²² the credibility of the claim is supported by five pieces of circumstantial evidence:

1. Hermann Zoest was incorporated as a member of the council on 18 June 1434, the same day the aforementioned *cedula* was read out²³
2. Like Strzempiński, he was a member of the *Deputatio pacis*, whose notary presented the *cedula* to the general assembly²⁴
3. From the chronicle of his home monastery Marienfeld, it appears that Zoest's delegation to the Council of Basel was entirely based on his astronomical expertise and its potential application to the matter of calendar reform²⁵
4. He had been campaigning for a reform of the calendar since at least 1424, as is evident from an earlier work of his entitled *Tractatus phase*, the contents of which conform remarkably well to the talking points mentioned by John of Segovia²⁶

²² That Hermann Zoest sometimes updated his own writings by means of glosses is suggested by the example of his treatise *De fermento et azymo*, as found in MS München, Bayerische Staatsbibliothek, Clm 3564, fols. 145ra–55ra. See Erwin Rauner, *Katalog der lateinischen Handschriften der Bayerischen Staatsbibliothek München: Die Handschriften aus Augsburger Bibliotheken*, vol. 1, *Stadtbibliothek: Clm 3501–3661* (Wiesbaden: Harrassowitz, 2007), 268–69; Nothaft, *Medieval Latin Christian Texts* (n. 7), 484–85.

²³ *Concilium Basiliense* (n. 12), 3:125.

²⁴ *Ibid.*, 7:294.

²⁵ Friedrich Zurbonsen, "Hermann Zoestius von Marienfeld und seine Schriften," *Westdeutsche Zeitschrift* 18 (1899): 146–73, at p. 157.

²⁶ Hermann Zoest, *Tractatus phase*, c. 2, MS R, fol. 18v: "Ecce qualis error, quam magnum inconveniens et quam absurdum est hoc. Inde simplices scandalizantur, Christianitas irridetur et illicita committuntur. Dico primo quod simplices

5. Zoest ascribes to himself a *Tractatus exhortatorius*, written in 1432, which may have provided the text for the *cedula cum exhortacione* submitted in 1434.²⁷

As the gloss informs us, Hermann Zoest was not only instrumental in putting the calendar reform on the council's agenda, but he was "made an associate of the Lord Cardinal" (*adiunctus erat domino cardinali*), which apparently means that he served as an adviser to Antonio Correr, the official head of the newly inaugurated reform project. This initial arrangement did not last very long, however, as Correr left Basel on 20 September 1434. In reaction to his imminent departure, the matter was put in the hands of "several prelates and doctors," as we learn from Zoest's *Phaselexis* (2nd ver.).²⁸ Members of this group had already begun to be

scandalizantur et specialiter layci, maxime vero rustici et villani, qui ex antiqua consuetudine et patrum suorum relacione sciunt quod semper Pascha dominica proxima post 14 lunam vernalis equinoxii solebat celebrari, hoc est dominica 3^a mensis lunaris predicti." See also Solan Bethmale, "Les propositions" (n. 8), 135–36.

²⁷ Hermann Zoest, *Phaselexis* (2nd ver.), c. 5, MS O, fol. 305ra: "Et ego, tamquam scobs et fex omnium ultimus, inde tractatulum exhortatorium conscripsi anno Christi M^o CCCC^o XXXII^o." Hermann Zoest's authorship of the *cedula* was already suspected by Kaltenbrunner, "Die Vorgeschichte" (n. 3), 338–39, who is followed in this respect by Wattenbach, "Über Hermann" (n. 4), 96–97; Zurbonsen, "Hermann Zoestius" (n. 25), 157; Josef Tönsmeier, "Hermann Zoestius von Marienfeld, ein Vertreter der konziliaren Theorie am Konzil zu Basel," *Westfälische Zeitschrift* 87 (1930): 114–91, at p. 123; Honecker, "Die Entstehung" (n. 4), 584; Sudmann, *Das Basler Konzil* (n. 5), 267. Doubts were raised by Stegemann, ed., *Die Kalenderverbesserung* (n. 2), xxxvi.

²⁸ Hermann Zoest, *Phaselexis* (2nd ver.), c. 8, MS O, fol. 308rb: "Cum igitur per humilem supplicationem et devotam materia reformationis kalendarii et eradicationis scandalosi defectus celebrationis gloriosi festi Pasche in sacrosanctam Basiliensem synodum introducta fuit, ipsa materia reverendissimo patri et domino, domino Anthonio Hostiensi episcopo, cardinali Bononiensi vulgariter nuncupato, et post eius recessum de

selected on 15 September, when the *Deputatio fidei* and the *Deputatio pro communibus* each delegated two men from their ranks *ad visitandum kalendarium noviter correctum*.²⁹ It would appear probable that the remaining two deputations did likewise and that Thomas Strzemiński was one of those nominated by the *Deputatio pacis*. The task force thus assembled does not make any appearance in the extant protocols before 19 January 1435, when the *Deputatio pro communibus* moved to send some memos (*avisamenta*) that had already been submitted by astronomers “to universities and others persons skilled in this art” and to wait for their reports before taking any final vote.³⁰ Three months later, on 8 April 1435, the general assembly confirmed a joint decision of the four deputations (4 April 1435), which authorized those delegated to the task force to reach a

concilio quamplurimis prelati et doctoribus, est comissa.” For the date of Correr’s departure, see Honecker, “Die Entstehung” (n. 4), 585 n. 21.

²⁹ *Concilium Basiliense* (n. 12), 3:203: “Relatum est pro parte deputacionis fidei, ipsos deputasse duos ad videndum kalendarium noviter correctum. Ad visitandum kalendarium noviter correctum fuerunt deputati domini Johannes Pulchripatri et provincialis Paduanus ordinis Minorum.” See Solan Bethmale, “Les propositions” (n. 8), 137–40. The assertion in Wojciechowski, “Działalność soborowa” (n. 11), 6, according to which Strzemiński and other members were selected by Nicholas of Cusa, is without foundation.

³⁰ *Concilium Basiliense* (n. 12), 3:289: “Quo ad materiam kalendarii etc. placuit, quod avisamenta data per aliquos astrologos in concilio mittantur ad universitates et alios peritos in arte, et habeantur eorum avisamenta, antequam concludatur in materia.” The unnamed astronomers who submitted proposals to the Council of Basel at the time appear to have included Leonardo da Cremona, who alludes to his involvement in the introduction to his *Ars instrumenti horologici pro tempore sereno*, MS Paris, Bibliothèque nationale de France, lat. 7192, fol. 83r–96r, at fol. 83r: “Mea siquidem vi modica correctionis huius exemplaria transmissi ad concilium Basiliense, iam diu dum vigeret, et ad dominum papam Eugenium, ad Angliam et Parisium; cuius tenor scio quod vigeat in Hispania.” See Solan Bethmale, “Les propositions” (n. 8), 117, 143–44.

conclusion on the matter, but only once the soundness of their proposal had been assessed within the individual deputations.³¹

After this note, the preserved protocols remain silent until February 1437, telling us nothing about the further (or previous) course of discussions in the year 1435. John of Segovia, who was absent from the council between September 1434 and March 1436, adds very little to this silence, other than mentioning that “after the departure of the cardinal of Bologna [= Antonio Correr], the delegates discussed the matter of the calendar on several occasions and also reported to the deputations on the ways to make a correction.”³² Fortunately, some of this narrative gap can

³¹ See *Concilium Basiliense* (n. 12), 3:365, which text confirms a motion passed in the *Deputatio pro communibus* on 4 April 1435 (ibid., 3:358). See also the more detailed version recorded in MS Berlin, Staatsbibliothek, lat. fol. 246, fol. 101va, which is printed in Wattenbach, “Über Hermann” (n. 4), 109.

³² John of Segovia, *Historia* (8.19), ed. Birk (n. 2), 709: “Super materia kalendarii post recessum cardinalis Bononiensis pluries inter deputatos discussio ac eciam in deputacionibus facta relacio extitit de modo faciende correccionis”. Cf. the statement in Hermann Zoest, *Phaselexis* (2nd ver.), c. 8, MS O, fol. 308rb: “Excogitate sunt multe vie et coram dominis deputatis propositae.” I have found no evidence for the claim in Christine Gack-Scheiding, *Johannes de Muris: Epistola super reformatione antiqui kalendarii; Ein Beitrag zur Kalenderreform im 14. Jahrhundert* (Hannover: Hahn, 1995), 100, according to which reports on the work of the “Kalenderkommission” were sent to Paris by Simon de Plumetot. Gilbert Ouy, “Simon de Plumetot (1371–1443) et sa bibliothèque,” in *Miscellanea codicologica F. Masai dicata*, ed. Pierre Cockshaw, Monique-Cécile Garand, and Pierre Jodogne, 2 vols. (Ghent: E. Story-Scientia, 1979), 2:353–81, whom Gack-Scheiding cites, says nothing of the sort. Gack-Scheiding is also wrong in attributing to Simon de Plumetot the copy of John of Murs’s and Firmin of Beauval’s *Epistola super reformatione antiqui kalendarii* in MS Paris, Bibliothèque nationale de France, lat. 15104, fols. 114v–21v, which already dates from the fourteenth century. See Gilbert Ouy, *Les manuscrits de l’abbaye de Saint-Victor: catalogue établi sur la base du répertoire de Claude de Grandrue (1514)*, 2 vols. ([Turnhout]: Brepols,

be filled with the help of the *Relacio* concerning the “first deliberation on the matter of the calendar” (*deliberacionis prime super materia kalendarii*), which carries Thomas Strzempiński’s autograph signature. The text contains several first-person references by the author, who at the beginning (§1) states that he had been delegated to serve on the calendar-task force even though he was “neither knowledgeable nor possessing much understanding about this subject matter” (*Ego, qui in hac materia non sum sciens, nec intelligens multum*). Over the next few paragraphs of his report (§2–4), Strzempiński takes care to place the Council of Basel in a long line of previous attempts to establish proper rules for the celebration of Easter, starting in antiquity with Pope Victor (189–99) and the Council of Nicaea (325), which had defined Easter as the Sunday after the first full moon after the vernal equinox.³³ He thus links the necessary correction of Easter reckoning to the Council of Basel’s general goal of reforming the customs and morals within the Church, which were best restored to order by returning to the “sanctions and decrees of the fathers and general councils” (§2: *sanctiones et decreta patrum et conciliorum generalium*). In what follows (§5–8) he briefly sketches the different opinions held within his commission as to how the calendar should be adjusted, before offering his own assessment of the matter (§9–10). The final decision is left to the council’s fathers, who appear in the text as *paternitates vestre* (§1) and *dominaciones vestre* (§10).

The deliberations mentioned in the *Relacio* are of a fairly basic type and do not cover all of the questions pertinent to a complete reform of the

1999), 2:503–504. Müller, “*ut reiecto*” (n. 4), 153, repeats both of Gack-Scheiding’s gaffes.

³³ The historical material Strzempiński utilizes in these passages was almost certainly taken from Hermann Zoest’s *Tractatus phase* of 1424, as seen from many parallels in content and wording between the *Relacio* and this treatise. These will be documented in the source critical apparatus of the edition in Appendix I below.

ecclesiastical calendar. They ignore, for instance, the correction of the 19-year lunar cycle and the Golden Numbers connected to it, which would have been a core part of any attempt to fix the calculation of Easter. Judging by Thomas Strzemiński's own admission of ignorance at the beginning of his *Relacio*, it appears that the theologians and canon lawyers ("prelates and doctors") who constituted the task force felt unequipped to assess this more technical aspect of the reform and preferred to leave it to astronomical experts, as already suggested by the protocol entry for 19 January 1435. Such expertise was indeed provided by Hermann Zoest, who, as we shall see below, had a clearly visible influence on the resulting draft of a reform decree, which is appended to Strzemiński's *Relacio* in the only known manuscript (MS K, fol. 115r-v). If we go by the parallel case of the report Strzemiński drew up for the episcopal dispute in Albi, it would appear that his *Relacio* on the calendrical deliberations was addressed to the council's general assembly, but destined to be first read and assessed within the four deputations. This would have been fully in line with the aforementioned motion passed on 8 April 1435, which specifically demanded that any conclusions reached by the task force should be examined by the deputations before becoming final. If the latter gave green light, the task force's report would have presumably been passed on to the general assembly for final confirmation.³⁴ What remains unclear, however, is if the extant *Relacio* was written in reaction to the injunctions received in early April 1435, or whether the chain of causation was in fact the other way around. A date later than the spring of 1435 seems unlikely if we consider that the reform sketched in both the *Relacio* and the attached decree text involved the omission of the leap-day in February 1436. Since the procedure of sanctioning and preparing this reform would have taken a considerable amount of time, one would expect the planning

³⁴ See on this point Solan Bethmale, "Les propositions" (n. 8), 121–23.

stages to have begun close to a year before the target date. It is hence certainly plausible that Strzemiński's "Report on the first deliberation" (*Relacio deliberacionis prime*) summarizes the earliest formal discussion within the task force, which are likely to have taken place close to the beginning of 1435.

From the fact that Strzemiński wrote and signed the report in question, one may conclude that he occupied a fairly elevated position within this task force, perhaps even acting as its president. Otherwise, the strongly personal tone of his address to the council's fathers would be difficult to explain.³⁵ At the same time, there may be reason to doubt if the text as we know it was ever formally submitted to any of the council's legislative bodies, given the lack of a precise date (in contrast to the report on the episcopal dispute) and the fact that the preserved protocols mention no further steps.³⁶ Quite revealing in this respect may be a note in the same hand as Strzemiński's signature, which follows immediately upon the *Relacio* and serves as a heading for the appended decree text: "first deliberated, but not decreed, because of the arrival of the Greeks, which was expected [at the time]" (*Primo deliberatum sed non decretatum propter adventum Grecorum qui expectabatur*). The significance of this remark will be discussed further below (p. 217). For now, let us turn to the content of the proposed reform.

³⁵ Ibid., 123, 140. Previous scholars have wrongly assumed that Strzemiński acted on behalf of the University of Kraków, following a request from Basel. See Rebata, "Miejsce Wawrzyńca" (n. 6), 561 n. 28; Markowski, "Marcin Biem" (n. 6), 12; Markowski, "Astronomie" (n. 6), 264–65.

³⁶ Solan Bethmale, "Les propositions" (n. 8), 124, 126, 146.

3. *The proposal of 1435*

The *Relacio* penned by Thomas Strzemiński makes no allusions to the draft decree joined to it in the Kraków manuscript, but the proposals they attest to are clearly very similar, suggesting that the two texts were outcomes of the same round of deliberations near the start of 1435.³⁷ The decree is tersely worded, but its interpretation is helped to a considerable extent by Hermann Zoest, who appears to have participated in the discussions of 1434/35 in the role of a scientific adviser rather than an official delegate.³⁸ His involvement is documented most clearly by his treatise *Phaselexis* (*Ist ver.*), which has come down to us in three copies.³⁹ One of these (MS C), now in the Royal Library of Copenhagen, was once located in Marienfeld Abbey in the diocese of Münster, where Hermann Zoest spent a large part of his adult life.⁴⁰ A second (MS U), now in the University Library of Uppsala, can be traced back to Vadstena Abbey in the Swedish diocese of Linköping.⁴¹ A third (MS G) is preserved in the Archdiocesan Archive of Gniezno and features chapter headings and annotations in the distinctive hand of Thomas Strzemiński, who appears to have brought Hermann Zoest's work home to Poland after leaving the

³⁷ One slight difference concerns the anticipated future location of the *termini paschales*, on which see p. 29 below.

³⁸ This view of Hermann Zoest's role is plausibly argued for in Solan Bethmale, "Les propositions" (n. 8), 141–42.

³⁹ See the edition in Appendix II below.

⁴⁰ Ellen Jørgensen, *Catalogus codicum latinorum medii aevi Bibliothecae Regiae Hafniensis* (Copenhagen: Gyldendal, 1926), 423–25.

⁴¹ Margarete Andersson-Schmitt and Monica Hedlund, *Mittelalterliche Handschriften der Universitätsbibliothek Uppsala: Katalog über die C-Sammlung*, vol. 1 (Stockholm: Almqvist & Wiksell, 1988), 151–68. This was the only copy known to Solan Bethmale, "Les propositions" (n. 8), 168 and *passim*.

council.⁴² The treatise on calendar reform is in fact followed by another of Zoest's chronological works, this time copied mostly or entirely in Strzempiński's hand: a historical *Kalendarium Hebraicum* (1436), in which events in the Old and New Testament are recorded according to their dates in the Jewish calendar.⁴³

Although the *Phaselexis* (1st ver.) contained in these codices has a nearly identical preface to the much more widespread *Phaselexis* (2nd ver.), it is clearly a distinct text, consisting of six rather than ten chapters. Indeed, its technical content answers not to the decree of 1437, but to the decree of 1435 preserved by Strzempiński. The preface begins by praising the "holy synod" of Basel for having "carefully emended [the calendar] and expelled the defect in the celebration of the most honoured feast of Easter beyond the doorstep of the House of God."⁴⁴ Throughout the remaining

⁴² Jadwiga Ryl, *Katalog rękopisów biblioteki katedralnej w Gnieźnie = Archiwa, Biblioteki i Muzea Kościelne* 45 (1982): 5–201, at pp. 23–24. The existence of this copy was previously noticed by Wojciechowski, "Działalność soborowa" (n. 11), 6–7, who, however, wrongly ascribes the main text to Nicholas of Cusa.

⁴³ MS G, fols. 357r–64r. I was unaware of this copy when I prepared the edition of Hermann Zoest's *Calendarium Hebraicum novum* in Nothaft, *Medieval Latin Christian Texts* (n. 7), 506–55. The copy in MS G differs substantially from the nine witnesses used for this edition, suggesting that Strzempiński rewrote parts of the text rather than just copying it word for word. Wojciechowski, "Działalność soborowa" (n. 11), 13–17, ascribes the *Kalendarium* in G in its entirety to Strzempiński and completely misinterprets its content.

⁴⁴ Hermann Zoest, *Phaselexis* (1st ver.), prefacio, MS U, fol. 262r: "Gaude et letare, sacrosancta Basiliensis synode preclarissima, quia antiquarum sacrosanctarum synodorum consors es effecta! Ceteris autem permagnificis operibus a te gestis pretermisissis ad unicum opus me converto. Nam id quod illic apud summos pontifices isticque in conciliis sepe est temptatum et inceptum, tu ad optatum et felicem perduxisti finem. Tu nempe kalendarium viciosum et corruptum diligenter emendasti et defectum observacionis festi Pasche celeberrimi extra limen domus Dei eminus eiecisti."

text, there are further indications that Zoest expected his treatise to be circulated in an imminent future in which the decree of 1435 had been passed and its measures implemented. He specifically mentions the following five reasons for writing the *Phaselexis* (1st ver.):

1. to make known the method by which the calendar was corrected
2. to provide explanations for these corrective steps, which had been omitted from the reform decree for the sake of brevity
3. to offer computists the material necessary to correct their old calendrical tables and compose new ones
4. to provide a context for the reform by tracing the history of Easter from the beginnings to the Council of Basel
5. to “barricade the mouths of those who speak unjustly, namely the malevolent detractors.”⁴⁵

The remark about “detractors” seems to have been mainly aimed at the Jews, who were perceived by Hermann Zoest and other writers on calendar reform as ridiculing the Church for its inability to time Easter and other feasts according to the proper rules.⁴⁶ A significant addition to the text, found in both the Uppsala and the Gniezno copies, is a calendar complete with auxiliary tables, which illustrates the changes and improvements

⁴⁵ Ibid., fol. 263r: “Quinta causa est ut obstruantur ora loquentium iniqua, scilicet detractorum invidorum.” The other four reasons are listed *ibid.*

⁴⁶ Ibid., c. 3, fol. 266r: “Secundum inconveniens ex defectu dicto sequens fuit derisio grandis et molesta. Iudei namque et alii crucis Christi emuli arguebant nos de ignorancia et multipharie multisque modis nostram negligenciam deridebant fuimusque propterea repleti despectione, quia facti fuimus despectio superbis Iudeis de lege sua gloriantibus.” On the background, see Nothaft, “A Tool” (n. 7), 163–67.

recommended by Zoest and prescribed in the reform decree.⁴⁷ In essence, these changes reduce to five separate components, which I shall analyse in what follows.

(a) *fixing the equinoxes/solstices*

Ever since the patriarchs of Alexandria had finalized their rules for the calculation of Easter in the fourth century,⁴⁸ the date of the vernal equinox—and hence the equinoctial limit for Easter Sunday—had been assumed to fall on 21 March. But this was no longer the case eleven centuries later, when the Council of Basel turned towards rectifying this same Alexandrian Easter computation. Using modern parameters, it can be seen that the vernal equinox in the leap year-cycle from 1432 (Julian leap year) to 1435 fluctuated between 11 March 15:38h and 12 March 08:59h GMT.⁴⁹ This shift of ten days in the course of eleven centuries is explicable by the fact that the Julian calendar, with its average year length of 365.25d, overestimated the true length of the solar year by a certain amount. Among late medieval astronomers, the standard tool to analyse this calendrical error would have been the so-called Alfonsine Tables, where the (mean) tropical year is assumed to last 365d 5h 49m 16s.⁵⁰

⁴⁷ MS G, fols. 353r–56r; MS U, fols. 272v–73ev.

⁴⁸ On the history of Easter reckoning in late antique Alexandria, see Alden Mosshammer, *The Easter Computus and the Origins of the Christian Era* (Oxford: Oxford University Press, 2008), 130–203.

⁴⁹ <https://stellafane.org/misc/equinox.html>

⁵⁰ Emmanuel Poulle, *Les Tables Alphonsines avec les canons de Jean de Saxe* (Paris: Éditions du CNRS, 1984), 130. On the Alfonsine Tables and their reception, see José Chabás and Bernard R. Goldstein, *The Alfonsine Tables of Toledo* (Dordrecht: Kluwer, 2003), and C. P. E. Nothaft, “Critical Analysis of the Alfonsine Tables in the Fourteenth Century: The Parisian *Expositio Tabularum Alfonsii* of 1347,” *Journal for the History of Astronomy* 46 (2015): 76–99.

Addressing this topic in his *Phaselexis* (1st ver.), Hermann Zoest pointed to ongoing disagreements among astronomers as to the “motion of the [planetary] apogees” (*motus augium*), which rendered the computation of true solar longitudes, and hence also the true length of the year, uncertain. Nevertheless, he admitted that the Alfonsine value was widely accepted in his own time for at least coming closer to the truth (being *verior*) than other available options.⁵¹ It implied an annual discrepancy of 10m 44s between the Julian and tropical years, calling for an omission of a day every 134 years in order to keep the dates of the equinoxes and solstices from receding. For the reform sketched in the decree of 1435, this value was indeed adopted, but slightly altered: instead of one day every 134 years, the goal was to get rid of a day every 136th year. The obvious reason, as Zoest took care to explain, was that 136 is a multiple of 4, which made it possible to restrict such excisions to the *bissextus*, i.e., the Julian leap day that is habitually inserted in February of every fourth year.⁵² He also suggested that all calendars should henceforth record the new rule in

⁵¹ Hermann Zoest, *Phaselexis* (1st ver.), c. 4, MS U, fol. 267v: “Unde notandum quod auctores astronomie variarum opinionum sunt in motu augium; et ex quo verus motus solis non potest inveniri absque motu augis, si igitur deficimus in motu augis, necessario etiam oportet nos deficere in vero motu solis. Et ideo vera anni quantitas nobis est incerta. Reputatur tamen opinio Alphonsi verior, qui ponit minorem anni quantitatem quam computiste.” The *motus augium* was thought to be governed by the precession of the eighth sphere, the rate and nature of which was a contentious topic in late medieval astronomy. See Jerzy Dobrzycki, “The Theory of Precession in Medieval Astronomy,” in idem, *Selected Papers on Medieval and Renaissance Astronomy*, ed. Jarosław Włodarczyk and Richard L. Kremer (Warsaw: Instytut Historii Nauki PAN, 2010), 15–60; Dobrzycki, “Astronomical Aspects” (n. 6).

⁵² Hermann Zoest, *Phaselexis* (1st ver.), c. 5, MS U, fol. 270r–v.

the margin below the page or column for February,⁵³ an adjustment that was indeed carried out in the reformed calendar appended to the *Phaselexis* (*Ist ver.*) in the Uppsala and Gniezno manuscripts. In the former codex, the first such omission is indicated to occur in 1436, the next in 1572, and so on until the year 2388.⁵⁴ This is in line with the injunctions contained in the draft decree (§13) and in the *Phaselexis* (*Ist ver.*) at the end of chapter 5 (see p. 270 below), which both specify 1436 as the year of reform.

The goal of creating this exception to the traditional leap year rule was to retain the equinoxes and solstices on their current dates in perpetuity, or at least for a long stretch of time. What it could not do was to restore the vernal equinox back to the date presupposed by the canonical rules of the Easter *computus*. In order to achieve this, it would have been necessary to remove ten days from the calendar, as was done one and a half centuries later in the Gregorian reform of the calendar (1582).⁵⁵ But this step appears to have been widely dreaded in Hermann Zoest's time. When, in 1344/45, Pope Clement VI enlisted the advice of astronomers to prepare a potential reform of Easter reckoning, it was established early on

⁵³ Ibid., fol. 270r: "Et est notandum quod si ista quatuor puncta in suis locis debent manere fixa, tunc est necesse quod bissextus semper post 136 annos omittatur, prout sacrosancta synodus Basiliensis statuit et decrevit; et hii anni in margine sub Februario sunt scribendi, ex eo quod sexto kalendas Marcii bis in martilogio pronunciat et duo dies sub illo sexto kalendas observantur."

⁵⁴ Ibid., fol. 273v: "Isti anni debent poni sub Februario, quia ibi est locus bissexti." The note appears on the page for March, but refers back to February. For reasons discussed on p. 47 below, the corresponding page in MS G (fol. 353v) alters the year of the first omission to 1440.

⁵⁵ On the modalities of this reform, see August Ziggelaar, "The Papal Bull of 1582 Promulgating a Reform of the Calendar," in *Gregorian Reform of the Calendar*, ed. George V. Coyne, Michael A. Hoskin, and Olaf Pedersen (Vatican City: Specola Vaticana, 1983), 201–39.

that any omission of days from the Julian calendar was problematic for a number of reasons, the weightiest of which concerned the calendar's role in regulating economic and juridical, in addition to religious, time. Secular rulers, it was feared, might for this reason decide to eschew the planned reform, causing a calendrical rift between state and church.⁵⁶ Worries of this sort were probably still in place in 1435, as evidenced by the decree's failure to take any steps towards reducing the vernal equinox to 21 March.⁵⁷ Instead, Hermann Zoest, Thomas Strzempiński, and their

⁵⁶ Chris Schabel, "Ad correctionem calendarii... The Background to Clement VI's Initiative? Text and Introduction," *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 68 (1998) 13–34, at p. 26: "Sed quod hoc sit inconveniens probatur, quia cum computaciones in curiis principum variarentur, lites in partes super debitis, obligationibus, contractibus, et multis aliis hanc materiam tangentibus que in curiis principum ventilantur, et forte sediciones, orirentur; ita quod, si propter evitacionem talium aliqui principes alio anno quam consueverunt uti noluerint, divisiones aliquae inter illos principes et ecclesiam sequi possent." This passage was copied into the treatise written for Clement VI by John of Murs and Firmin of Beauval, edited by Chris Schabel, "John of Murs and Firmin of Beauval's Letter and Treatise on Calendar Reform for Clement VI: Text and Introduction," *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 66 (1996) 187–215, at pp. 199–200. The background to these texts is discussed in C. P. E. Nothaft, "Science at the Papal Palace: Clement VI and the Calendar Reform Project of 1344/45," *Viator* 46, no. 2 (2015): 277–302.

⁵⁷ An unreferenced claim to the effect that the reform of 1435 aimed at eliminating ten days (by suppressing the leap day for 40 years) appears in Frederic J. Baumgartner, "Popes, Astrologers, and Early Modern Calendar Reform," in *History Has Many Voices*, ed. Lee Palmer Wandel (Kirksville, MO: Truman State University Press, 2003), 41–56, at p. 45: "Among the several proposals for correcting the Julian calendar, the most promising came from a Polish astrologer [!], Thomas Strzempinski, who later became bishop of Cracow. It called for eliminating the leap year for forty years [!] and then dropping a leap year every 136 years. Such a scheme would have been correct for about two thousand years before a day of error would have crept in." There are no signs

colleagues were content with stabilizing the dates of the equinoxes and solstices on the dates they were going to fall on after the planned omission of the bissextile day in 1436. According to the draft decree (§13), these were: 12 March (vernal equinox), 14 June (summer solstice), 15 September (autumn equinox), 13 December (winter solstice). Exactly the same dates were predicted by the Alfonsine Tables for the year 1436,⁵⁸ whereas Hermann Zoest deviates slightly by putting the winter solstice on 14 December, presumably because this was the correct Alfonsine date for all of the following three years (1437–1439) and hence for three quarters of the leap year cycle.⁵⁹

(b) *new Easter limits*

According to the traditional Alexandrian rules, the notional equinox on 21 March posed a fixed lower boundary for Easter Sunday, which could fall anywhere between 22 March and 25 April. If this ‘rule of the equinox’ was maintained, but the date of the equinox lowered to 12 March, this necessitated a new set of Easter limits, on 13 March and 16 April respectively. The consequences of such a change are brought up briefly by Thomas Strzempiński in the *Relacio* (§10), where he mentions how an implementation of the reform could be expected to play out in the year

that the reform of the leap year rule was Strzempiński’s idea and the elimination of ten consecutive leap days is mentioned nowhere in the sources.

⁵⁸ The Alfonsine dates, which are reckoned from preceding noon, are: 12 March 16:40h – 14 June 04:21h – 15 September 17:05h – 13 December 20:19h. All calculations of Alfonsine data presented in this article were carried out using Raymond Mercier’s software *Deviations* (<http://www.raymondm.co.uk>).

⁵⁹ Hermann Zoest, *Phaselexis* (1st ver.), c. 5, MS U, fol. 270r. The calendar adjoined to the *Phaselexis* in MS G (fols. 354r–v, 355v–56r) records all four equinoxes and solstices exactly as mentioned in this passage, whereas that in MS U (fol. 273r) only mentions the vernal equinox on 12 March.

1503: with Easter on 13 March, Septuagesima was going to fall in the week after Epiphany, and Candlemas on the Wednesday after Quadragesima Sunday. Rogation Sunday, moreover, was bound to precede St Mark's Day (24 March) and Pentecost was going to fall as early as 1 May (SS Philip and James's Day). All of this entailed a considerable re-shuffling of the order between mobile and fixed feast days, with the corresponding necessity of adjusting liturgical books, breviaries, and calendars to the new order. Thomas Strzemiński freely acknowledged that this aspect of the proposed reform had invited complaints from certain quarters. He left it to the fathers of the council

to see if this is expedient, or if some scandal follows from it. For in my estimation there are no other inconveniences about this apart from the [ones mentioned]. I believe it better to make this change to the feasts, which does not contradict canon law, than to live with the aforementioned inconveniences. With regard to what is being said about the changes to the books, I say it is not a great change, because it only affects the interval [between Christmas and Lent] and the mobile feast days, which can easily be provided for.⁶⁰

An alternative solution to the same dilemma had been mentioned 90 years earlier by John of Murs and Firmin of Beauval, two of Clement VI's astronomical advisers, who suggested to maintain the traditional Easter limits of 22 March–25 April without paying heed to the changed position

⁶⁰ MS K, fol. 115r: "Videant igitur dominaciones vestre si hoc expediat, vel si ex hoc sequi aliquod scandalum, quia alia non sunt circa hoc inconveniencia meo iudicio nisi ista. Credo quod melius est facere hanc mutacionem festorum, que non repugnat sacris canonibus, quam scire inconveniencia prius dicta. De hoc quod dicitur de mutacione librorum, dico quod non erit grandis mutacio, quia solum in intervallo et festis mobilibus, cui facile poterit succurri."

of the vernal equinox. In their view, the Church might instead decide to reconceive the traditional ‘rule of the equinox’ as merely reflecting the calendrical situation in late antiquity, when the present rules were formulated. Following this principle, it was possible to enshrine 21 March as the perpetual lower limit for the Easter full moon, whether or not it was presently identical to the date of the vernal equinox. As long as the date of the full moon was calculated correctly, this would guarantee a “true and infallible” calculation of Easter for the long term.⁶¹ There are no signs that the task force in Basel ever contemplated such a solution, but, contrary to what Strzempiński’s report suggests, the draft decree did not allow Easter to fall on 13 March, either. Instead, it declared that the earliest *terminus paschalis* (i.e., the notional full moon and boundary date before Easter) was no longer to be found on 21 March in year 16 of the 19-year cycle, but in year 19, when the Easter full moon fell on 16 March (§12). By implication, the latest such *terminus*, in year 11, was no longer going to be on 18 April, but on 13 April.⁶²

The rationale behind this relatively conservative shift of *termini* is explained by Hermann Zoest,⁶³ who appears to have been the main advocate of this solution and indeed the main author of the decree text. Zoest fully admitted that the newly proposed set of *termini paschales* did not completely conform to the ‘rule of the equinox’ as classically conceived. This became conspicuous in years 3 and 11 of the 19-year cycle, which according to the anticipated reform would have placed the *terminus* on 11 and 13 April respectively. Both of these dates fell at least

⁶¹ John of Murs and Firmin of Beauval, *Tractatus super reformatione antiqui kalendarii* (4), ed. Schabel, “John of Murs” (n. 56), 210: “Sic enim omnes regule de Paschate vere et infallibiliter de cetero remanerent.”

⁶² See also Hermann Zoest, *Phaselexis* (1st ver.), c. 5, MS U, fol. 270r: “Est ergo primus Pasche terminus positus 17 kalendas Aprilis, ultimus nempe ydus Aprilis est locatus.”

⁶³ See the sixth and final chapter of the *Phaselexis* (1st ver.), *ibid.*, fols. 270v–72r.

30 days after the current vernal equinox (12 March) and thus created the impression that the corresponding Easter Sunday was celebrated in the second rather than the first month of spring. This appeared to violate the biblical definition of the month of Passover, which Nicholas of Lyra, in his exegetical postill on Exodus 12, elucidated in the following manner: “It is true, as a rule [*regulariter*], that the first month of the Hebrews always begins from the beginning of the lunation that falls closest to the vernal equinox, whether the beginning of this lunation be before the equinox, after it, or on it.”⁶⁴

The passage is only one of several quoted by both Thomas Strzempiński and Hermann Zoest, suggesting that the delegates and advisers who made up the task force had been jointly ruminating over the same collection of (legal, patristic, theological, and computistical) source texts.⁶⁵ Yet, whereas Strzempiński treated it as a strict command to always celebrate Easter as soon as possible after the equinox, Zoest believed he could spot an exception, hidden in Nicholas of Lyra’s use of the phrase “as a rule” [*regulariter*].⁶⁶ His central claim was that any lunar year of the 19-year cycle that contained a thirteenth, so-called ‘embolismic’, month, which made Easter fall in mid-to-late April, should be treated as exempt from the ‘rule of the equinox’. In defending this view, he appealed to the

⁶⁴ Nicholas of Lyra, *Postilla super totam bibliam*, Liber Exodus 12:1(d) (Strasbourg, 1492; repr. Frankfurt am Main: Minerva, 1971), sig. M9v: “Tamen est sciendum, quod hoc est regulariter verum, quod primum mensis Hebraeorum semper incipit a principio lunationis propinquioris aequinoctio vernali, sive principium dictae lunationis sit ante aequinoctium, sive post, sive ibidem.”

⁶⁵ Cf. the remarks in Solan Bethmale, “Les propositions” (n. 8), 141–42.

⁶⁶ Hermann Zoest, *Phaselexis* (1st ver.), c. 6, MS U, fol. 271r.

words of the Venerable Bede, who insisted on the rule,⁶⁷ but at the same time claimed that the Easter full moon or *terminus paschalis* was identical to the date of Passover.⁶⁸ Hermann Zoest argued that, unless Bede had contradicted himself, he had to be read as excluding years 3 and 11 of the 19-year cycle from the rule of the equinox, for in them the lunar month with *terminus* on or after the vernal equinox (12 March) currently already began in February. To identify this as the Easter lunation would have meant to celebrate the feast a month ahead of when the Jews actually ate the Passover, which went against the idea of Easter representing the Sunday after the Passover of Jesus's Last Supper and death. In essence, Zoest thus expected his readers to accept that the future method of Easter reckoning should follow the Jewish calendar, where the month of Nisan in years 3 and 11 (being years 19 and 8 in the Jewish count) fell in April rather than in March. If the Jews violated the 'rule of the equinox' in these years, so could the Church. Their calendrical tables, Zoest claimed with reference to previous authors such as Reinher of Paderborn, Albertus Magnus, and Pierre d'Ailly, were in fact exceptionally reliable—approved by God and in conformity with astronomical calculation.⁶⁹

⁶⁷ Bede, *De temporum ratione* 61 (CCSL 123B, 451): "Quoniam absque ulla dubietate constat eam quae prima transit aequinoctio plenum suum globum ostenderit, primi mensis existere lunam." Ibid. 6 (CCSL 123B, 291): "Neque enim alia servandi paschae regula est quam ut aequinoctium vernale plenilunio succedente perficiatur."

⁶⁸ Ibid. 59 (CCSL 123B, 447–48): "Et si fieri posset ut eadem omnibus annis sabbati die luna quarta decima contigisset, nihil nostrae paschalis observantiae tempus a legali discreparet. ... Non tamen umquam contingat ut non nostra solemnitas paschalis aliquem legalium paschae dierum, saepe autem omnes intra se complectatur."

⁶⁹ Hermann Zoest, *Phaselexis* (1st ver.), c. 6, MS U, fol. 271v: "Patet etiam quia dominus Deus illas tabulas approbavit cum secundum illas festa celebrari iussit, quas et angelus laudavit et cotidiana experientia veras fore et cum astronomicis tabulis

(c) *excluding conjunctions*

Computistical tradition identified the 19 different *termini paschales* that can occur in each lunar cycle with the 14th day of the Easter lunation, which effectively meant that the new moons assigned to the Julian calendar were supposed to precede these *termini* by 13 days. In standard *kalendaria*, new moon dates were identified by the so-called Golden Number or *aureus numerus*, which, as the draft decree exemplifies (§11), medieval authors were wont to trace back to none other than Julius Caesar.⁷⁰ The *aureus numerus* quite simply designated the year in the 19-year cycle in which a particular date of the Julian calendar became the seat of a new moon, but the astronomical definition of this calendrical new moon was rarely spelled out with the required degree of precision. From late medieval discussions on calendar reform, it appears that authors generally associated the new moon with the day on which Sun and Moon are in conjunction, a date which was much easier to control and predict mathematically than the first visibility of the new moon crescent.⁷¹ Since the mean interval between

concordantes reperit considerata longitudine occasus Iherusalem.” For more on Zoest’s use and appreciation of the Jewish calendar, see Nothaft, “A Tool” (n. 7).

⁷⁰ For further examples, see Hermann Zoest, *Phaselexis* (1st ver.), c. 5, MS U, fol. 268v; John of Sacrobosco, *Computus* (aka *De anni ratione*), in *Libellus de Sphaera*, ed. Philipp Melanchthon (Wittenberg: Clug, 1538), sig. E8r–v; Alexander of Villedieu, *Massa compoti*, ed. Walter Émile van Wijk, *Le Nombre d’Or* (The Hague: Nijhoff, 1936), 52; Guillaume Durand, *Rationale divinorum officiorum* 8.11.1 (CCCM 140B, 165); Nicholas of Cusa, *De correctione kalendarii* (3), ed. Stegemann (n. 2), 29.

⁷¹ See Solan Bethmale, “Les propositions” (n. 8), 73–74. This outlook is also evident from the many ‘improved’ lunar calendars drawn up since the eleventh century, where the Golden Numbers are supplemented by mean or true conjunction times calculated from astronomical tables. See C. P. E. Nothaft, “The Astronomical Data in the *Très Riches Heures* and Their Fourteenth-Century Source,” *Journal for the History of Astronomy* 46, no. 2 (2015): 113–29; Nothaft, “Medieval Astronomy in Catalonia and

conjunction and opposition is approximately 14d 18h, this convention implied that the full moon was going to appear on either the 15th or the 16th day of the lunar month—depending on whether the conjunction happened before or after 6h on its day.

Instances of the latter sort were more frequent and could lead to situations where Easter Sunday, which could fall on the 15th day at the earliest, preceded the full moon it was notionally connected to. While this issue appears to have been generally ignored by writers on calendar reform prior to 1435, Thomas Strzempiński's *Relacio* reveals that the members of his task force gave it special attention, with some of them arguing that the day of conjunction should be excluded from the count of lunar days (§6–7). Strzempiński, who was himself in favour of this change, cited in its support a series of patristic authorities, including Augustine, the Venerable Bede, and Isidore of Seville, who all seemed to demand that Easter be celebrated only when the moon is fully illuminated (§9). That this view prevailed among the delegates is evident from the decree text, which defined Easter as the first Sunday “after the 14th lune of the first month, the vernal equinox having passed, excluding the day of conjunction” (§11: *Pascha sanctum post XIII lunam primi mensis vernali transacto equinoctio, die coniunctionis excluso, in proxima dominica celebretur*). In doing so, the text effectively increased the interval between the Golden Number and the paschal *terminus* from 13 to 14 days, making sure that the following Easter Sunday was always accompanied by a full moon. Hermann Zoest explained the rationale for this step in the following terms:

The reason why 14 completed days are counted is that the Hebrews never begin the first day of the lunar month before the evening (i.e.,

the South of France: The ‘Improved’ Lunar *Kalendarium* of Friar Raymond (Ramon) Bancal (ca. 1311) and Its Predecessors,” *Llull* 38, no. 81 (2015): 101–25.

the sunset) that follows upon the kindling [= conjunction]. And the evening of the 14th day, i.e., the one at the end of [this day], is the moment when the paschal lamb is sacrificed, which is the *terminus* for our Easter, because the Gospel follows upon the Law and the truth [follows upon] its image. ... From this it plainly follows that the day of the moon must be computed from the evening hour [of one day] to the eventide of the following day. And thus, whenever the Moon is kindled before sunset, it will not be called the first [day] before the following sunset. And, conversely, whenever it is kindled right after the sun's setting, [this day] until the following evening will not be counted as the first, but as the 29th or 30th. And this is based on the fact that each lunar month has 29 days and 12 hours with [some] fractions. The middle one of those 29 days is the 15th day, which is the day of opposition. This 15th day therefore ought to have 14 complete days before itself and as many after itself.⁷²

⁷² Hermann Zoest, *Phaselexis* (1st ver.), c. 5, MS U, fol. 270r: "Racio quare computantur 14 dies completi est hec quia Hebrei non incipiunt diem lunacionis primam nisi in vespera incensionem sequente, scilicet in occasu, et illa vespera quaterdecime diei, scilicet finis illius, est hora ymmolacionis paschalis agni, que quidem est terminus nostri Pasche, quia ewangelium sequitur legem et veritas figuram; et in signum illius olim Ecclesia in sabbato sancto incipiebat officium in occasu, prout adhuc in quibusdam ecclesiis solitum est fieri, unde patet quod a vespertina hora usque ad vesperam sequentis diei dies lune computandus est. Et ideo quantumcumque incendatur luna ante solis occasum non tamen dicitur prima nisi in occasu sequente. Et, econverso, quantumque cito post occasum solis incendatur, non computatur prima, sed 29 vel 30 usque ad sequens vesperum. Et istud fundatur super illo quod omnis lunacio habet 29 dies et 12 horas cum fractionibus. Inter istos 29 dies 15 dies est media, que est et dies oppositionis. Oportet ergo quod hec 15 dies habeat 14 completos dies ante se et totidem post se."

The passage once more underlines the importance of the Jewish Passover, both as a calendrical predecessor and as a model for the reckoning of Easter. In the case at hand, Hermann Zoest identifies the Christian *terminus paschalis* with the 14th day of the Hebrew month of Nisan, which ends right before the evening reserved for the Passover meal. He claims, moreover, that the Jews begin their months on the evening that follows the conjunction of Sun and Moon, rather than the day of the conjunction itself, making the 14th of Nisan identical to the 15th day from conjunction. This is not a fully accurate description of the Jewish calendar as it existed in Zoest's as well as in modern times, where the month can even begin on the evening *before* the calculated time of conjunction. Instead, it is reminiscent of a set of criteria outlined by the Venerable Bede in *De temporum ratione* (725), where he states that

The age of a new Moon is more appropriately calculated from the evening hour than from any other time, and it will retain the age which began in the evening until the following evening. Should it befall that the Moon is lit up by the Sun shortly before evening, it must be counted as, and it must be, the first Moon as soon as the Sun has set, and it will be the first Moon immediately after sunset, because it has reached the hour when first it began to shine forth upon the Earth. But if its lights appears after sunset, the Moon will not yet have seen its first day before evening, but ought rather to be counted as the thirtieth Moon.⁷³

⁷³ Bede, *De temporum ratione* 43 (CCSL 123B, 414, ll. 36–44): “[C]ongruentius aetas lunaris a vespertina hora quam aliunde nova computabitur, eamdemque aetatem quam vespere inchoat, sequentem usque servabit ad vesperam. Et siquidem eam paulo ante vesperam accendi a sole contigerit, mox sole occidente primam computari et esse necesse est, quia videlicet illam temporis horam, qua primum terris fulgere coepit, adiit.

In practice, of course, the months in the Jewish calendar could be difficult to distinguish from this principle, since it came with a system of postponement rules that more often than not moved the beginning of the month one day, sometimes even two days, away from the date of conjunction.⁷⁴ One case in point would be the month of Nisan in the year 1439, whose corresponding *molad* or mean conjunction fell, according to the Jewish reckoning, on Sunday, 16 March, in the 20th hour from the previous sunset, whereas the calendrical month only began on the following Tuesday. As a result, the following mean opposition of Sun and Moon (= conjunction + ca. 14d 18h), even though it technically belonged to the 16th day from conjunction (counted inclusively), coincided with Monday, 14 Nisan.

In his *Relacio* (§6), Thomas Strzempiński used the same example to show how an inclusive count from the day of conjunction was bound to produce cases where Easter Sunday precedes the date on which the Jews prepare for their Passover. If, in 1439, the count of lunar days started

Sin autem post occubitum solis accendatur, non tamen primam priusquam vesperam viderit, sed tricesimam potius oportet aestimare.” For the English translation, see Faith Wallis, trans., *Bede: The Reckoning of Time* (Liverpool: Liverpool University Press, 1999), 117.

⁷⁴ On these postponement rules, see Nothaft, *Medieval Latin Christian Texts* (n. 7), 27–30. It seems worth mentioning that Hermann Zoest’s principal source on the operation of the Jewish calendar was the *Computus emendatus* (1170/71) of Reinher of Paderborn, whose tables and rules effectively cause all Jewish dates to fall one day too late—and hence one day later than the actual conjunction. This may have contributed to Zoest’s misunderstanding. See Reinher of Paderborn, *Computus emendatus* (1.14–24), ed. Walter Émile van Wijk, *Le comput emendé de Reinherus de Paderborn (1171)* (Amsterdam: North-Holland, 1951), 28–47. A new edition of this important work will appear in Alfred Lohr, ed., *Opera de computo saeculi duodecimi*, CCCM 272 (Turnhout: Brepols, 2016). For Zoest’s use of the *Computus emendatus*, see the account in Nothaft, “A Tool” (n. 7), especially p. 163 n. 50.

together with the conjunction on Sunday, 16 March, Easter Sunday would have followed 14 days later, on 30 March. However, the corresponding opposition of Sun and Moon could not be expected to occur before Monday morning. If the beginning of Passover can never precede the full moon, as the delegates in Basel appear to have assumed, the Jews had to await the following evening to celebrate their feast, thus creating a situation where Easter, quite illegitimately, took place not just before Passover, but before the eve of Passover (§6: *et tamen tunc Iudei adhuc debent ymmolare Pascha, quia feria secunda nostri Pasche esset plenilunium de mane, modo constat quod ipsi in plenilunio celebrant Pascha solemne*). Those among Strzempiński's colleagues who wanted to see the conjunction excluded from the lunar count therefore warned that, if the Moon suffered an eclipse during such an opposition, everybody could see that the Church had celebrated Easter before the actual full moon "and thus a considerable scandal would arise, because it would become plain to see that we preceded the Jews" (§6: *et ita scandalum non modicum oriretur, quia manifeste appareret nos prevenisse Iudeos*).

(d) *re-setting the Golden Number*

The decision to exclude the conjunction from the lunar count is also clearly reflected in the calendar appended to Hermann Zoest's *Phaselexis* (1st ver.) in MSS G and U, where the pages for March and April feature a separate column for the dates of the 19 *termini paschales*, putting them on 16 March to 13 April and at a constant interval of 14 days from the corresponding Golden Numbers (2 to 30 March).⁷⁵ This arrangement is in full conformity with a requirement mentioned in the draft decree, which states that "the holy synod wants the Golden Number on the right side in March and April to be placed such that the Golden Number 19 is placed next to the 16th day

⁷⁵ See MS G, fol. 354r, and MS U, fols. 273v–73ar.

of March and that the other Golden Numbers up until 11 continue in the way they were placed in the old calendar in the month of January” (§12: *vult hec sancta Sinodus ut aureus numerus a latere dextro in Marcio et Aprili sic ponatur quod aureus numerus 19 ponatur et [!] ad sextamdecimam diem Marcii ceterique aurei numeri usque ad undenarium continuentur sicut in veteri kalendario in mense Ianuario ponebantur*).

Elsewhere (§14), the decree demands that the Golden Number 19, which in the old calendar was found on 5 January, should henceforth be placed next to 2 January. All remaining Golden Numbers were supposed to be distributed according to two alternating sequences, one for unevenly and one for evenly numbered months of the year. These sequences are enshrined at the end of the decree in the form of mnemonic verses, starting *Nod octo, sed quinque, tred ambo, decem, doc*. Although the text does not say so, it is clear that the number of syllables (one or two) contained in each mnemonic distinguishes between cases where a particular Golden Number is immediately followed by another one and those where there is a gap of one day between them. Where a monosyllabic word, e.g. *Nod* for *No(vem)d(ecem)*, is followed by a bi-syllabic one, e.g. *octo*, the implication is that the indicated Golden Numbers appear on adjacent dates—here: nos. 19/8 on 2/3 January—while the following date remains blank and thus never becomes the seat of the new moon in the course of 19 years. The reformed calendar transmitted along with *Phaselexis* (1st ver.) confirms this interpretation, as seen from its sequences of Golden Numbers for the months of January and February. Details can be gleaned from Tab. 1 below, which compares the new Golden Number (= New GN) featured in this calendar with the conventional one (= Old GN).⁷⁶

⁷⁶ MS U, fols. 272v–73r.

January	Old GN	mnemonic	New GN	February	Old GN	mnemonic	New GN
1	III			1			
2		<i>nod</i>	XIX	2	XI	<i>oc</i>	VIII
3	XI	<i>octo</i>	VIII	3	XIX	<i>sede</i>	XVI
4				4	VIII		
5	XIX	<i>sed</i>	XVI	5		<i>quin</i>	V
6	VIII	<i>quinque</i>	V	6	XVI	<i>treden</i>	XIII
7				7	V		
8	XVI	<i>tred</i>	XIII	8		<i>ambo</i>	II
9	V	<i>ambo</i>	II	9	XIII		
10				10	II	<i>de</i>	X
11	XIII	<i>decem</i>	X	11		<i>decas</i>	XVIII
12	II			12	X		
13		<i>doc</i>	XVIII	13		<i>sep</i>	VII
14	X	<i>septem</i>	VII	14	XVIII	<i>quinde</i>	XV
15				15	VII		
16	XVIII	<i>quint</i>	XV	16		<i>quard</i>	IV
17	VII	<i>quartus</i>	IV	17	XV	<i>duod</i>	XII
18				18	IV		
19	XV	<i>dud</i>	XII	19		<i>io</i>	I
20	IV	<i>iota</i>	I	20	XII	<i>novem</i>	IX
21				21	I		
22	XII	<i>novem</i>	IX	22		<i>desep</i>	XVII
23	I			23	IX		
24		<i>sepd</i>	XVII	24		<i>sex</i>	VI
25	IX	<i>vi</i>	VI	25	XVII	<i>quarde</i>	XIV
26				26	VI		
27	XVII	<i>quard</i>	XIV	27		<i>ter</i>	III
28	VI	<i>ternus</i>	III	28	XIV	<i>unden</i>	XI
29							
30	XIV	<i>und</i>	XI				
31	III	<i>nodes</i>	XIX				

Tab. 1

Authorship of the revised pattern of Golden Numbers—which was set to repeat on 2 March and again on 30 April, 28 June, 26 August, 24 October, and 22 December—can be safely assigned to Hermann Zoest, who discusses it in some detail in chapter 5 of *Phaselexis* (1st ver.).⁷⁷ From the second version of this treatise, composed in 1437, we learn that Zoest was the author of the mnemonic verses that follow at the end of the decree and that it was he who ‘extracted’ the revised Golden Numbers by computing the mean conjunctions of Sun and Moon for four consecutive 19-year cycles.⁷⁸ Whatever the details behind this ‘extraction’ may have been, it is clear that it would have involved certain compromises. These were owed in particular to the imprecisions inherent in the use of Golden Numbers, where certain dates were permanently (and unrealistically) barred from becoming the seat of the new moon.⁷⁹ To an extent, Hermann Zoest’s scheme aggravated these imprecisions, given that he proposed to apply the same two sequences of Golden Numbers to all six pairs of uneven and even months contained in the Julian calendar, which made for an even rougher approach than the traditional lunar calendar. Aware of these problems, he assured his readers that the calendrical location of the new moons was nothing to be overly fastidious about, as no single distribution of Golden Numbers distribution of Golden Numbers could be deemed accurate for all longitudes:

⁷⁷ Hermann Zoest, *Phaselexis* (1st ver.), c. 5, MS U, fol. 269r–v.

⁷⁸ Hermann Zoest, *Phaselexis* (2nd ver.), c. 8, MS O, fol. 308rb: “Et secundum illam viam calculavi et quesivi medias coniunctiones ad quatuor ciclos et ex illis extraxi novum numerum in kalendario reponendum deleto veteri; et confeci metra per que ille numerus fuisset situandus, ne error circa hoc contingere potuisset.”

⁷⁹ See on this point already John of Murs and Firmin of Beauval, *Tractatus super reformatione antiqui kalendarii* (3.5), ed. Schabel, “John of Murs” (n. 56), 208–209.

As an example I use the case where some conjunction of the luminaries is on 2 March, one hour before midnight on the meridian of Toledo. Such a conjunction will be more than half an hour after midnight on the meridian of Rome. Thus, the Toledans have this conjunctions on 2 March, but the Romans have it on 3 March, if they begin the day at midnight according to the custom of the Church. It is hence sufficient to put down the Golden Number in a roundabout way [*grosso modo*], even if utmost diligence is exerted in putting the new calendar together.⁸⁰

In Hermann Zoest's case, "utmost diligence" appears to have consisted mainly in a willingness to calculate dates and times of mean conjunctions not just for the current 19-year cycle, but for four such cycles, covering a period of 76 years.⁸¹ This extension could be justified by considering that an average 19-year cycle contains $19 \times 365\text{d } 6\text{h} = 6939\text{d } 18\text{h}$, with individual sequences numbering either 6939 or 6940 days, depending on whether the 19 years in question comprise four or five Julian leap-days. If 235 lunations were exactly equal to 19 Julian years, this would carry the implication that all conjunction times reappear in a perfect cycle only after

⁸⁰ Hermann Zoest, *Phaselexis* (1st ver.), c. 5, MS U, fol. 269v: "Exemplum pono casum quod sit aliqua luminarium coniunctio secunda die Marcii una hora ante mediam noctem super meridianum Tholetanum. Talis coniunctio erit plusquam dimidia hora post mediam noctem super meridianum Romanum. Illam ergo coniunctionem Tholetani habent secunda die Marcii, Romani vero habent eandem tercia die Marcii, incipiendo diem in media nocte secundum morem Ecclesie. Sufficit ergo grosso modo aureum numerum ponere, quamvis in novi kalendarii ordinacione maxima diligencia sit adhibita."

⁸¹ Ibid., fol. 269r: "Dico primo quod primus labor habitus in kalendarii ordinacione est triplex respectus. Primus respectus est habitus ad quatuor ciclos lunares, nam ex uno ciclo non bene potuit debitus extrahi aureus numerus. Et ideo Iulius Cesar errorem incurrit, quia ad ciclum unum oculum direxit."

$4 \times 19 = 76$ years. Within this period, the conjunction times are shifted backwards by six hours with each iteration of the 19-year cycle, so that conjunctions will normally oscillate between two adjacent dates. The situation is complicated, however, by the fact that the mean synodic month (i.e., the period between two mean conjunctions) is in reality slightly shorter than what is implied by the equation of 235 months with 19 Julian years. According to the Alfonsine Tables, whose authority Hermann Zoest followed, the synodic month has $29;31,50,7,37,27,8,25d = 29d 12;44,3,2,59h$. In 235 months, this amounts to ca. $6939d 16h 32m$ and thus falls $1h 28m$ short of 19 Julian years. The shift in conjunction times between cycles will thus be $-7h 28m$ rather than $6h$, with a total shortfall of $5h 52m$ at the end of 76 years.⁸² The resulting pattern can be followed in Tab. 2 below, which compares both the conventional Golden Numbers (= Old GN) and Zoest's revised Golden Numbers (= New GN) for March with the Alfonsine mean conjunctions (= AT) for 1425–1500, which would have been the current 76-year period at the time of writing.⁸³

⁸² Ibid., c. 4, fol. 267v: "Similiter computiste aliqui estimant 19 annos lunares tot solaribus annis equales fore, quod tamen non est verum, sed deficiunt ibi septem hore et 28 minuta, que quidem hore cum minutis in uno ciclo magno, scilicet in 76 annis, constituunt unum diem naturalem, quinque horas et 52 minuta. Dies vero subtrahitur, quia in uno ciclo magno unusquisque aureus numerus semel unum bissextum continet et non pluries; et quia illa dies bissexto cedit, ideo remanent ille quinque hore et 52 minuta, que quidem hore cum minutis in quatuor magnis ciclis collecte, scilicet in 304 annis, causant anticipationem coniunctionum unius diei naturalis minus tamen 32 minutis."

⁸³ That the conjunctions of March provided the astronomical foundation for Hermann Zoest's revised Golden Numbers is clear from his remarks *ibid.*, c. 5, fol. 269r: "Secundus respectus est habitus ad primum legalem mensem, qui Hebraice dicitur 'Nisan'. Is a principio lunacionis que in Marcio oriri solet initium sumit et ideo in ipso Marcio ad dictum primum mensem maxime habitus est respectus; quare in quibusdam

Year	Old GN	New GN	AT 1425–1443	AT 1444–62	AT 1463–81	AT 1482–1500
1	23 Mar	19 Mar	19 Mar 14:52h	19 Mar 07:24h	19 Mar 23:55h	19 Mar 16:27h
2	12 Mar	08 Mar	08 Mar 23:40h	08 Mar 16:12h	08 Mar 08:44h	09 Mar 01:16h
3	30 Mar	27 Mar	27 Mar 21:13h	27 Mar 13:45h	27 Mar 06:17h	26 Mar 22:49h
4	20 Mar	16 Mar	16 Mar 06:01h	16 Mar 22:33h	16 Mar 15:05h	16 Mar 07:37h
5	09 Mar	05 Mar	05 Mar 14:50h	05 Mar 07:22h	05 Mar 23:54h	05 Mar 16:26h
6	28 Mar	24 Mar	24 Mar 12:23h	24 Mar 04:55h	23 Mar 21:27h	24 Mar 13:59h
7	17 Mar	13 Mar	13 Mar 21:11h	13 Mar 13:43h	13 Mar 06:15h	12 Mar 22:47h
8	06 Mar	02 Mar	02 Mar 06:00h	02 Mar 22:32h	02 Mar 16:04h	02 Mar 07:36h
9	25 Mar	21 Mar	21 Mar 03:33h	20 Mar 20:05h	21 Mar 12:37h	21 Mar 05:08h
10	14 Mar	10 Mar	10 Mar 12:21h	10 Mar 04:53h	09 Mar 21:25h	10 Mar 13:57h
11	2 Apr	29 Mar	29 Mar 09:54h	29 Mar 02:26h	28 Mar 18:58h	28 Mar 11:30h
12	22 Mar	18 Mar	17 Mar 18:42h	18 Mar 11:14h	18 Mar 03:46h	17 Mar 20:18h
13	11 Mar	07 Mar	07 Mar 03:31h	06 Mar 20:03h	07 Mar 12:35h	07 Mar 05:07h
14	30 Mar	26 Mar	26 Mar 01:04h	25 Mar 17:36h	25 Mar 10:08h	26 Mar 02:40h
15	19 Mar	15 Mar	15 Mar 09:52h	15 Mar 02:24h	14 Mar 18:56h	14 Mar 11:28h
16	08 Mar	04 Mar	03 Mar 18:41h	04 Mar 11:13h	03 Mar 03:45h	03 Mar 20:17h
17	27 Mar	23 Mar	22 Mar 16:14h	22 Mar 08:46h	23 Mar 01:18h	22 Mar 17:49h
18	16 Mar	12 Mar	12 Mar 01:02h	11 Mar 17:34h	11 Mar 10:06h	12 Mar 02:38h
19	05 Mar	01 Mar	01 Mar 09:51h	01 Mar 02:23h	28 Feb 18:55h	28 Feb 11:27h

Tab. 2

Following Hermann Zoest's remarks quoted above (p. 204), I have computed these conjunction times using the meridian of Toledo (standardly employed in the Alfonsine Tables) together with a beginning of the day at midnight, "according to the custom of the Church." In comparing the old Golden Numbers with Zoest's new ones, one has to bear in mind that the reform scheme included the omission of the bissextile day in 1436, which would have increased the difference between the two sets by one day. Tab. 2 takes this omission into account by placing all 19 new Golden Numbers one day earlier than they are displayed in MSS G and U. Once this little adjustment is made, it emerges that the reform of the Golden Number envisaged in 1435 would have corrected the ecclesiastical

locis respectus primus est dimissus, nam correctio kalendarii propter primum mensem post cuius quartamdecimam diem Pascha celebrari debet specialiter est facta."

lunar calendar by almost consistently four days (the one exception is year 3, where the difference is three days). As can be seen, the resulting correction would have been in fairly good agreement with the discrepancy between the old Golden Numbers and the actual mean conjunctions, as predicted by the Alfonsine Tables for the mid-to-late fifteenth century. Zoest's method for deriving new Golden Numbers from these astronomical predictions is revealed by the following passage, which illustrates the change the date of conjunction can undergo from one 19-year cycle to the next:

In the year of Christ 1440 the Golden Number will be '16' and the conjunction will be had on the 4th day of March. Yet in the year 1459 the Golden Number will again be '16' and the conjunction will then be on the 5th day of March. And this is where the number '16' has been placed [in the reformed calendar], for otherwise the opposition would occur on the day after Easter, which is white Monday. And it was necessary to place the Golden Number in this way, so that we do not precede the Jews.⁸⁴

Zoest's remarks harmonize perfectly with the entries for year 16 in Tab. 2, where the March conjunction of 1440 is indicated to fall on 3 March, 18:41h, whereas that of 1459 falls 16h 32m (= 24h – 7h 28m) later, on 4 March, 11:13h. In the reformed calendar, where one day would have been

⁸⁴ Ibid., c. 5, fol. 269v: "Pro predictis tamen est notandum quod non est necesse multum curiose circa aurei numeri situationem insistere, et hoc duplici de causa. Prima est quia aliter se habent coniunctiones in uno ciclo quam in alio. Exemplum: anno 1440 aureus numerus erit '16' et coniunctio habebitur quarta die Marcii. Anno vero 1459 iterum aureus numerus erit '16' et coniunctio erit tunc quinta die Marcii et ibi numerus '16' est positus, quia alias oppositio fieret crastino die Pasche, scilicet secunda feria in albis. Et necesse erat aureum numerum sic situare, ne Iudeos preveniremus."

omitted from 1436, these dates would have naturally shifted to 4 March and 5 March respectively. Hermann Zoest warns that, if the new Golden Numbers is placed on the earlier of the two dates, this can lead to cases where Easter Sunday precedes the date of the opposition and, by extension, the Passover of the Jews. In the example at hand, 5 March was going to be a Sunday in 1459 of the reformed calendar, with a corresponding opposition on Monday, 20 March, at approximately 05:35h. If the Golden Number of year 16 were placed next to 4 March, this would have allowed Easter Sunday to occur on 19 March (*luna* 15), ahead of the opposition of Sun and Moon on Monday morning. Zoest's example thus showed that it was not always sufficient to exclude the new moon marked by the Golden Number from the lunar count. In addition, one had to make sure that the Golden Number never preceded the actual day of conjunction.

Hermann Zoest reacted to this requirement by always taking his Golden Number from the latest of the four corresponding conjunction dates contained within the present 76-year period. This is evident not just from his own remarks just cited, but from the comparisons in Tab. 2, where the latest conjunction of each set is marked by bold print. If the Alfonsine conjunctions are timed for the longitude of Toledo and a beginning of the day at midnight, there is in fact only a single instance where Zoest's Golden Number fails to conform to this rule: the Golden Number for year 2, which appears next to 9 March in the reformed calendar and hence on 8 March in the old calendar. Tab. 2 shows that this was indeed the Alfonsine conjunction date in 1426, 1445, and 1464—but not in 1483, when it was going to fall on 9 March at 01:16h instead. Since other computational conventions will not remove this discrepancy (or do so only while creating new ones), this probably means that the conjunction times listed in Tab. 2 were exactly those contemplated by Hermann Zoest in 1435.

(e) *maintaining the lunar calendar*

Having settled on a scheme for distributing Golden Numbers in the Julian calendar, the last remaining challenge for Hermann Zoest and his colleagues was to find an easy way to keep these dates in rough agreement with the actual dates of conjunction, as predicted for future periods of 76 years. The trick here was to counteract the creeping anticipation of the visible new moons relative to those listed in the calendar, an anticipation caused by the aforementioned discrepancy between 19 Julian years and 235 synodic months. According to the Alfonsine Tables, this difference amounted to 5h 52m per 76-year period—or just 32m short of an entire day after $16 \times 19 = 304$ years, as Zoest correctly notes in the *Phaselexis* (1st ver.).⁸⁵ A straightforward approach to neutralizing this error would have been to suppress the bissextile day every 304 years, but such a step would have conflicted with the planned omission every 136 years, which was needed to keep the equinoxes and solstices in their place. Since the error of the Julian calendar was more than twice as large as that of the Golden Number, its correction was bound to reverse the direction in which the lunar phases moved away from their scheduled dates, causing them to fall behind the Golden Number at a rate of about one day every 241.7 years.

In order to prevent this overcompensation from occurring, the decree of 1435 makes provisions to re-set the Golden Numbers from time to time (§12), which is somewhat reminiscent of the approach later taken by the Gregorian calendar and its adjustable system of ‘epacts’ designed by Luigi Giglio.⁸⁶ When mentioning this correction, the decree focuses solely on the *termini paschales* marked in the calendar for March and April, which was the only element immediately relevant to the calculation

⁸⁵ See n. 82 above.

⁸⁶ Ziggelaar, “The Papal Bull” (n. 55), 210–11.

of Easter. These 19 *termini* had to be collectively shifted to the following day after every 272 years, an interval that was obviously chosen to make the intervention coincide with every second elision of the bissextile day ($2 \times 136 = 272$). As a consequence, the present set of *termini paschales*, ranging from 16 March to 13 April, was supposed to remain valid only for the 272 years from 1436 to 1708, after which they were going to fall between 17 March and 14 April. According to the decree text, the idea was to repeat this step three more times, such that by the year AD 2524 ($= 1436 + 4 \times 272$), the earliest *terminus* would have moved forward to 20 March.

It appears highly likely that the creator of this simple, but fairly efficient, solution was once again Hermann Zoest, who illustrated the underlying principle with a table that directly precedes his reformed calendar in MS G (fol. 353v) and is appended to it in MS U (fol. 273ev).⁸⁷ As found in the latter codex, the table records the locations of the 19 *termini paschales* and the 19 corresponding *termini* for Septuagesima Sunday (nine weeks before Easter) for five consecutive periods of 272 years. Curiously, these five periods are stated to begin in 1440, 1712, 1984, 2256, 2528, which is consistently four years later than the scheme mentioned in the decree text, where the corrections occur in lockstep with the omissions of the bissextile day in 1436 and every 136 years thereafter. One of the hands in MS G tried to remove this discrepancy by ‘correcting’ a passage in *Phaselexis* (1st ver.), chapter 5, where Hermann Zoest

⁸⁷ Hermann Zoest refers to this table at the end of *Phaselexis* (1st ver.), c. 6, MS U, fol. 272r: “Et quia omnia mutantur et mutabuntur, preter eum qui semper idem est et cuius anni non deficient, idcirco et kalendarium eciam est mutabile. Et quamvis equinoctia et solsticia ad certos dies sint ligata per bissexti omissionem, verumptamen coniunctiones sicut priscis temporibus ascendere consueverunt sic ammodo deorsum cadent. Quamobrem tabula quedam parvula est ordinata multis annis duratura, in qua termini Septuagesime et Pasche facillime possunt inveniri.”

announces the first year of reform: the original number 1436 is here retrospectively altered to 1440.⁸⁸ In the same vein, when noting exceptions to the bissextile rule in the margin below the calendar page for February (fol. 353v), the scribe in MS G started with 1440 rather than 1436, but left the subsequent years unchanged. In doing so, he created a new inconsistency, as the interval between the first suppression of the *bissextus* (in 1440) and the second one (in 1572) was now only 132 instead of 136 years.⁸⁹

While the use of 1440 in place of 1436 seems difficult to explain, Hermann Zoest's table agrees with the decree text in limiting the scheme in question to five 272-year 'cycles', which implies that the reformed lunar calendar was supposed to remain valid only until AD 2796 (decree) or AD 2800 (table). According to Zoest's explanation of this table, preserved solely in MS U, this restriction was advisable

partly because it is believed that the world will not last this long, partly because it is possible that our successors will discover certain celestial motions yet to be found; most of all, because the true length of the year has not yet been found. For this same reason I do not promise that this table will last for that many years, as this would be rather presumptuous.⁹⁰

⁸⁸ MS G, fol. 351r.

⁸⁹ The columns showing the *termini* of Septuagesima Sunday (January/February) and Easter (March/April) on this and the following page both come with notes marking the period of validity as 1440 to 1712 ("*1440. Durat usque ad 1712*").

⁹⁰ MS U, fol. 273ev: "Ultra illos annos non est processum, tum quia creditur mundus non tam diu durare, tum quia possibile est posteros nostros aliquos celestes motus nondum inventos invenire, maxime quia vera quantitas anni nondum est inventa; propter quam eciam causam non promitto hanc tabulam tam diu fore durabilem, quia hoc esset satis presumptuosum."

The uncertainty mentioned in this passage concerned the length of the true solar year, not that of the lunar month, but changes in the assumed recession rate of the vernal equinox would naturally have also affected the period after which the *termini paschales* had to be re-set. In effect, the proposed scheme reduced the synodic month implicit in the calendar from 29.53085106d to 29.53055382d, leaving an error of 1 day every 2183 years if compared to the Alfonsine 29.53059085d. Given that the scheme as a whole only applied to the next $5 \times 272 = 1360$ years, there was little reason to be worried by this discrepancy—and there is indeed no evidence that it was considered significant at the time.

4. *Objections against the reform and its abandonment*

Jerzy Dobrzycki, in his brief note on the reform proposal of 1435, considered its technical content, in particular the omission of a day every 136 years and the forward-shift of the Golden Number every 272 years, to be “a sound frame for a possible reform, clearly more advanced than the projects discussed after 1437.”⁹¹ Dobrzycki’s main point of comparison appears to have been the much better known ‘second’ reform plan, associated with Nicholas of Cusa, which in some respects turned out much simpler than the one explicated by Thomas Strzemiński and Hermann Zoest in 1435. It could be reduced to the formula of going back three years in the 19-year lunar cycle—effectively swapping the ordinary *cyclus decemnovennis* for the so-called *cyclus lunaris*, which began three years later—while at the same time omitting one week from the calendar. Such a correction had the net effect of displacing all Golden Numbers by 3–4 days, bringing them in rough agreement with the current mean conjunctions of Sun and Moon, while the equinox was moved one week

⁹¹ Dobrzycki, “New Sources” (n. 6), 36.

closer towards 21 March, where it was supposed to be according to the existing rules.⁹²

Thanks to Strzempiński's *Relacio* (§8), we can be sure that the core elements of this plan had already been on the table during the initial discussions of 1435, when some unnamed delegate(s) suggested cancelling one of the weeks contained in the *intervallum* (i.e., the period between previous Christmas and Quinquagesima Sunday) of 1436 while lowering the Golden Number valid for this year from 12 to 9.⁹³ This happens to be structurally identical to the scheme later described at much greater length by Nicholas of Cusa in his well-known work *De correctione kalendarii*, which changed the reform date to 1439, anticipating a reduction of the Golden Number from 15 to 12 and an omission of seven days from the end of May. A decree based on this proposal was submitted to the four deputations in 1437,⁹⁴ but the outlined reform—eventually slated for implementation in October 1440—was never carried out. In December 1440, the general assembly voted to abandon the project for the time being, worried no doubt by the newly arisen schism between the council's elected pope Felix V (1439–1449) and Eugene IV in Rome. As long as large parts of Europe were hedging their bets as to which pope they should obey, a

⁹² For details, see Nothaft, "Strategic Skepticism" (n. 2); Müller, "*ut reiecto*" (n. 4), 242–54.

⁹³ MS K, fol. 114r–v: "Est et alia opinio tertia de alia ymaginacione, scilicet quod 1436 de ebdomadis intervalli deberent auferri septem dies et aureus numerus, qui erit 12, mutari deberet in 9, et tunc redirent omnia in statum pristinum." Dobrzycki, "New Sources" (n. 6), 36, briefly mentions this idea, but ends up conflating it with the reform proposal of 1435.

⁹⁴ On the three known versions of this decree and an edition of the original recension, see Appendix III below.

reform of the calendar pertaining to all of Latin Christianity seemed overly ambitious.⁹⁵

So much for the proposal's eventual failure, but what were the motivations that led to its initial adoption—and, more importantly, the features that made it seem preferable over the reform plan sketched in 1435? Among its most conspicuous virtues was the fairly accurate simulation of the length of the solar year, which in the envisioned scheme would have been $365.25 - 1/136 = 365.2426\text{d}$, very close to the Alfonsine mean tropical year of 365.2425d or, indeed, the average interval between two vernal equinoxes valid for the time (ca. 365.2423d).⁹⁶ Another sound idea—one to be revived 150 years later in the context of the Gregorian reform⁹⁷—was to exclude the conjunction from the lunar count, which was tantamount to moving the *terminus paschalis* (= *luna* 14 in the decree) to the 15th day from the conjunction, thus preventing scenarios in which Easter was celebrated before the astronomical full moon. None of these ploys were retained in the reform decree of 1437, which planned the omission of exactly one bissextile day every three centuries. This was, by and large, sufficient to stop the calendrical recession of the lunar phases, but it left unresolved the discrepancy between the tropical year and the average Julian year, which, as we have seen, called for an omission of a

⁹⁵ *Concilium Basiliense* (n. 12), 7:293 (12 December 1440): “Super avisamento eorundem dominorum duodecim in facto kalendarii scrutatis singulorum dominorum votis placuit, quod ad presens in eadem materia supersedeatur attentata dispositione temporis.” See on this decision John of Segovia, *Historia* (8.19), ed. Birk (n. 2), 709; Solan Bethmale, “Les propositions” (n. 8), 157–58.

⁹⁶ On the calculation of the ‘vernal equinox year’, see Jean Meeus and Denis Savoie, “The History of the Tropical Year,” *Journal of the British Astronomical Association* 102 (1992): 40–42, at p. 42; Jean Meeus, *More Mathematical Astronomy Morsels* (Richmond, VA: Willmann-Bell, 2002), 361.

⁹⁷ Ziggelaar, “The Papal Bull” (n. 55), 220–21.

day every 134 years. Aware of this shortcoming, Nicholas of Cusa and, after him, Hermann Zoest did their best to portray it as an intentional act of caution in light of the uncertainty that surrounded the true length of the solar year, which included the possibility of long-term fluctuations.⁹⁸

When it comes to the more advantageous features of the second scheme, one should mention the removal of exactly one week from the calendar, which was clearly privileged by it causing no interruption in the sequence of seven ferial letters (A to G). These letters were habitually inserted into medieval *kalendaria* as a separate column meant to facilitate finding the day of the week of a given calendar date. The ferial letter corresponding to Sunday, also known as the dominical letter, could be predicted on the basis of a 28-year ‘solar cycle’, which took account of the leap year-rhythm of the Julian calendar. In the proposal of 1437, this cycle would have retained its old form until the bissextile day was omitted for the first time in 1740, thus guaranteeing a continuity of computistical methods for the first three centuries.⁹⁹ The proposal of 1435, on the other hand, would have forced users to modify the solar cycle right away, since an omission of the first *bissextus* was already scheduled for 1436. More important than this technical (in)convenience, however, was the fact that by removing seven days from the calendar, the second proposal made it feasible to retain the old Easter limits, which placed the earliest Easter Sunday on 22 March based on the assumption that the vernal equinox fell on 21 March. This contrasts with the proposal of 1435, which re-defined the Easter limits, putting them five days earlier than the old rules demanded. A clear hint that this break with tradition was deemed

⁹⁸ For all the pertinent details, see Nothaft, “Strategic Skepticism” (n. 2).

⁹⁹ This and other virtues of the reform plan are discussed in Nicholas of Cusa, *De correctione kalendarii* (8), ed. Stegemann (n. 2), 68–72; Hermann Zoest, *Phaselexis* (2nd ver.), c. 9, MS O, fols. 310va–11vb.

problematic appears in Hermann Zoest's *Phaselexis* (2nd ver.), in which he recalls how his original proposal was met with considerable resistance "on account of the first month and the paschal *termini*, for which reason the pursuit of our task was much impeded."¹⁰⁰ Thomas Strzempiński adds to our picture by mentioning the anticipated changes to the order of mobile and immobile feast days as well as the general *mutacio librorum* that became necessary once the old *termini paschales* and Golden Numbers were discarded (see p. 191 above). Although Strzempiński himself regarded this as a fairly minor problem, it is striking to find that the alternative proposal, accepted in 1437, made it possible to completely forgo any such *mutacio* and instead maintain the traditional Easter limits and even the customary distribution of Golden Numbers. As a result, it became possible to keep all existing calendars, Easter tables, and martyrologies fit for future use.¹⁰¹

¹⁰⁰ Hermann Zoest, *Phaselexis* (2nd ver.), c. 8, MS O, fol. 308rb: "Opinionum contrarietas surrexit et difficultas mota est et non quidem modica, sed revera magna de primo mense et de terminis paschalibus, ob quam causam negotii persecutio multum impedita est."

¹⁰¹ The significance of this issue is confirmed by Nicholas of Cusa, *De correctione kalendarii* (8), ed. Stegemann (n. 1), 64, ll. 10–12, and Hermann Zoest, *Phaselexis* (2nd ver.), c. 9, MS O, fol. 310va: "Dico primo quod is modus est electus ad quem necessitas compellebat et hec quidem triplex fuit: prima ne libri magne fame et utilitatis excelsique nominis in aliqua parte perderentur, uti sunt sextus liber *Etymologiarum* et sexta pars *Rationalis divinorum Catholiconque*, ubi de septuagesima et de phase agitur, ac multa aliorum doctorum scripta, qui evacuarentur si tantum quatuor dies omitterentur vel etiam si aureus numerus ad quintam lineam sursum ponentur deleti veteri." Ibid., 311rb: "Quarta utilitas est quod computi atque patrum regule non destruerentur, sed magis reviviscerent et in firmo robore permanerent." Ibid., fol. 311va: "Dixi namque tertio quod ad predictum modum eligendum suasit facilitas duplex. Prima est: nam iam non est necesse aliquem laborem fieri abradendo aureum numerum et reponere eum

While these relative advantages and disadvantages may completely suffice to explain why the proposal drafted in 1435 was rejected, the documentation left to us by Thomas Strzempiński offers one additional piece of evidence, which suggests that the situation involved external factors as well as internal ones. A note from Strzempiński's own hand, which immediately precedes the decree text, states that the following draft was "first deliberated, but not decreed, because of the arrival of the Greeks, which was expected [at the time]" (*Primo deliberatum sed non decretatum propter adventum Grecorum qui expectabatur*). Generally speaking, there can be little doubt that this remark relates in some way to the existing plans for a rapprochement between the Latin and Greek Churches, which were later to culminate in the shortlived union achieved at the Council of Ferrara-Florence (1438/39).¹⁰² Determined not to leave this project in the hands of their opponent Eugene IV, the council's fathers had decided in 1433 to send envoys to Constantinople, who returned to Basel in July 1434 in the company of three spokesmen for the Byzantine emperor. At the head of this Greek delegation, which was to stay in town until June 1435, was Isidore, abbot of the Constantinopolitan monastery of St Demetrios; to modern scholars, he is better known as Isidore of Kiev, owing to his later promotion to Metropolitan of Kiev and all Russia.¹⁰³

sursum aut rescribere. Pensatum quidem est quod fuisset multum grave per totum Christianismum kalendariorum libros sic corrigere."

¹⁰² See Joseph Gill, *The Council of Florence* (Cambridge: Cambridge University Press, 1959), 46–84; Sebastian Kolditz, *Johannes VIII. Palaiologos und das Konzil von Ferrara-Florenz (1438/39): Das byzantinische Kaisertum im Dialog mit dem Westen*, 2 vols. (Stuttgart: Hiersemann, 2013), 1:42–69.

¹⁰³ On Isidore's life and career, see the biographical essay in Joseph Gill, *Personalities of the Council of Florence and other Essays* (Oxford: Blackwell, 1964), 65–78. See now also Peter Schreiner, "Isidor von Kiew und Ungarn," in *Byzanz und das Abendland*

In addition to being a high-ranking ecclesiastic with a fairly adventurous career, Isidore was also an accomplished scholar and bibliophile with evident interests in the area of astronomy-astrology.¹⁰⁴ This made him an ideal contact for members of Basel's calendar task force, from whom they could learn not only about the techniques of Easter reckoning employed in the Greek Church,¹⁰⁵ but also about some of the new Islamo-Persian influences that had enriched Byzantine astronomy since the beginning of the fourteenth century.¹⁰⁶ Isidore's role as a consultant is clearly reflected in the calendrical writings of Hermann Zoest, who in 1443 reminisced how the Basel task force communicated with "Lord Isidore, abbot of Saint Demetrius in Constantinople, a highly

II: Studia Byzantino-Occidentalia, ed. Erika Juhász (Budapest: Eötvös-József-Collegium, 2014), 11–27.

¹⁰⁴ See Giovanni Mercati, *Scritti d'Isidoro il Cardinale Ruteno e codici a lui appartenuti che si conservano nella Biblioteca Apostolica Vaticana* (Rome: Biblioteca Apostolica Vaticana, 1926).

¹⁰⁵ See, e.g., Arthur Mentz, *Beiträge zur Osterfestberechnung bei den Byzantinern* (Königsberg: Leupold, 1906); Otmar Schissel and Maria Ellend, "Berechnung des Sonnen-, Mond- und Schaltjahreszirkels in der griechisch-christlichen Chronologie," *Byzantinische Zeitschrift* 42 (1943/49): 150–57; Jean Lempire, "Le calcul de la date de pâques dans les traités de S. Maxime le confesseur et de Georges, moine et prêtre," *Byzantion* 77 (2007): 267–304. See also Anne Tihon, "Il Trattato sulla data della Pasqua di Barlaam comparato con quello di Niceforo Gregoras," in *Barlaam Calabro: l'uomo, l'opera, il pensiero*, ed. Antonis Fyrigos (Rome: Gangemi, 1999), 109–18; Tihon, "Barlaam de Seminara: Traité sur la date de Pâques," *Byzantion* 81 (2011): 362–411, on a fourteenth-century debate concerning calendar reform.

¹⁰⁶ Anne Tihon, "Les tables astronomiques persanes à Constantinople dans la première moitié du XIV^e siècle," *Byzantion* 57 (1987): 471–87, repr. as ch. 5 in idem, *Études d'astronomie byzantine* (Aldershot: Variorum, 1994); Tihon, "Tables islamiques à Byzance," *Byzantion* 60 (1990): 401–25, repr. as ch. 6 in idem, *Études d'astronomie byzantine*.

learned man.”¹⁰⁷ Additional evidence is provided by Nicholas of Cusa’s *De correctione kalendarii*. At several instances in this treatise, Cusanus refers to one or more books in Isidore’s possession, which according to his testimony contained both calendrical material and a Greek translation of Persian astronomical tables.¹⁰⁸

Important as Isidore’s presence may have been to those pondering the emendation of the Western calendar, it is hardly plausible that the “arrival of the Greeks” mentioned in Thomas Strzempiński’s manuscript referred to the delegation of July 1434, considering that the task force dedicated to the calendar did not commence serious work before 1435. The only relevant diplomatic “arrival” documented for this year was that of George and Manuel Dishypatus, who appeared before the general assembly on 5 April 1435.¹⁰⁹ But this event predates a motion passed in

¹⁰⁷ Hermann Zoest, *Compendium paschale*, c. 8, MS C, fol. 184v: “Et ideo domini deputati, postquam plus tribus annis multum diligenter laboraverunt circa dictam materiam, scribendo et mittendo ad diversas mundi partes diversarum nacionum, ad astronomos non solum Christianos verum etiam ad Iudeos, communicatoque concilio cum domino Ysidoro, abbate sancti Demetrii in Constantinopoli viro doctissimo.” See also Hermann Zoest, *Phaselexis* (2nd ver.), c. 10, MS O, fol. 312rb–va: “Quintus est Grecorum calculus, unde dominus Ysidorus quondam abbas monasterii sancti Demetrii in Constantinopoli, nunc vero metropolitanus Russie, interrogatus super ea respondit secundum calculationem tabularum Persarum, quibus utuntur Greci, equinoctium vernale hoc nostro iam tempore est 14^a die Marcias.”

¹⁰⁸ Nicholas of Cusa, *De correctione kalendarii* (6), ed. Stegemann (n. 1), 54: “Quo utuntur etiam hodie, et in libro venerabilis Isidori abbatis vidi, a quo Graecorum terminos paschales extraxi. Similiter et in tabulis Persicis de libro eiusdem abbatis per me in Latinum reductis, ubi cum dies coniunctionis per XIX annales variationes inveniri docetur, cyclus lunaris pro fundamento ponitur et non aureus numerus; et quomodo in kalendario Romano affigi debeat, ibi annotatur.” See also *ibid.* (9), pp. 72, ll. 23–28, and 76, ll. 22–24

¹⁰⁹ *Concilium Basiliense* (n. 12), 3:363; Gill, *The Council of Florence* (n. 102), 57–59.

the same assembly on 8 April, in which the calendar task force was authorized to present its conclusion on the matter.¹¹⁰ There are hence no signs that the arrival of these two envoys from Constantinople interfered with the deliberations regarding the calendar, which appear to have been still in progress on 8 April 1435, but must have come to a temporary halt at some unknown date thereafter.¹¹¹ Presumably, this should lead us to conclude that Strzempiński's note about the "arrival of the Greeks" refers not to a concrete event in the year 1435, but to anticipated future negotiations towards a church union at an ecumenical council, to which the Greek emissaries assented on 27 April.¹¹² In the meantime, conversations with Byzantine diplomats such as Isidore could have heightened an awareness among the delegates in Basel that the Greek approach to Easter reckoning—although different in some respects—effectively generated the same dates for mobile feast days as were observed in the Latin Church. This agreement between East and West would have been dissolved, had the Council of Basel decided unilaterally to adopt the scheme sketched in the decree of 1435, which changed the calendrical limits for Easter Sunday from 22 March/25 April to 17 March/20 April. If Thomas Strzempiński tied the failure to pass the decree to the expected "arrival of the Greeks," this may, therefore, simply reflect a conviction on the part of some decision-makers that the matter should be discussed with representatives of the Eastern Church before going ahead with any reform.

While all this may sound plausible, it should be stressed that none of our sources on the reform effort made in Basel represents this viewpoint. Negotiations and debates concerning the meeting place with the Greeks

¹¹⁰ *Concilium Basiliense* (n. 12), 3:365.

¹¹¹ See Solan Bethmale, "Les propositions" (n. 8), 126–27, 146.

¹¹² *Concilium Basiliense* (n. 12), 3:371–75; Gill, *The Council of Florence* (n. 102), 60.

were in fact still ongoing when, in February and March 1437, the four deputations twice authorized the calendar task force to report its conclusions to the council.¹¹³ This report was eventually delivered in late March by Nicholas of Cusa, who appears to have replaced Thomas Strzemiński as the president or spokesman for the task force.¹¹⁴ In his treatise *De correctione kalendarii*, Cusanus advertised the reform plan suggested in this report by claiming that the 19-year cycle of the Greeks went in lockstep with that of the Jewish calendar, such that both inserted certain embolismic months in different years than the Latins. By following his advice and going back three years in the count of Golden Numbers, it was possible, or so Cusanus asserted, to bring the Roman Easter back to its ancient synchronicity with Hebrews and Greeks.¹¹⁵ The basic idea that the Greek cycle corresponds to that of the Jews already makes a brief appearance in Hermann Zoest's *Phaselexis* (1st ver.), where he supports his deference to the Jewish calendar by pointing to "the Greeks [who] have neither Golden Number nor letters; they do not begin the year in January and do not agree with us in [numbering] the cycle, but with the

¹¹³ *Concilium Basiliense* (n. 12), 6:15 (15 February 1437), 36 (22 March 1437).

¹¹⁴ The event is recorded in John of Segovia's *Historia* (see n. 2 above) and also by Hermann Zoest, who omits Cusanus's name or the date, but mentions a "publica relacio in facie totius Sinodi" in *Phaselexis* (2nd ver.), c. 9, MS O, fol. 310rb. See also Solan Bethmale, "Les propositions" (n. 8), 148–49.

¹¹⁵ Nicholas of Cusa, *De correctione kalendarii* (8), ed. Stegemann (n. 2), 70–72; cf. *ibid.* (6), 52–54. The same notion is expressed in the *Avisamentum de correctione kalendarii*, which is probably closely related to the report delivered in March 1437. It is appended to *De correctione kalendarii* in MSS Vienna, Österreichische Nationalbibliothek, 5266, fols. 283va–84rb, and Wolfenbüttel, Herzog-August-Bibliothek, Cod. Guelf. 354 Helmst., fols. 126r–27v.

Hebrews.”¹¹⁶ This information was basically correct in so far as the Greek version of the 19-year cycle started and ended three years later than the *cyclus decemnovenalis* used in the Latin tradition. But, contrary to what Cusanus insinuated in 1437, this difference did not in any way affect the identification of individual lunar years as either ‘common’ or ‘embolismic’, which was the same in Constantinople as it was in Rome. Consequently, both Churches marked the same dates as *termini paschales* for each of the 19 years of their cycles.

On 17 May 1437, less than two months after he reported to the council as a member of the calendar task force, Nicholas of Cusa abandoned ship and left Basel as a representative of the pro-papal minority, in whose name he embarked on a diplomatic mission to Constantinople to help ensure that the union council with the Eastern Churches would take place under the auspices of Pope Eugene IV in Italy.¹¹⁷ His arguments were nevertheless allowed to linger on, as can be seen from Hermann Zoest’s *Phaselexis* (2nd ver.), in which the Cistercian monk ended up comparing the convergence between the three cycles brought about by the new reform plan to the existing harmony between Latin, Greek, and Hebrew as three sacred languages testifying to the same truth.¹¹⁸ If this comparison was

¹¹⁶ Hermann Zoest, *Phaselexis* (1st ver.), c. 6, MS U, fol. 271r–v: “Interroga quemquam Hebreorum et dicet tibi. Interroga et Grecos et invenies veritatem: ipsi nec habent numerum aureum nec litteras, annum non in Ianuario incipiunt nec nobiscum in ciclo concordant, sed cum Hebreis.”

¹¹⁷ Erich Meuthen, *Acta Cusana*, vol. 1.1 (Hamburg: Meiner, 1976), 198–99 (no. 296); Joachim W. Stieber, “The ‘Hercules of the Eugenians’ at the Crossroads: Nicholas of Cusa’s Decision for the Pope and against the Council in 1436/37—Theological, Political, and Social Aspects,” in *Nicholas of Cusa in Search of God and Wisdom*, ed. Gerald Christianson and Thomas M. Izbicki (Leiden: Brill, 1991), 221–55.

¹¹⁸ Hermann Zoest, *Phaselexis* (2nd ver.), c. 9, MS O, fol. 311ra: “Nam sunt tres lingue unum verum Deum confitentes et ex precepto pascha celebrantes, scilicet Hebrea, Greca

made in good faith, it would mean that both he and Cusanus were completely oblivious to one crucial aspect and potential consequence of the entire project, namely that an implementation of their reform plan, far from uniting the two Churches, would have served to destroy their present agreement in matters related to Easter reckoning. In how far all of this relates back to Strzempiński's remark about the "arrival of the Greeks" is difficult to tell given the fragmentary evidence at hand. It seems clear that the reform proposal of 1435 was halted at a fairly early stage, only to be later replaced by a different, and arguably less refined, proposal. Yet most of the details that would help us elucidate this change of heart remain lost in the mists of fifteenth-century ecclesiastical history.¹¹⁹

et Latina. Decens igitur erat et utile atque omni acceptione dignum, ut sicut hee tres lingue in unico tytulo triumphalis ligni crucis sunt unite et in fide Christi, que incepit in Iudea, sunt coniuncte, sic etiam in lunari ciclo de cetero velut olim simul adunentur."

Cf. Nicholas of Cusa, *De correctione kalendarii* (10), ed. Stegemann (n. 2), 84.

¹¹⁹ I am grateful to Michał Choptiany, Leofranc Holford-Strevens, Fritz S. Pedersen, Olivier de Solan, and Chris Schabel for their helpful comments on previous drafts of this study.

Appendix I: Edition of the *Relacio* and draft decree of 1435

The following edition reproduces the text of MS K = Kraków, Biblioteka Jagiellońska, 4164, fols. 113r–15v, with some minor corrections documented in the critical apparatus. Two hands can be discerned: one was responsible for the main text, while the other, being Thomas Strzemiński's own, provided headings and the signature at the end of the *Relacio*. I have preserved the sometimes idiosyncratic spelling (e.g. *kalendarium* for *kalendarius*) for the most part, normalizing only the use of *c/t* in a few places (e.g. putting *equinoctium* instead of *equinoccium*) as well as the scribe's occasional preference of *Paschca* over *Pascha*. In addition to textual emendations, the apparatus identifies sources cited by Strzemiński together with parallels found in the early calendrical works of Hermann Zoest: the *Tractatus phase* of 1424 as well as the *Phaselexis* (1st ver.), to be edited in Appendix II below. The decree text contains a problematic passage in §11, which I have solved with a conjectural addition kindly suggested to me by Charles Burnett.

Relacio deliberacionis prime super materia kalendarii in concilio
Basiliensi, 1435^{o1}

[§1] Placuit Sacrosancte Sinodo Basiliensi me deputare cum aliis ad videndum de correctione kalendarii quo Ecclesia utitur in festorum celebritate. Ego, qui² in hac materia non sum sciens, nec intelligens multum, fui cum deputatis aliarum sacrarum deputacionum ad mandatum paternitatum vestrarum. Et in veritate opus erat, et est ymmo summe necessarium, ut hoc negotium expediatur in hoc concilio, scilicet ut kalendarium reformaretur et omni Christianorum in celebracione festorum fiat³ idem ritus.

[§2] Verum est enim quod in retroactis temporibus duplex concilium propter hoc fuerat congregatum. Primo namque in Allexandria Palestine Victor papa⁴ propter hoc concilium congregaverat. Istud tamen quod ibi de hoc statutum erat non bene ex post fuerat observatum, presertim circa celebritatem Pasche. Post hoc eciam Constantinus propter errorem Arrii et eciam propter reficere kalendarium convocari mandaverat Nicenum concilium, ubi eciam aliqua circa hoc observanda statuta erant. Et de hoc habetur in capitulo ultimo libri primi *Historie tripartite*.⁵ Et a

¹ 1435^o] 14435^o K

² qui] *a.c.* tamen K

³ fiat] *a.c.* fieret K

⁴ papa] pape K

⁵ Hermann Zoest, *Tractatus phase*, c. 2, MS R, fols. 17v–18r: “Istud cisma in ecclesia mansit usque ad tempora beati Victoris pape et martiris, qui propter hoc celebravit concilium Allexandria Palestine ... ibique statutum est ut semper dominica die Pascha celebretur, observata 14 luna mensis Aprilis usque 21 lunam mensis eiusdem et si 15 luna esset die dominica statim celebraretur Pascha sin autem proxima dominica. Sed quamvis hec in illo concilio statutum fuerat, tamen multi post illud tempus cum Iudeis 14 luna quacumque die veniente Pascha celebrabant quia omnis episcopi non potuerunt

tempore illius concilii usque ad Dionisium molitum fuit quod littere de observacione Pasche omni anno a summo pontifice per singulas provincias mittebantur, de quo habetur *De consecracione*, dist. III, ‘De hac observacione’ et c. ‘Placuit’.⁶ Nunc autem hoc cessavit et multus error comittitur propter defectum kalandarii, ut infra dicam, et igitur opus est opportuno remedio, ut decreta sacrorum conciliorum observentur. Licet autem presens concilium non sit congregatum propter istam causam principaliter, minus principaliter tamen et ex consequenti videtur hoc pertinere ad reformationem morum. Nullus enim ambigit quod dum sanctiones et decreta patrum et conciliorum generalium non observantur ecclesiasticus ordo confunditur et mores humani deformantur, propter quos reformandos hoc sacrum concilium congregatum existit.

[§3] Et quia in concilio Allexandrino statutum est ut semper dominica die Pascha celebretur, observata 14 luna primi mensis, id est post 14 etc., preterea in Niceno Sinodo statutum *est ut secundum legis precepta*

nec etiam audebant ad concilium venire nec omnibus publicatum erat quia nondum erat ecclesie pax datum ut in unum congregari possent propter persecutionis furorem.

Tempore vero Constantini imperatoris pax dabatur ecclesie et tunc error iste de medio sublatus est. Nam iste Deo devotus princeps propter duas principales causa convocari fecit Nicenam synodum prout habetur ultimo capitulo primi libri Historie tripartite, scilicet propter heresim ipsius Arrii et propter errorem observationis festi Pasche.” The reference is to Cassiodorus-Epiphanius, *Historia ecclesiastica tripartita* 1.20 (CSEL 71, 80).

⁶ Hermann Zoest, *Tractatus phase*, c. 3, MS R, fol. 19v: “Olim revera a tempore Nicene synodi usque ad tempora Dyonisii littere de observatione Pasche a summo pontifice per provincias mittebantur, utque in canone *De consecratione*, distinctione 3, ‘de hac observacione’ et capitulo ‘placuit ut venerabilis’.” See also Hermann Zoest, *Phaselexis* (1st ver.), c. 4, MS U, fol. 267v. The reference is to *Decretum Gratiani* (III, dist. 3, c. 24, 26), ed. Emil Friedberg, *Corpus Iuris Canonici* 1 (Leipzig: Tauchnitz, 1879; repr. Graz: Akademische Druck- und Verlagsanstalt, 1959), cols. 1359–60.

*vespera 14^e diei primi mensis expectaretur. Sed quia dominus prima sabbati a mortuis resurrexit, idcirco, ut dies dominica expectaretur, decretum est que si statim quintadecima mensis foret, in ipsa Pascha celebraretur, sin autem, tunc in proxima die dominica sequente, quare sanctum Pascha a 14^{ma} luna primi mensis usque ad 21 inclusive patres in Niceno concilio extenderunt.*⁷ Quis autem sit primus mensis anni Nicolaus de Lira tractans illud Exodi 12 “Mensis iste principium [113v] mensium” dicit hoc: “*Regulariter verum est quod primus mensis Hebreorum semper incipit a principio lunacionis propinquioris vernali equinoctio sive principium dicte lunacionis sit ante equinoctium, sive post, sive in equinoctio.*”⁸ Et ideo et nobis debet esse primus, quia in eo mundus creatus est, quia in eo Deus de virgine homo factus est, quia in eo Deus homo Christus pro homine passus est.

[§4] Hec autem decreta non observantur propter errorem qui reperitur in kalandariis antiquis et in libris deservientibus ipsis. Interdum enim celebramus Pascha nondum existente plena luna primi mensis, cum adhuc Iudei celebraturi sunt suum Pascha iuxta legem eis tradita Exodi 12,

⁷ Hermann Zoest, *Tractatus phase*, c. 2, MS R, fol. 18r: “Unde in illa synodo patres statuerunt ut secundum legis precepta vespera quaterdecime diei primi mensis expectaretur. Sed quia dominus prima sabbati resurrexit a mortuis, idcirco diem dominicum debere expectare. Qui si statim quintadecima die mensis foret, in ipso Pascha celebraretur, sin autem in proxima dominica sequente, quare sanctum Pascha a 14 luna usque ad 21 inclusive extenderunt.” This passage is repeated in Hermann Zoest, *Phaselexis* (1st ver.), c. 3, MS U, fol. 265v. It is based on Reinher of Paderborn, *Computus emendatus* (1.10), ed. Walter Émile van Wijk, *Le comput emendé de Reinherus de Paderborn (1171)* (Amsterdam: North-Holland, 1951), 24.

⁸ Nicholas of Lyra, *Postilla super totam bibliam*, Liber Exodus 12:1(d) (ed. Strasbourg, 1492; repr. Frankfurt am Main: Minerva, 1971), sig. M9v. The quotation also appears in Hermann Zoest, *Phaselexis* (1st ver.), c. 6, MS U, fol. 270r.

sicut contingerat 1424.⁹ Celebrare autem Pascha nondum existente plena luna est contra¹⁰ dicta sanctorum doctorum. Dicit enim beatus Augustinus tractans illud Genesi primo “Fiant luminaria”: “*luna post equinoctium vernale vespere plenaque procedens paschalem terminum facit.*”¹¹ Ecce dicit notanter “plenaque procedens”. Preterea est etiam contra Bedam in libro *De temporibus* dicentem “*quoniam absque ulla dubietate constat illam lunam que primo transacto equinoctio globum suum plenum ostendit primi mensis existere lunam.*”¹² Et infra subdit “*non alia Pasche servandi regula est quam ut equinoctium vernale plenilunio succedente perficiatur.*”¹³ Et contra istas sanctorum auctoritates et conciliorum generalium facimus dum nondum plena luna existente Pascha celebramus. Interdum autem Pascha nostrum celebramus in ultimo 4^o aspectu seu in ultima quadra primi mensis, contra illud quod statutum est in Nicena

⁹ Hermann Zoest, *Tractatus phase*, c. 2, MS R: “Primo contingit error ratione mensis, quia hoc anno cum scribitur anno Christi 1424 Pascha non celebratur mense legali primo, sed secundo.” See also Hermann Zoest, *Phaselexis (1st ver.)*, c. 3, MS U, fol. 266r.

¹⁰ contra] *a.c.* contra sacram scripturam ac contra *K*

¹¹ pseudo-Augustine in *Biblia Latina cum Glossa ordinaria*, Genesis 1.14 (ed. Strassburg, 1480/81; repr. Turnhout: Brepols, 1992), p. 12. The quotation also appears in Hermann Zoest, *Phaselexis (1st ver.)*, c. 6, MS U, fol. 270r.

¹² Hermann Zoest, *Tractatus phase*, c. 3, MS R, fol. 21r: “Quod autem liceat 15 lunam Pascha celebrari patet venerabilem Bedam 61 capitulo sui libri de temporibus ubi sic ayt: ‘Quoniam absque ulla dubietate constat illam lunam que primo transacto equinoxio globum suum plenum ostendit primi mensis existere lunam.’” See also Hermann Zoest, *Phaselexis (1st ver.)*, c. 6, MS U, fol. 270v. The reference is to Bede, *De temporum ratione* 61 (CCSL 123B, 451, ll. 22–25): “Quoniam absque ulla dubietate constat eam quae prima transito aequinoctio plenum suum globum ostenderit, primi mensis existere lunam.”

¹³ Bede, *De temporum ratione* 6 (CCSL 123B, 12291, ll. 29–30). The quotation also appears in Hermann Zoest, *Phaselexis (1st ver.)*, c. 6, MS U, fol. 270r.

Sinodo, ubi, ut prius dicebam, statutum est tantummodo ut ad 21 diem inclusive primi mensis Pascha posse extendi, ut habetur *De consecratione*, dist. III, ‘*Celebritatem*’.¹⁴

[§5] Ut autem hiis obviaretur erroribus nunc <et> in proinde, quidam patres in concilio presenti existentes moti sunt ut hanc sollicitarent materiam, ut iste error ab universali ecclesia tolleretur. Inter deputatos autem vestros, dum hanc tractarent materiam, quo ad aliqua fit concordia, quo ad alia vero non potuerunt¹⁵ in unam sententiam convenire. In hoc omnes fere concordant quod 1436 omittatur dies bisextilis, qui imponitur sexto kl. Marcii et consequenter semper in 136 annis omitti debeat propter descensum equinoctiorum. Equinoctium enim vernale, quod prius fuit 21 die Marcii, hodie iam descendit usque ad 11 diem Marcii et ex post in futuris temporibus posset contingere quod equinoctium vernale adhuc plus et plus continue appropinquaret [114r] festo Natalis Domini, quod esset magnum inconueniens cum Christus natus sit circa solsticium hyemale. In hoc igitur omnes concordant ut isti dies bissextiles omittantur.

[§6] Sed quo ad alia fuit et est inter eos dispar sententia, propter variam posicionem terminorum paschalium, quibusdam plus ponentibus, aliis vero minus. Et iudicio meo tota in hoc consistit differentia inter eos: quidam enim eorum dicunt quod in computando dies usque ad 14 lunam debeat includi dies coniunctionis, alii dicunt quod deberet excludi. Fundamentum prime opinionis est quia sic videtur ecclesia in kalendario statuisset, ubi a principio positus erat aureus numerus ex opposito diei coniunctionis, licet hoc iam fallit in quinque diebus. Fundamentum vero secunde opinionis est quia Ebrei semper debent nos anticipare in

¹⁴ *Decretum Gratiani* (III, dist. 3, c. 22), ed. Friedberg (n. 6), col. 1358. The source is quoted verbatim in Hermann Zoest, *Tractatus phase*, c. 3, MS R, fol. 20r.

¹⁵ potuerunt] poterunt *K*

celebrando suum Pascha, quod non debet amplius distare a nostro Pascha nisi per septem dies ad maximum. Unde si fieret ista computacio inclusive, contingeret nos interdum celebrare nostrum Pascha prius quam Iudeos, quod esset scandalum. Sicut posset contingere 1439, ubi incensio erit 16 mensis Marcii, die Dominica, et Pascha celebraretur 30¹⁶ Marcii sic computando, et tamen tunc Iudei adhuc debent ymmolare Pascha, quia feria secunda nostri Pasche esset plenilunium de mane, modo constat quod ipsi in plenilunio celebrant Pascha solempne. Si igitur tunc lunam contingeret esse in nodis capitis vel caude draconis eclipsaretur et ita scandalum non modicum oriretur, quia manifeste appareret nos prevenisse Iudeos.

[§7] Aliud fundamentum opinionis istius est quia quintadecima dies lunacionis, que est dies oposicionis, debet esse in medio lunacionis. Cum igitur omnis lunacio contineat 29 dies et 12 horas, patet quod media dies huius est 15^a. Ergo oportet quod habet 14 dies completos ante se et totidem post se, ipso excluso. Sed computato inclusive, ut vult prima opinio, non haberet nisi 13 dies ante se cum dimidio et 15 post se, ac unam dominicam integram ante se et duas integras post se. Et hoc manifeste patet in predicto exemplo, ubi sequens coniunctio erit 15^a Aprilis. Propter hec motiva dicit hec opinio quod ad inveniendum Pascha nostrum debent computari dies 14 excluso die coniunctionis; et si tunc 15 dies sequens equinoctium vernale est dies dominica, ibi debet celebrari nostrum Pascha, si non est, alia dies quam dominica,¹⁷ tunc debet differi in sequentem dominicam.

[§8] Est et alia opinio tertia de alia [114v] ymaginacione, scilicet quod 1436 de ebdomadis intervalli deberent auferri septem dies et aureus

¹⁶ 30] 24 *K*

¹⁷ dominica] *a.c.* die dominica *K*

numerus, qui erit 12, mutari deberet in 9, et tunc redirent omnia in statum pristinum.

[§9] Et inter has opiniones secunda videtur michi probabilior et verior, primo propter auctoritates in principio per me inductas, Augustini et Bede. Si enim, ut inquit Augustinus, ubi supra, “luna post equinoctium vernale vespere plenaque¹⁸ procedens paschalem terminum facit,”¹⁹ et non est plena nisi sit 14 dierum et 18 horarum, constat quod non potest includi dies incensionis in illa computacione. Sic enim computando celebrabitur nostrum Pascha nondum plena luna, quod est contra auctoritatem Bede prius allegatam. Preterea eciam patet veritas istius secunde opinionis quia dicit Theophilus ‘*accidi interdum solet ut occasione 14^e lune nonnulli in errorem cadunt, si enim in diem dominicam incurrerit. Diligenter igitur advertendum est quociens 14 luna in diem dominicam incurrerit in sequentem ebdomadam paschalem diem differamus*’.²⁰ Ex qua auctoritate notissima est verificacio huius opinionis. Item tercio, quia exclusive computando nullum umquam inconueniens veniret, ymmo excludendo duos dies a principio non veniet Pascha nostrum nisi ad 21 diem lunacionis ad maximum et hoc est concessum per Nicenum Conilium. Inclusive²¹ autem computando hoc veniet inconueniens quod celebrabitur Pascha nondum plena luna, sicut si coniunctio fiat in die dominica ante occasum solis vel statim post occasum solis. Patet eciam huiusmodi opinionis veritas per Isidorum 6^o libro *Ethimologiarum*, ubi inquit “*tercie ebdomade dominica die Pascha celebratur*. Significat hoc: *enim tempus ante legem*,

¹⁸ plenaque] lunaque *K*

¹⁹ See n. 11 above.

²⁰ Theophilus of Alexandria, *Prologus*, ap. Bede, *De temporum ratione* 59 (CCSL 123B, 449, ll. 55–62). This passage is also quoted in Hermann Zoest, *Tractatus phase*, c. 3, MS R, fol. 20v; Hermann Zoest, *Phaselexis* (1st ver.), c. 5, MS U, fol. 269v.

²¹ Inclusive] Exclusive *K*

*tempus sub lege, et tempus gracie. Propter hec enim tria seculi tempora resurrectio domini triduana est,*²² ut omnes homines omnium trium temporum resurrectionis fructum percepisse notentur. Modo si computacio inclusiva locum habet, contingeret quod interdum in secunda dominica Pascha celebraretur sicque istud misterium contra intencionem Isidori vacuum fieret de quo dixi.

[§10] Propter has igitur et alias rationes michi secunda opinio plus placuit tamquam vicinior veritati. Ut autem sciatis motiva propter que secunda opinio non videtur aliquibus amplectanda: quia corrigendo calandarium sic et festum Pasche sic stabiliendo, scilicet ut semper [115r] celebretur in die dominica post plenilunium sequens immediate equinoctium vernale, ecce festum Annunciacionis interdum veniret feria sexta post ‘Quasi modo geniti’. Item Pascha erit in crastino sancti Gregorii, sicut contingeret 1503, purificacio feria quarta post ‘Invocavit’, Septuagesima infra octavas Epiphanie, quia 3 pro intervallo. Item festum Pentecostis in die Philippi et Iacobi. Item Rogaciones precedent festum Marci ewangeliste et sic consequenter aliorum festorum contingeret mutacio. Videant igitur dominaciones vestre si hoc expediat, vel si ex hoc sequi aliquod scandalum, quia alia non sunt circa hoc inconueniencia meo iudicio nisi ista. Credo quod melius est facere hanc mutacionem festorum, que non repugnat sacris canonibus, quam scire inconueniencia prius dicta. De hoc quod dicitur de mutacione librorum, dico quod non erit grandis mutacio, quia solum in intervallo et festis mobilibus, cui facile poterit succurri. Tho<mas> de Strampinio.

²² Isidore of Seville, *Etymologiae* 6.17.15–16, ed. César Chaparro-Gómez (Paris: Les Belles Lettres, 2012), 101–3.

Primo deliberatum sed non decretatum propter adventum Grecorum qui expectabatur

[§11] Sacrosancta sinodus generalis Basiliensis in spiritu sancto legitime congregata universalem ecclesiam representans universis Christi fidelibus salutem etc.²³ Conditor siderum, Deus, qui in primeva mundi origine, dum cuncta conderet²⁴ ex nichilo, supra elementarem, alterabilem permixtamque regionem quintam essentiam constituit impermiscibilem et purissimam, ipsam in diversos distinguens orbes, quibus sua immensa sapientia, qua cuncta metitur, varios motus indidit, per quos velut instrumenta virtus mundi huius gubernaretur temporumque vicissitudines rebus conditis fierent in mensuram. Qui motus quia varii sunt, ideo ea que hic in terris accidunt variantur. Sane cum kalendarium, quo dudum universalis ecclesia utebatur in festivitatum principalium celebritate, cui videlicet aureus numerus per Iulium Cesarem inscriptus fuerat ut coniunctiones solis et lune medias ostenderet, viciatum existat propter motus celestes, qui volubilitatem rebus inferioribus [115v] et mutacionem <ferunt>, ut iam festivitates precipue et presertim phase domini, quo Christus transiit de morte ad vitam, in locis suis, quibus secundum sanctiones canonicas celebrari deberent, minime celebrantur sicque errores circa dictorum festorum principalium celebrationem ut plurimum occurrunt; solsticia eciam et equinoctia continue variantur; aureus eciam numerus in dicto kalendario positus non in primo loco, sed vix in quinto solis et lune coniunctionem ostendit—ut igitur hiis occurratur erroribus statuit hec sancta sinodus ut iuxta constitutionem Nicene Sinodi et eciam Alexandrine Pascha sanctum post XIII lunam primi mensis vernali

²³ universis ... etc.] *mg. K*

²⁴ conderet] condiret(?) *K*

transacto equinoctio, die coniunctionis excluso, in proxima dominica celebretur.

[§12] Ut autem liquido pateat quando ipsum Pascha annis singulis celebrari debeat, vult hec sancta Sinodus ut aureus numerus a latere dextro in Marcio et Aprili sic ponatur quod aureus numerus 19 ponatur et [!] ad sextamdecimam diem Marcii ceterique aurei numeri usque ad undenarium continuentur sicut in veteri kalendario in mense Ianuario ponebantur, que situacio durare debebit 272 annis, quibus elapsis 1708 poni debet aureus numerus 19²⁵ ad 17 diem Marcii et continuari sicut continuatus fuerat in ciclo priori; que posicio secunda iterum duratura est per 272 annos, quibus elapsis anno domini 1980²⁶ poni debet aureus numerus 19 ad decimamoctavam Marcii et continuari ut prius, qui indicabit terminum Pasche per 272 annos; et sic faciendum erit usque dum quinque cicli fuerint consumati.

[§13] Ut autem solsticia et equinoctia variacionem non accipiant, vult hec sancta sinodus ut anno domini 1436 omittatur bissextus et sic consequenter in 136 annis ceteris bissextilibus in locis suis in quibus prius poni consueverant permansuris. Sic etenim per multa temporum curricula solsticia et equinoctia in locis suis fixa manebunt, equinoctium vernale videlicet 12 die Marcii, equinoctium autumpnale in 15 Septembris, solsticium hyemale in 13 Decembris et estivale in 14 Iunii.

[§14] Ut autem coniunctiones solis et lune medias in kalendario nunc correcto aureus ostendat numerus, quantum fieri est possibile, vult hec sancta sinodus ut aureus numerus 19 ponatur ad secundam diem

²⁵ numerus 19] *a.c. add.* que posicio secunda iterum duratura est per 272 annos quibus elapsis *K*

²⁶ 1980] 198° *K*

Ianuarii²⁷ et sic consequenter alii sequentes numeri continuentur quemadmodum in versibus super hoc confectis plenius continetur:

Altera lux Iani dat ciclum denovealem [!],/
 Quem sic decenter in impari mense locabis:/
 Nod octo, sed quinque, tred ambo, decem, doc/
 Septem, quint quartus, dud iota/ Novem, sepd vi, quard
 ternus, und./
 Per pares menses aliter sic continuabis:/
 Nodes, oc sede, quin treden, ambo, de decas/
 Sep quinde, quard duod/ Io novem, desep, sex quarde,
 ter unden.

²⁷ Ianuarii] *a.c.* Martii *K*

Appendix II: Edition of Hermann Zoest's *Phaselexis* (1st ver.)

The following edition of Hermann Zoest's treatise-supplement to the calendar reform planned in 1435 is based on a collation of three witnesses:

- | | |
|---|---|
| C | København, Det Kongelige Bibliotek, Thott 825 4°, fols. 191r–208v |
| G | Gniezno, Archiwum Archidiecezjalne, 17, fols. 343r–56r |
| U | Uppsala, Universitetsbiblioteket, C15, fols. 262r–72ev |

The treatise proper consists of a preface, a prologue (with table of contents), and six chapters of varying length. MSS G and U add a string of 'appended material' at the end of Chapter 6: two rules on how to find the *termini* for Septuagesima Sunday and Easter, a full calendar based on the new reform proposal, and an auxiliary table detailing the re-location of the *termini* after every 272 years, which in MS U comes with a brief explanation. The calendar corresponds precisely to the *novum kalendarium* described in Chapter 5, while the auxiliary table is alluded to in no unclear terms at the end of Chapter 6. There can thus be no doubt that all of this material forms an integral part of the treatise. The copy in MS C breaks off at the end of Chapter 6, omitting all of the appended material (as well as chapter headings). There are also a few cases where MS C leaves out certain passages, probably as a result of homeoarchy.¹ At the same time, this manuscript adds a whole passage to the prologue and two sentences to

¹ Two fairly obvious examples are documented in nn. 67 and 89 below. The skip at n. 220 was probably intentional, as MS C here uses a different connector. A case of homeoarchy in MS U would be the omission noted in n. 97. For two instances in MS G, see nn. 152 and 189.

Chapter 6, all connected to the Jewish calendar.² It is not unlikely that these changes go back to Hermann Zoest himself, who had a tendency to produce more than one version of his writings.³

With a few exceptions noted in the apparatus, the main text of the edition will follow the word order and spelling found in MS U. I have retained the latter's use of *c* in place of *t* (which is also a feature of MSS C and G), but used *-ct* instead of *-cc* in words such as *coniunctio*. To assist navigation between the edition and references to the text found in the footnotes of the preceding study, I have indicated all the page breaks in U using [square brackets]. In displaying numerals, MS U uses an inconsistent mix of Roman and Hindu-Arabic numerals, whereas MSS C and G tend towards spelling out even some of the higher cardinal and ordinal numbers (for instance in numbering books of the Bible). I have followed this latter practice for numbers below 10, using Hindu-Arabic numerals for all remaining cases.

It is my pleasure to acknowledge the kind and generous contribution of Olivier de Solan, who shared his transcription of MS U with me before I had completed my own edition of the text. With his permission, I have added his rendering of the calendrical tables in U to the edition below. The tables in MS G differ in several formal respects from

² See nn. 43, 236, 243 below. The first of these is a brief disquisition on the Hebrew months, their role in biblical history, and the importance of the Jewish calendar in identifying them. The passage is strongly reminiscent of one that later (in 1436) appeared in Hermann Zoest's *Calendarium Hebraicum novum*, ed. C. P. E. Nothaft, *Medieval Latin Christian Texts on the Jewish Calendar* (Leiden: Brill, 2014), 508, ll. 9–23.

³ A parallel case are the two different recensions of his *Calendarium Hebraicum novum*, discussed in Nothaft, *Medieval Latin Christian Texts* (n. 2), 497–503. See also Olivier de Solan Bethmale, *Les propositions de réforme du calendrier au XV^e siècle* (Diploma thesis, École Nationale des Chartes [Paris], 1998), 177–80, on the various recensions of *Phaselexis* (2nd ver.).

the ones presented here. In particular, they (a) use Hindu-Arabic as opposed to Roman numerals; (b) add another column in which the days of the month are numbered continuously; (c) feature an independent selection of feast and saint days, with *obit* dates of Polish churchmen added in what appears to be Strzempiński's hand. Also, the auxiliary table for the corrected *termini* here appears before the calendar (rather than after) and lacks the fifth and final set of columns, which would have listed the dates valid from AD 2528. MS G shows no trace of the canon or explanatory text that is written below this table in MS U (fol. 273ev).

HERMANNUS ZOESTIUS DE MONASTERIO: PHASELEXIS (VERSIO PRIMA)

Incipit prefacio in tractatum qui dicitur Phaselexis⁴

Gaude et letare, sacrosancta Basiliensis synode preclarissima, quia antiquarum sacrosanctarum synodorum consors es effecta! Ceteris autem permagnificis operibus a te gestis pretermisissis ad unicum opus me converto. Nam id quod illic apud summos⁵ pontifices isticque in conciliis sepe est⁶ temptatum et inceptum, tu ad optatum⁷ et felicem perduxisti finem. Tu nempe kalendarium viciosum et corruptum diligenter emendasti et defectum observacionis festi Pasche celeberrimi extra limen domus Dei eminus eiecisti. Unigenitus siquidem Dei filius, A et Ω, primus et novissimus, qui *Proverbiorum* octavo dicit '*delicie mee sunt esse cum filiis hominum*',⁸ de sinu summi Patris in hanc lacrimarum vallem propter nostram salutem descendere dignatus est apud nos mansionem faciendo; lapides quadravit et succidit cedros, ut sibi mansionem prepararet; construxit domum nobili scemate et structura et in sudore preciosissimi sanguinis sui ipsam consummavit. Denique depinxit eam⁹ varietate nimia et egregie decoravit in eaque locans ornamenta tria preciosa aureolis mirifice redimita.¹⁰ Primo posuit in ea altarem incensi aureum, quo ad

⁴ Incipit ... Phaselexis] Incipit prefacio in Phasilexim C
dicitur Faselexis G

mg. Incipit tractatus qui

⁵ summos] summo U

⁶ est] a.c. et G

⁷ optatum] optatis C

⁸ Prv 8,31 (ed. Weber II 964).

⁹ depinxit eam] eam depinxit eam G

¹⁰ redimita] redemita U

martires sese in holocaustum¹¹ Deo¹² offerentes. Secundo mensam propositionis panum auream,¹³ quo ad verbi Dei predicatorum panem celi et doctrine populo ministrantes. Tercio locavit in ea archam federis¹⁴ intus forisque auro¹⁵ circumtectam, quo ad virgines mentis et corporis castimoniam conservantes. Hanc igitur domum celibem tam excellenter tamque¹⁶ precise fabricatam et tam miro modo redimitam nil aliud decet quam omnis decor et sanctitudo et ut in ea alleluia, laus et gloria, necnon debita graciarum actio ipsi edificatori iugiter referantur. Sed—prochdolor!¹⁷—a retroactis quibusdam iam temporibus corruptus mos pregrandis et enormis in ea dudum inolevit¹⁸ sic quod celeberrimi paschalis gaudii debite laudes debitis temporibus sepius non persolvebantur. Quamobrem Christi crucis emuli, Iudei et Agareni, predictae domus gloriam viderunt et inviderunt consideraveruntque [262v] predictum defectum unicum, unde et habitatores huius domus¹⁹ regie multipharie multisque modis deriserunt asserueruntque ipsam errorum tenebris et ignorancie nubilo obfuscata; unde et simplices ac ydeote²⁰ scandalizati fuerunt²¹ plurimum, non phariseorum, sed pusillorum scandalo.

¹¹ holocaustum] olocaustum *U*

¹² Deo] *om. U*

¹³ auream] aureum *G*

¹⁴ federis] fedoris *C*

¹⁵ auro] aureo *C*

¹⁶ tamque] tamquam *G*

¹⁷ prochdolor] proch prochdolor *C*

¹⁸ inolevit] inalevit *G*

¹⁹ huius domus] domus huius *U*

²⁰ ydeote] ydo ydeote *C*

²¹ fuerunt] fuere *CG*

Sed revera non²² sic, impii, non sic, quia fundator edis huius celibis,²³ qui lucem inhabitat inaccessibilem, posuit in ea aureum candelabrum septem lucernarum septem arcium liberalium ex uno calamo philosophie excrescencium locavitque in ea duo cherubin²⁴ propiciatorium obumbrancia sacre theologie et sacrorum canonum. Hiis mediantibus luminibus omnes errores veteres sunt fugati, hiis et moderni defectus in nichilum sunt redacti. Unde pridem edidi tractatulum ad corrigendum exhortatorium, sed pneumatismis almi²⁵ gratia iam tenebris effugatis subsequens opusculum ex diversorum doctorum scriptis tamquam ex filiorum Israel thesauris brevissime²⁶ compilavi. Non autem sumpsi ipsorum aurum totum, sed in aures tantum *proieci in ignem* et conflavi et exivit *vitulus hic* conflatilis.²⁷ Sed certe huius vituli in lucem productio multum me perterret nec minorem mihi ingerit formidinem eiusdem occultatio. Vituli in lucem productio nimirum me²⁸ perterret propter sinistros interpretores atque invidios pallidosque detractores, quare cum beato Ieronimo in prologo Ysaie dicere possum: ‘Non *ignoro me patere morsibus plurimorum, qui stimulante invidia quod consequi non possunt despiciunt; legant prius²⁹ et postea despiciant*’.³⁰ Econtra predicti vituli occultatio non minorem mihi ingerit formidinem, quia timeo me fieri

²² non] nec U

²³ celibis] celebis G

²⁴ duo cherubin] om. G

²⁵ almi] olim G

²⁶ brevissime] om. G

²⁷ Ex 32,24 (ed. Weber I 123). Cf. Pseudo-Philo, *Liber antiquitatum biblicarum* (12.3), ed. Guido Kisch (Notre Dame, IN: University of Notre Dame, 1949), 147.

²⁸ nimirum me] ~~me~~ nimirum G

²⁹ prius] om. G

³⁰ *Prologus Hieronymi in Isaia Propheta* (ed. Weber II 1096).

similem servo qui *'fodit in terram et abscondit pecuniam domini sui'*³¹ (*Math.* 25). Angustie igitur mihi sunt undique et quid eligam ignoro. Sed honorem sancte matris Ecclesie diligens et caritatis precepto aliis servire cupiens supplico cum Alano in prologo *Anticlaudian*i dicens: *'Mei libelli pauperiem detractionis flatus non deprimat, ubi potius miserie naufragium, misericordie portum expostulat, quam felicitas livoris exposcat aculeum'*.³² Eapropter emulorum parvipendens detractiones opus publicabo et orabo Deum dicens: *'Domine libera animam meam a labiis iniquis et a lingua [263r] dolosa'*³³ (*Ps.* 119). Explicit prefacio.³⁴

³¹ Mt 25,18 (ed. Weber II 1566).

³² Alain de Lille, *Anticlaudianus* (Prologus), ed. R. Bossuat (Paris: Vrin, 1955), 55.

³³ Ps 119,2 (ed. Weber I 930).

³⁴ Explicit prefacio] *om. C*

Incipit prologus³⁵

Veneranda est astronomie scientia, ipsa enim non inconvenienter naturalis theologia nominari potest; quia sicut superior theologia ad Dei cognitionem per supernaturalem fidem inducit, sic ista tamquam inferior eidem subserviens ad divine cognitionis introductionem per naturalem rationem manuducit. De hac Iosephus, primo *Antiquitatum* libro, sic inquit: '*Arismetricam* Egypciis contulit Abraham et que de astrologia sunt ipse contradidit'.³⁶ In hac et ille familiarissimus Dei amicus Moyses ad summum eruditus annulos oblivionis et memorie fabricavit, prout in *Scholastica hystoria*³⁷ recitatur.³⁸³⁹ Secundum hanc Deus festa legis veteris per ipsum Moysen precepit celebrari, per hanc et Ieronimus quotas lune martilogio inseruit, per hanc Beda Venerabilis habetur clarus. Et Alanus in *Anticlaudio* hanc super omnes alias artes extollit, unde inter multa laudum eius preconia inquit '*hec comites superans, primas facit esse secundas*'.⁴⁰ Per hanc sancti viri, scilicet Ypolitus, Theophilus, Prosper atque Victorinus errores effugarunt et paschales ciclos ediderunt;⁴¹ et modernus defectus kalendarii per istam eciam est fugatus, ut in presenti patebit iam⁴² tractatulo, qui quidem propter quinque causas exstat

³⁵ Incipit prologus] *om. C add.* in tractatum eundem *G*

³⁶ Flavius Iosephus, *Antiquitates Iudaicae* (1.8.2/167), ed. Franz Blatt, *The Latin Iosephus*, vol. 1 (Copenhagen: Munksgaard, 1958), 145.

³⁷ *Scholastica hystoria*] *ecclesiastica historia G*

³⁸ prout ... recitatur] *s.l.* prout in *Scholastica* recitatur *hystoria C*

³⁹ Peter Comestor, *Historia scholastica*, Liber Exodi cap. 6 (PL 198, col. 1144D).

⁴⁰ Alain de Lille, *Anticlaudianus* (4.57), ed. Bossuat (n. 32), 108.

⁴¹ Ypoplitus ... Victorinus] Cf. Isidore of Seville, *Etymologiae* 6.17.1, ed. César Chaparro-Gómez (Paris: Les Belles Lettres, 2012), 87.

⁴² iam] *om. C*

compilatus,⁴³ quarum prima est ut cognoscatur modus per quem kalendarium est correctum. Secunda causa est ut cognoscantur singulorum ordinatorum rationes que in decreto Basiliensis synodi brevitatis causa sunt omisse. Tercia causa est ut computiste habeant materiam mediante qua antiquos computos corrigere possint aut fabricare novos; quarta causa ut hii qui non viderunt multas hystorias hic cognoscere valeant omnia gesta circa festum Pasche a principio institutionis sue usque ad tempora Basiliensis synodi breviter et summarie. Quinta causa est ut obstruantur ora loquentium iniqua, scilicet detractorum invidorum. Et habet sex capitula:

Primum est de origine festi Pasche

Secundum est de opinionibus circa diem et annum passionis Domini

Tercium est de erroribus et de⁴⁴ defectibus

Quartum est de causis errorum et ipsorum rationibus

Quintum est de modo et forma habitis in kalendarii emendacione⁴⁵

Sextum est de primo mense et embolismis

⁴³ tractatulo ... compilatus] *add.* et huius siquidem sciencie prenobilis primitivum opus atque vestustissimum est computus Hebreorum, sine quo primus mensis vere ac precise cum ceteris Hebreorum mensibus nequaquam cognosci potest. Et hii namque sunt menses qui a fabricacione firmamenti et ortu eius incepterunt, quando Deus dixit '*Erunt in signa* etc.' Et hii sunt menses de quibus sacra pagina tam veteris, quam novi testamenti loquitur. Hii sunt menses quorum primus, Nysan dictus, Pasche cerimonia est sacratus. Hii sunt menses in quorum primo et eius plenilunio agnus Dei peccata mundi tulit et nos a vetusta servitate suo sanguine liberavit. Et hii sunt menses in quorum primo et eius die 15^a sacri canones et decreta sacrosancatorum synodorum iubent Pascha celebrari, propter quod prius tractatulus eciam exstat compilatus, et hoc propter quinque causas *C*

⁴⁴ de] *om.* *C*

⁴⁵ kalendarii emendacione] emendacione kalendarii *G*

Et quia hec ordinem habent et attributionem ad festum Pasche ideo non inconvenienter subsequens opusculum *Phaselexis* nuncupari potest [263v], quod est compositum ex Hebreo et Greco; et interpretatur ‘Pasche racio’, quia omni predictorum hic assignatur racio.⁴⁶

Incipit primum capitulum: de origine festi Pasche⁴⁷

Sedens in throno dicens⁴⁸ ‘*Ecce nova facio omnia*’⁴⁹ novum cudi voluit kalendarium saltem quo ad aurei numeri situationem. Ad laudem igitur et gloriam summi et immensi Dei, ad honorem sancte matris Ecclesie ad perpetuamque⁵⁰ sacrosancte Basiliensis synodi generalis memoriam aggrediar opus originem sumens a principio.

Solempnitas illa sacra, que Hebraice dicitur ‘*phase*’, Grece ‘*pascha*’ et Latine ‘transitus’ utriusque testamenti festum esse notum est et utriusque primum. Antiquum autem ‘*phase*’ ante legis scripture dacionem a Deo fuerat institutum, unde *Exodi* 12: ‘*Mensis iste vobis principium mensium*,⁵¹ *primus erit in mensibus anni. Loquimini ad universum cetum filiorum Israel et dicite eis: decima die mensis huius tollat unusquisque agnum per domos et familias suas*,⁵² *et servabitis eum usque ad quartamdecimam diem mensis huius immolabitque eum universa*

⁴⁶ assignatur racio] racio assignatur C

⁴⁷ Incipit ... Pasche] *om. C* Capitulum 1: de origine festi Pasche G

⁴⁸ dicens] dicit U

⁴⁹ Apc 21,5 (ed. Weber II 1903).

⁵⁰ perpetuamque] perpetueque C

⁵¹ vobis principium mensium] principium mensium vobis U

⁵² Ex 12,2–3 (ed. Weber I 91).

*multitudo*⁵³ *filiorum Israel ad vesperam*'.⁵⁴ Nondum erat tunc lex data cum hoc preceptum dedit Deus, unde clare patet ipsum fore caput omnium festorum legis veteris et principium.

Videamus nunc de origine festi Pasche novi testamenti. Dominus noster Ihesus Christus transiturus⁵⁵ de hoc mundo ad patrem post esum agni typici suis discipulis corpus suum dedit ad edendum novum instituens testamentum. Ipse enim verus est agnus qui abstulit peccata mundi. Ipse decima die mensis primi ad instar legalis agni in domum est allatus, quia Iherusalem in asino tunc intravit. Et quartadecima die ad vesperam captus, quintadecima die pro nostra salute sponte est oblatus et in cruce moriens mortem nostram moriendo destruxit et vitam resurgendo reparavit, unde et beatus Ambrosius in benedictione paschalis cerei sic cantavit: '*Ipse est qui pro nobis eterno patri Ade debitum solvit et veteris piaculi cautionem pio cruore deterisit. Hec sunt enim festa paschalia in quibus ille verus agnus occiditur eiusque sanguine postes consecrantur*'.⁵⁶ Hec ille.

Quamvis autem per occisionem istius agni simus reconciliati Deo, tamen hec occisio et sanguinis effusio fidem nostram non firmassent, si resurrectio secuta non fuisset.⁵⁷ Unde Apostolus prime *Ad Corinth.* 14: '*Si Christus non resurrexit inanis est fides nostra*',⁵⁸ quia Iudei fatentur et pagani attestantur Ihesum passum et occisum. Et ideo ipsius resurrectio

⁵³ *universa multitudo*] *multitudo universa* *U*

⁵⁴ Ex 12,6 (ed. Weber I 91).

⁵⁵ *transiturus*] *transiens* *C*

⁵⁶ ps.-Ambrose, *Benedictio cerei (Exultet)*, ed. Cyrille Vogel and Reinhard Elze, *Le pontifical romano-germanique du dixième siècle*, vol. 2 (Vatican City: Biblioteca Apostolica Vaticana, 1963), 98.

⁵⁷ *fuisset*] *add.* quia Iudei fatentur et pagani attestantur ipsum passum et occisum. Quare ipsius resurrectio gloriosa ipsam fidem nostram roboravit, que alias extincta tunc fuisset.

C

⁵⁸ I Cor 15,14 (ed. Weber II 1786).

gloriosa ipsam [264r] fidem nostram roboravit, que alias extincta tunc fuisset.⁵⁹ Ipse namque Dominus, sicut descendit in uterum virginis absque virginis corrupcione velud ros descendit in vellus Gedeonis, sic eciam de clauso exivit tumulo absque sepulchri et sigilli fractione cum rediviva fenicis carne⁶⁰ gloriosa, in vita pugnavit⁶¹ cum dracone, in morte triumphavit et in die resurrectionis victorie palmam de triumpho reportavit, quia ‘*vicit leo de tribu Iuda*’ (Apocal. quinto).⁶²

Capitulum secundum: de opinionibus circa annum et diem Passionis⁶³

Gedeon dux noster Christus pugnavit contra Madianitas hostes populi Israel, populi quidem Deum per fidem videntis et cognoscentis,⁶⁴ ac *iugum oneris eius*⁶⁵ et *virgam humeri eius et sceptrum*⁶⁶ *exactoris eius*⁶⁷⁶⁸ *superavit sicut in die Madian*,⁶⁹ lagunculam terream corporis sui confringendo, ut divinitatis lampas appareret, predam cepit et divisit spolia quam tamen lagunculam corruptam non reliquit, sed tertia die resurgens ipsam gloriose reparavit. Quo autem mense et quota die mensis lunaris anni hec laguncula carnis Christi est confracta satis competenter doctores hoc notificant, quia Beda et quasi omnes tenent quod Christus

⁵⁹ quia Iudei ... fuisset] *om. C*

⁶⁰ carne] *om. U*

⁶¹ pugnavit] pugnat *G*

⁶² Apc 5,5 (ed. Weber II 1886).

⁶³ Capitulum ... Passionis] *om. C*

⁶⁴ cognoscentis] cognoscentis *U*

⁶⁵ eius] *add. superavit C*

⁶⁶ sceptrum] ceptrum *U*

⁶⁷ et virgam ... eius] *om. C*

⁶⁸ et sceptrum ... eius] *om. G*

⁶⁹ Is 9,4 (ed. Weber II 1105).

decimaquinta⁷⁰ die mensis primi mortem pro salute nostra pertulit.⁷¹ Sed Orosius ad beatum Augustinum scribens in *Cronica* tenet quod Christus decimaquarta die primi mensis sit passus; nam sic ait ibi : ‘*Eademque die ab hora sexta diei*⁷² *sol in totum obscuratus tetraque nox subito educta terris est et, sicut dictum est, « Impia eternam timuerunt secula mortem », usque adeo autem neque lunam lumini solis neque nubes obstitisse*⁷³ *manifestum est,*⁷⁴ *ut quartadecima die luna tota celi regione interiecta, longissime a conspectu affuisse et stellas tunc diurnis horis vel potius in illa horrenda nocte toto celo fulsisse referatur*’.⁷⁵ Hec Orosius et idem sentit beatus Augustinus.⁷⁶ Possumus tamen eos cum aliis concordare dicendo quod ipsi computant lunam primam tercia die incensionis⁷⁷ et per consequens plenilunium vocant quartamdecimam diem.

Quota denique die⁷⁸ mensis et quo mense Romano Christus sit passus opiniones sunt diverse et specialiter reperio quatuor magis principales.

Prima tenet quod Christus dominus noster octavo kalendas Aprilis sit crucifixus et quod sexto kalendas resurrexit. Huius opinionis est

⁷⁰ decimaquinta] quintadecima G

⁷¹ Bede, *De temporum ratione* 47 (CCSL 123B, 432, ll. 90–95); ibid. 61 (CCSL 123B, 452, ll. 75–81).

⁷² sexta diei] diei sexta CG

⁷³ obstitisse] obstetisse U

⁷⁴ est] om. U

⁷⁵ Paulus Orosius, *Historia adversum paganos* 7.4.14–15 (CSEL 5, 442–43).

⁷⁶ ps.-Augustine, *Quaestiones veteris et novi testamenti*, q. 106.5 (CSEL 50, 238).

⁷⁷ incensionis] incensio incensionis C

⁷⁸ denique die] die denique U

Dyonisius abbas,⁷⁹ cum quo concordat beatus Ieronimus in *Martilogio* dicens ‘*Octavo kalendas Aprilis Iherosolime crucifixus est Christus*⁸⁰ *dominus*’.⁸¹ Et beatus Augustinus tenet idem libro quarto *De Trinitate*, capitulo quinto, asserens Dominum [264v] eodem⁸² die passum quo et conceptus erat.⁸³ Hec vero opinio contradicit astronomice veritati, quia aut Dominus passus est tricesimotercio anno sue etatis aut tricesimoquarto. Si primo, tunc 15 erat aureus numerus et per consequens primus mensis incepit decimoquarto kalendas Aprilis et sic luna decimaquarta erat tercio nonas Aprilis et littera dominicalis eciam non concordat, que tunc erat D. Si passus est⁸⁴ tricesimoquarto anno,⁸⁵ tunc iterum dies est in oppositum, quia 16 erat aureus numerus et primus mensis incepit octavo idus Marcii et per consequens 15 luna erat 10 kalendas Aprilis; littera dominicalis erat C, que eciam non concordat.

Secunda opinio tenet quod Dominus sit passus 10 kalendas Aprilis et huius opinionis est beatus Theophilus in epistola synodica, cum quo venerabilis Beda concordat in libro *De temporibus*. Nam cunctorum plasmator encium, Deus, in prima seculi die celum et terram angelicamque creturam purissimam creavit, que quidem dies secundum ipsum Bedam 15 kalendarum Aprilium dies erat super littera G. Quarta vero die fecit

⁷⁹ ps.-Dionysius Exiguus, *Argumenta de titulis pascalis Aegyptiorum* (15), ed. Krusch, *Studien zur christlich-mittelalterlichen Chronologie: Die Entstehung unserer heutigen Zeitrechnung* (Berlin: de Gruyter, 1938), 80.

⁸⁰ Christus] *om. CG*

⁸¹ ps.-Jerome, *Martyrologium Hieronymianum*, ed. Giovanni Battista de Rossi and Louis Duchesne, in *Acta Sanctorum*, vol. 63 = *November*, vol. 2.1 (Brussels: Apud Socios Bollandianos, 1894), 36 (also ed. PL 30, 449).

⁸² eodem] *eadem U*

⁸³ Augustine, *De Trinitate* 4.5 (CCSL 50, 172).

⁸⁴ est] *om. U*

⁸⁵ anno] *om. CU*

firmamentum ornans illud ardenti solis rota, pallido lunari globo et innumeris stellarum ignibus, que quidem die 12 kalendarum Aprilium dies erat; sexta namque die fecit hominem unde et ipse Beda sic ait: *‘In prima etate seculi, sexta die, Deus animalia et ipsum hominem formavit Adam, de cuius latere dormientis produxit Evam, que nunc, quantum videtur credibile, decimus kalendarum Aprilium dies appellatur. Unde merito creditur, si non verior sententia vincit, epistolam fore sanam quam beatus Theophilus cum ceteris aliarum regionum episcopis scripsit, eadem 10 kalendarum Aprilium die Dominum fuisse crucifixum. Decebat enim una eademque non solum ebdomadis, sed et mensis die secundum Adam pro salute generis humani vivifica morte sopitum de productis e latere suo sacramentis celestibus sponsam sibi sanctificare Ecclesiam: qua scilicet die primum Adam patrem humani generis ipse creaverat eique costam de latere tollens edificavit⁸⁶ mulierem, cuius adiutorio genus propagaret humanum’.*⁸⁷ Hec Beda. Unde et consequenter mihi videtur fore credendum eadem die Dominum post mortis triumphum animam carni unisse et in ea iam glorificata resurrexisse qua scilicet die prius pro nostra salute incarnari et in utero Virginis animam carni unire dignatus est, qui dies octavus kalendarum Aprilium dies nominatur. Confirmat hanc opinionem astronomica veritas [265r] si queratur media coniunctio aut media opposicio, coniunctio pro inicio mensis primi, opposicio vero pro 15 luna, sed certe littera dominicalis discordat. Hec opinio multum racionabiliter est fundata, ut in auctoritate supraposita clare patet.

⁸⁶ edificavit] formavit C

⁸⁷ Bede, *De temporum ratione* 66.9 (CCSL 123B, 464–65).

Tercia opinio tenet quod crucifixus sit Dominus septimo kalendas Aprilis et huius opinionis est Reynherus,⁸⁸ cuius rationes brevitatis causa premitto.

Quarta opinio vult quod Christus sit passus tercio nonas Aprilis et quod resurrexit nonas Aprilis⁸⁹ anno etatis sue tricesimotercio currente sub aureo numero 15. Huius opinionis sunt Iohannes⁹⁰ de Muris et Rogerius Bathon. Racio illorum est quia reperimus oppositionem primi mensis tercio nonas Aprilis et littera dominicalis concordat, que erat D, et habetur nonas Aprilis ubi resurrexit.⁹¹

De hiis autem opinionibus que sit verior non est meum iudicare, quia satis est difficile hoc scire nisi alicui divinitus foret revelatum. Opinionem primam Iohannes de Muris reprobatur, dicens quod Magister in Hystoriis, qui Dyonisiu[m] est secutus,⁹² erravit ponendo passionem Domini octavo kalendas Aprilis.⁹³ Ad auctoritates beatorum Ieronimi et Augustini respondet Gerlandus quod Ieronimus et Augustinus dicunt octavo kalendas Dominum passum, hoc non dicunt *per auctoritatem sed secundum*

⁸⁸ Reinher of Paderborn, *Computus emendatus* (2.15), ed. Walter Émile van Wijk, *Le comput emendé de Reinherus de Paderborn (1171)* (Amsterdam: North-Holland, 1951), 70.

⁸⁹ et quod ... Aprilis] *om. C*

⁹⁰ Iohannes] Iohannis *G*

⁹¹ John of Murs, *Sermo de regulis computistarum*, MS Erfurt, Universitäts- und Forschungsbibliothek, BA qu. 371, fols. 44vb–45ra; Roger Bacon, *Opus tertium* (c. 57), in *Opera quaedam hactenus inedita*, vol. 1, ed. J. S. Brewer (London: Longman, Green, Longman, and Roberts, 1859), 221–26.

⁹² secutus] sequitur *U*

⁹³ John of Murs, *Sermo de regulis computistarum*, MS Erfurt, Universitäts- und Forschungsbibliothek, BA qu. 371, fol. 45ra. Cf. Peter Comestor, *Historia scholastica*, In Evangelia cap. 2, 169 (PL 198, cols. 1537D, 1616B).

opinionem vulgi; nam usum ecclesiarum in hoc sunt secuti.⁹⁴ Huius veritas patet ex hoc⁹⁵ quia beatus Iheronimus in libro *De illustribus viris* sic de beato Theophilo ait: ‘*Theophilus adversum eos qui quartadecima luna cum Iudeis Pascha faciebant cum ceteris episcopis synodicam et valde utilem composuit epistolam*’.⁹⁶ Ecce ibi beatus Ieronimus laudat illam epistolam⁹⁷ in qua Theophilus dicit Dominum passum 10 kalendas Aprilis. Sed non est magna vis in predictis, quia ipsum Pasche festum non habet respectum ad aliquem certum diem in calendario, sed ad lunares menses atque dies. In hoc communiter doctores concordant quod in plenilunio primi mensis est passus et tertia die resurrexit mane prima sabbati. Resurrexit igitur Dominus ‘*ex mortuis et iam non moritur atque mors illi iam non dominabitur*’ (*Ad Romanos sexto*).⁹⁸

Capitulum tertium: de erroribus⁹⁹ circa festum Pasche¹⁰⁰

Beatus Gregorius in secunda parte *Omeliarum*, omelia secunda, extollens sacratissimum festum Pasche sic inquit: ‘*Hanc enim solempnitatem recte nobilitatem solempnitatum dicam, quia solempnitates ceteras antecedit. Nam sicut in sacro eloquio sancta sanctorum et cantica canticorum pro sui magnitudine dicuntur, ita recte hec festivitas solempnitas*

⁹⁴ Gerland ap. Roger Bacon, *Opus tertium* (c. 57), ed. Brewer (n. 91), 223. Cf. Gerland, *Computus* (1.24, 35), ed. Alfred Lohr (Stuttgart: Steiner, 2013), 146, 168.

⁹⁵ hoc] hac *G*

⁹⁶ Jerome, *De viris illustribus* (43), ed. Aldo Ceresa-Gastaldo (Florence: Nardini, 1988), 142.

⁹⁷ Ecce ... epistolam] *om. U*

⁹⁸ Rm 6,9 (ed. Weber II 1756).

⁹⁹ erroribus] *add. habitis G*

¹⁰⁰ Capitulum ... Pasche] *om. C*

solempnitatum potest dici'.¹⁰¹ Hec ille. Hanc autem tam preclaram, tam festivam celebritatem diversorum errorum tenebre nitebantur olim obfuscare;¹⁰² et reperio quatuor errores ceteris graviores.

[265v] Primus erat Asianorum qui non habuerunt respectum ad primam sabbati, sed cum Iudeis 14 luna quacumque die veniente celebrabant Pascha. Propter hunc errorem celebratum est concilium in Alexandria Palestine, in quo erant sancti viri, scilicet Theophilus Cesariensis episcopus, Hyreneus Lugdunensis, Narcissus Iherosolimitanus et diversi alii pontifices <et> viri sancti, Victore papa et martire presidente, prout satis diffuse in quinto libro *Ecclesiastice hystorie* continetur.¹⁰³ Ibi statutum est quod Pascha semper debet celebrari dominica die, observata 14 luna mensis primi. Postmodum vero error dictus resurrexit et viguit usque ad tempora Constantini et eodem tempore presbiter quidam Alexandrinus nomine Arrius venenosum dogma predicavit, dicens filium patre minorem fore. Propter has duas causas iste devotus princeps convocari fecit¹⁰⁴ episcopos in urbe Nicea Bitinie et convenerunt 318 patres qui ibidem celebraverunt synodum que Nicena synodus appellatur. De causa convocacionis habetur in¹⁰⁵ *Tripartita hystoria* ubi dicitur: '*Graviter autem ferebat Constantinus audiens aliquos contra omnium*¹⁰⁶ *statutum agere Pasche festivitatem*'. Et subditur: '*propter utraque quietam esse Ecclesiam concupiscens festinabat princeps seque putans hoc malum*

¹⁰¹ Gregory the Great, *Homiliae in evangelia* 22.6 (CCSL 141, 185, ll. 110–14).

¹⁰² obfuscare] offuscare U

¹⁰³ Eusebius of Caesarea (tr. Rufinus), *Historia ecclesiastica* (5.23.1–3), ed. Eduard Schwartz and Theodor Mommsen, *Eusebius Werke 2/ Die griechischen christlichen Schriftsteller 9* (Berlin: Hinrich, 1903–9), 1:489

¹⁰⁴ fecit] *om. G*

¹⁰⁵ in] *om. G*

¹⁰⁶ omnium] communem C *om. G*

preoccupare posse antequam ad plurimos perveniret.¹⁰⁷ Unde in illa synodo patres statuerunt *ut secundum legis preceptum vespera quartedecime*¹⁰⁸ *diei primi mensis expectaretur, sed quia Dominus prima sabbati resurrexit a mortuis, idcirco diem dominicum debere expectare; qui, si statim 15 die mensis foret, in ipso Pascha celebraretur, sin autem, in proxima dominica sequente, quare sanctum Pascha a*¹⁰⁹ *14 luna usque ad 21 inclusive extenderunt.*¹¹⁰ Istud breviter tangitur 10 libro *Ecclesiastice hystorie*,¹¹¹ sed diffusius in *Tripartita* notatur *hystoria*. Et in epistola synodica dicitur: *‘Ewangelizamus vobis de consonancia sanctissimi Pasche, quia vestris oracionibus est correctum eciam hoc opus, ita ut omnes orientales fratres qui cum Iudeis Pascha primitus celebrabant consone cum Romanis et vobiscum ex hoc tempore debeant custodire’*.¹¹²

Secundus error erat Montanorum. Isti dogmatizabant solares circulos fore observandos et *culpabant illos qui cursum lune requirebant*.¹¹³ Sed quia hic error radicem non habuit non late ramos extendebat, sed velociter exaruit.

Tercius error erat Manicheorum qui Pasche festum abhorrebant.

Quartus defectus erat is qui moderno tempore diu iam regnavit, scilicet quod Pascha tardius celebrabatur quam debebat, de quo quidem

¹⁰⁷ Cassiodorus-Epiphanius, *Historia ecclesiastica tripartita* 1.20.1–2 (CSEL 71, 80, ll. 2–10).

¹⁰⁸ quartedecime] quartadecime *G*

¹⁰⁹ a] in *U*

¹¹⁰ Reinher of Paderborn, *Computus emendatus* (1.10), ed. van Wijk (n. 88), 24.

¹¹¹ Rufinus, *Historia ecclesiastica* (10.6), ed. Schwartz and Mommsen (n. 103), 2:969, ll. 6–10.

¹¹² Cassiodorus-Epiphanius, *Historia ecclesiastica tripartita* 2.6.13 (CSEL 71, 105, ll. 70–76).

¹¹³ Cassiodorus-Epiphanius, *Historia ecclesiastica tripartita* 9.39.1 (CSEL 71, 564).

defectu multi egregii viri scripsere [!] [266r], scilicet Albertus Magnus,¹¹⁴ Iohannes de Muris,¹¹⁵ Reynherus,¹¹⁶ Rogerius Bathon,¹¹⁷ Petrus Cameracensis¹¹⁸ et ego tamquam scobs et fex omnium ultimus. Hic defectus erat magnus, maior, maximus. Magnus erat septem dierum tardior celebratio quam debuit, ultra 21 diem, tamen intra primum mensem, sicut contigit anno Christi 1433. Maior erat 28 dierum tardior celebratio quam debuit, non in primo mense, sed secundo, tamen intra terminum, prout accidit anno Christi 1432. Maximus erat 35 dierum, non in primo mense, sed secundo et ultra terminum, scilicet 24 die mensis secundi, qui Hebraice dicitur ‘Ydar’, prout accidit anno Christi 1424. Hunc errorem comitabantur quinque inconueniencia multum abhorrenda.

Primum erat triplex transgressio viciosa, prima scilicet legis Dei *Exodi* 12 de primo mense; secunda transgressio fuit¹¹⁹ decretorum sacrarum synodorum, Alexandrine scilicet et Nicene; tertia fuit canonis *De consecratione*, dist. III, ‘*Celebritatem*’.¹²⁰

¹¹⁴ See n. 232 below.

¹¹⁵ John of Murs, *Sermo de regulis computistarum*, MS Erfurt, Universitäts- und Forschungsbibliothek, BA qu. 371, 44v–45r. Cf. Chris Schabel, “John of Murs and Firmin of Beauval’s Letter and Treatise on Calendar Reform for Clement VI,” *Cahiers de l’Institut du Moyen-Âge Grec et Latin* 66 (1996): 187–215.

¹¹⁶ Reinher of Paderborn, *Computus emendatus*, ed. van Wijk (n. 88).

¹¹⁷ Roger Bacon, *Opus tertium* (c. 70), ed. Brewer (n. 91), 272–95.

¹¹⁸ Pierre d’Ailly, *Exhortatio super correctione calendarii*, in idem, *Tractatus de imagine mundi et varia ejusdem auctoris et Joannis Gersonis opuscula* (Louvain, ca. 1483), sigs. g5r–h2r.

¹¹⁹ fuit] *om. U*

¹²⁰ *Decretum Gratiani* (III, dist. 3, cap. 22), ed. Emil Friedberg, *Corpus Iuris Canonici* 1 (Leipzig: Tauchnitz, 1879; repr. Graz: Akademische Druck- und Verlagsanstalt, 1959), col. 1358.

Secundum inconueniens ex defectu dicto sequens fuit derisio grandis et molesta. Iudei namque et alii crucis Christi emuli¹²¹ arguebant nos de ignorancia et multipharie multisque modis nostram negligenciam deridebant fuimusque propterea repleti despectione, quia facti fuimus despectio superbis Iudeis de lege sua glorientibus.

Tercium inconueniens fuit scandalum simplicium, scandalum quidem pusillorum, rusticorum et villanorum, qui cum viderunt¹²² Pascha interdum celebrari dominica quarta circa novilunium quod consuevit observari circa plenilunium scandalizati fuere multum. Dicit Salvator (*Math.* 18): ‘*Qui scandalizaverit unum de pusillis istis minimis qui in me credunt, expedit ei ut suspendatur mola asinaria in collo eius et demergatur in profundum maris*’.¹²³

Quartum inconueniens erat esus carniū in vera Quadragesima. Unde Rogerius in epistola¹²⁴ ad Clementem: ‘*In tantum potest equinoctium antecedere quod tota Quadragesima erit in tempore quo Christiani carnes comedunt*’.¹²⁵ Precipit autem Dominus temporibus debitis celebrari festa dicens: ‘*Iste sunt ferie Domini sancte quas celebrare debetis temporibus suis*’¹²⁶ (*Levit.* 23). Canit et idem quidem sancta mater Ecclesia: ‘*Isti sunt dies quos observare debetis temporibus suis*’.¹²⁷

Quintum inconueniens fuit zelus et [266v] contencio, quia in quibusdam locis exorte fuerunt controversie magne de illa mala Pasche

¹²¹ crucis Christi emuli] emuli crucis Christi C

¹²² viderunt] viderint C

¹²³ Mt 18,6 (ed. Weber II 1553).

¹²⁴ epistola] ecclesia G

¹²⁵ Roger Bacon, *Opus tertium* (c. 70), ed. Brewer (n. 91), 280.

¹²⁶ Lev 23,4 (ed. Weber I 167).

¹²⁷ <http://cantusdatabase.org/id/007013>.

observacione. Deus autem noster est Deus pacis et dilectionis, non litis et contencionis. Ipse enim *'habitare facit unius moris in domo'*¹²⁸ (Ps. 63).¹²⁹

Capitulum quartum: de rationibus erroris et causis¹³⁰

Divini Platonis illuminate mentis philosophi commune verbum est quod *'nichil ortum est sub sole cuius legitima causa non precessit'*.¹³¹ Et ideo predicti errores et defectus non sunt exorti sine causa. Asiani enim dicebant sanctum Iohannem ewangelistam 14 luna cum Iudeis Pascha celebrasse. Sed revera ego credo beatum Iohannem Pascha celebrasse dominica die, sicut et ceteri apostoli ipsum celebraverunt. Et antequam rationem meam dicam investigandum est quare prima sabbati vel dies solis vocetur dominica dies, cum tamen omnes dies sint dominice dies, quia a domino Deo facte, et unde illa dies habeat illud privilegium speciale. Ad hoc respondendo dico: quamvis omnes dies sint dominice dies, tamen prima sabbati gaudet speciali privilegio propter dominicam resurrectionem.¹³² Beati apostoli, patres fidei, post Christi resurrectionem¹³³ illam diem in qua Dominus resurrexit noluerunt decetero vocare primam sabbati secundum legem, nec eciam voluerunt illam¹³⁴ vocare diem solis

¹²⁸ unius ... domo] *om. C*

¹²⁹ Ps 67,7 (ed. Weber I 848).

¹³⁰ Capitulum ... causis] *om. C*

¹³¹ Theobaldus, *Physiologus*, ed. Henricus Quentell (Cologne, ca. 1493), a2r, repr. in Alan Wood Rendell, trans., *Physiologus: A Metrical Bestiary of Twelve Chapters by Bishop Theobald, Printed in Cologne 1492* (London: Bumpus, 1928). Cf. Plato, *Timaeus* (28a), ed. I. H. Waszink, *Plato Latinus 4* (London: Warburg Institute, 1962), 20.

¹³² resurrectionem] *resurrexionem U*

¹³³ resurrectionem] *resurrexionem U*

¹³⁴ illam] *eam U*

secundum Gentiles, sed dederunt sibi privilegium vocando eam diem dominicam et per anni circulum ipsam celebrabant. Que consuetudo ad posteros pervenit et eciam est precepto confirmata et eapropter dicitur in decreto *De consecratione*, dist. III, ‘Sabbato’, sic in forma: ‘*diem dominicam ob venerabilem resurrectionem domini nostri Ihesu Christi non solum in Pascha celebramus, verum eciam per singulas ebdomadas ipsius ymaginem frequentamus*’.¹³⁵

Modo ad propositum revertendo videamus de Iohanne. Certe iste quem diligebat Ihesus in suo libro *Apokalypsis*, capitulo primo, sic inquit: ‘*Fui in insula que vocatur Pathmos propter testimonium Ihesu, fui in spiritu in dominica die*’.¹³⁶¹³⁷ Nota ergo quod non dicit ‘Fui in spiritu in prima sabbati’, sed dicit ‘in dominica die’, et sic patet ex propriis suis scriptis quod Pascha celebrabat cum aliis apostolis dominica die, quia solum modo propter dominicam resurrectionem¹³⁸ apostoli dederunt illi diei hoc privilegium, unde¹³⁹ et consequenter videtur quod ratio Asyanorum [267r] erat nulla. Illam diem specialiter Dominus fecit et ab eterno previdit in qua resurrexit, unde et David prophetavit dicens: ‘*Hec est dies quam fecit Dominus*’¹⁴⁰ (Ps. 117). Hec est dies de qua beatus Maximus in sermone sic dicit: ‘“*Hec est dies quam fecit Dominus*”. Bona plane dies, que lucem intulit universis. Verum non huius seculi lucem, sed

¹³⁵ *Decretum Gratiani* (III, dist. 3, c. 13), ed. Friedberg (n. 120), col. 1356.

¹³⁶ dominica die] die dominica C

¹³⁷ Apc 1,9–10 (ed. Weber II 1882).

¹³⁸ resurrectionem] resurrexionem U

¹³⁹ unde] ~~hæc~~ G

¹⁴⁰ Ps 117,24 (ed. Weber I 920).

resurrectionis¹⁴¹ eterne. *Lux enim ista non caliginem noctis depulit, sed mortis tenebras amputavit*'.¹⁴² Hec ille.

Videamus nunc de Montanis. Eusebius in *Ecclesiastica hystoria* narrat quod Montanus in excessum venit mentis et cepit aliqua proferre tamquam spiritu prophetico illuminatus esset et habuit statim adherentes qui credebant ipsum habere spiritum prophecie. Sed magis erat demens quam propheta vel videns, quia sua doctrina non erat sana.¹⁴³ Racio autem que cogebat ipsum et suos¹⁴⁴ adherentes non lunares circulos fore observandos non ponitur in *Ecclesiastica* vel *Tripartita hystoriis*. Sed ego estimo quod isti Montani sumpserunt rationem ex verbis Apostoli (*Ad Galatas* 4): '*Dies observatis*¹⁴⁵ *et menses et tempora et annos*' etc.,¹⁴⁶ sed certe male intellexerunt verba Pauli. Secundum Ysidorum, *Ethimologiarum* libro octavo, '*Montani heretici dicti, quod in tempore persecucionis in montibus latuerunt, qua occasione se a catholice Ecclesie corpore diviserunt*'.¹⁴⁷ Unde patet quod ipse Ysidorus aliter sentit de istis Montanis quam Eusebius. Et sic de istis dicere possum quod ex quo in montibus latuerunt nil sciverunt de motu lune, quare de festo Pasche mobili facere nitebantur festum fixum, ut fixe anno revoluto sole revertente una eademque die celebraretur sicut alia festa fixa.

¹⁴¹ resurrectionis] resurrexionis *U*

¹⁴² *Sermo beati Maximi episcopi* (VIII), ed. Chrysogonus Waddell, *The Primitive Cistercian Breviary*, Spicilegium Friburgense 44 (Fribourg: Academic Press, 2007), 286 = ps.-Maximus of Turin, *Sermo* 29 (PL 57, 594B).

¹⁴³ Eusebius of Caesarea (tr. Rufinus), *Historia ecclesiastica* (5.16.7–10), ed. Schwartz and Mommsen (n. 103), 1:463–64.

¹⁴⁴ suos] *om. GU*

¹⁴⁵ observatis] observetis *C*

¹⁴⁶ Gal 4,10 (ed. Weber II 1806).

¹⁴⁷ Isidore of Seville, *Etymologiae*, ed. W. M. Lindsay (Oxford: Clarendon Press, 1911), 8.5.35

Restat nunc videre de Manicheis. Erat quidam Perses¹⁴⁸ dictus Manes. Hic duo principia posuit, unum summe bonum et aliud summe malum. A bono principio dicebat omnia spiritualia esse creata et¹⁴⁹ a malo principio omnia corporalia creata fore. Sequaces sui dicti sunt Manichei, cuius secte erat beatus Augustinus per aliquot tempus. Hii negant resurrectionem¹⁵⁰ dicuntque Christum non habuisse corpus verum, sed fantasticum, et ideo dicebant Christum nec pati nec mori posse aut resurgere, quare festum dominice resurrectionis¹⁵¹ abhorrebant.

Novissime nunc videndum est de ultimi defectus causa, que quidem est duplex, scilicet celestis et humana. Prima causa illius defectus est celestis,¹⁵² quia ex motu celi¹⁵³ est [267v] causata. Hoc autem non sic est intelligendum quod celi motus erret, cum sit regularissimus, sed quo ad nos error contingit ex ipsius motu, quia non possumus sibi dies integros aut horas assignare. Unde notandum quod auctores astronomie variarum opinionum sunt in motu augium; et ex quo verus motus solis non potest inveniri absque motu augis, si igitur deficimus in motu augis, necessario etiam oportet nos deficere in vero motu solis. Et ideo vera anni quantitas nobis est incerta. Reputatur tamen opinio Alphonsi verior, qui ponit minorem anni quantitatem quam computiste, nam computiste dicunt annum constare ex 365 diebus et sex horis, que sex hore in quatuor annis collecte faciunt diem bissextilem. Sed Alphonsus ponit annum constare ex 365 diebus et quinque horis, 49 minutis et 16 secundis, que si subtrahantur a quantitate quam computiste ponunt remanent 10 minuta et 44 secunda et

¹⁴⁸ Perses] perpes *C*

¹⁴⁹ et] *om. U*

¹⁵⁰ resurrectionem] resurrexionem *U*

¹⁵¹ resurrectionis] resurrexionis *U*

¹⁵² Prima ... celestis] *om. G*

¹⁵³ celi] *om. G*

ille fractiones in 134 annis collecte faciunt anticipacionem unius diei naturalis, minus tamen uno minuto et 44 secundis;¹⁵⁴ unde sequitur quod¹⁵⁵ equinoctium vernale quod olim signatum est 12 kalendas Aprilis ad ydus Marcii dudum iam ascendit. Similiter computiste aliqui estimant 19 annos lunares tot solaribus annis equales fore, quod tamen non est verum, sed deficiunt ibi septem hore et 28 minuta, que quidem hore cum minutis in uno ciclo magno, scilicet in 76 annis, constituunt unum diem naturalem, quinque horas et 52 minuta. Dies vero subtrahitur, quia in uno ciclo magno unusquisque aureus numerus semel unum bissextum continet et non pluries; et quia illa dies bissexto cedit, ideo remanent ille quinque hore et 52 minuta. Que quidem hore cum minutis in quatuor magnis ciclis collecte, scilicet in 304 annis, causant anticipacionem coniunctionum unius diei naturalis minus tamen 32 minutis. Ex hiis anticipacionibus predictis, scilicet equinoctiorum et coniunctionum, ex motu celi causatis generatus est defectus in kalendario et festi Pasche celebracione.

Dixi eciam quod secunda causa ultimi defectus erat humana, quia ex hominum causata¹⁵⁶ vicio, scilicet ex vicio Dyonisii abbatis, qui quidem composuit unam tabulam de Pasche invencione, de qua tabula Reynherus sic inquit: ‘Tabula *Dyonisii* est *facilis sed erroris plena* prout in *presenciarum patet*’.¹⁵⁷ Olim autem littere de observacione Pasche a summo pontifice per provincias mittebantur—ut patet in decreto *De consecracione*, dist. III, c. ‘*De hac observacione*’ et c. ‘*Placuit ut*

¹⁵⁴ Cf. Pierre d’Ailly, *Exhortatio super correctione calendarii* (c. 2), in idem, *Tractatus* (n. 118), sigs. g5v–6r; Emmanuel Poulle, ed., *Les Tables Alphonsines avec les canons de Jean de Saxe* (Paris: Éditions du CNRS, 1984), 130.

¹⁵⁵ quod] *om.* *G*

¹⁵⁶ causata] tanta *G*

¹⁵⁷ Reinher of Paderborn, *Computus emendatus* (1.10), ed. van Wijk (n. 88), 24.

*venerabilis*¹⁵⁸—et in conciliis [268r] provincialibus, que annuatim XI kalendas Novembris habebantur, a *metropolitano episcopo intimabatur*¹⁵⁹ *quota die kalendarum vel quota luna futurum*¹⁶⁰ Pascha foret celebrandum. *Quod ceteri episcopi et reliquus clerus breviculo subnotantes unusquisque in sua ecclesia in die Natalis Domini populo nunciabat*, prout habetur *De consecratione*, dist. III, c. ‘*Placuit ut postquam*’.¹⁶¹ Sed Dyonisius, zelum habens, ut estimo, bonum, sed non secundum scienciam, quia astronomie ignarus erat, volens Romano pontifici quietem dare et tantos labores tollere, tabulam composuit, sed dupliciter erravit. Erravit primo in equinoctiis et coniunctionibus, secundo erravit in annis et mensibus; unde Reynherus: ‘*Credidit Dyonisius quod eisdem diebus mensium Romanorum equinoctia et solsticia semper forent. Sed quod equinoctia et solsticia modo non sunt ubi ea dixit*¹⁶² *esse manifestissime apparet. Item*¹⁶³ *quod lunaciones modo non incipiunt diebus mensium Romanorum quibus olim incipiebant multum evidens est. Hiis itaque falsis principiis Dyonisius et qui cum eo senserunt seducti quos lex ignorabat novos annos et menses fingebant, qui dum observantur neque quod sancti patres nec*¹⁶⁴ *quod ipse Dyonisius voluit iam observari potest*’.¹⁶⁵ Hec ille.

Novos annos fingebant, quia de 8 anno cicli lunaris et de 19 embolismales fecerunt, qui embolismales non fuerunt. Et incipiebant annum in mense secundo, qui Hebraice dicitur ‘Ydar’, quem debuissent

¹⁵⁸ *Decretum Gratiani* (III, dist. 3, c. 24, 26), ed. Friedberg (n. 120), cols. 1359–60.

¹⁵⁹ *intimabatur*] *intimabantur* C

¹⁶⁰ *futurum*] *futura* C

¹⁶¹ *Decretum Gratiani* (III, dist. 3, c. 25), ed. Friedberg (n. 120), col. 1359.

¹⁶² *dixit*] *dicit* G

¹⁶³ *Item*] *Ita* G

¹⁶⁴ *nec*] *neque* G

¹⁶⁵ Reinher of Paderborn, *Computus emendatus* (1.11), ed. van Wiik (n. 88), 26.

incepisse¹⁶⁶ in¹⁶⁷ mense primo, qui vocatur ‘Nisan’, computabantque ultimum mensem, qui vocatur ‘Adar’, bis et fecerunt novos menses. Si Dyonisius patres secutus fuisset utique non errasset, unde Reynherus: ‘Animadvertisse debuerat¹⁶⁸ Dyonisius suique sequaces *cum computandi regulam antiquam abicere statuerunt quod Moyses, ille Dei confabulator specialis, qui in omni sapientia Caldeorum et Egypciolorum, ymmo spiritu Dei plenus¹⁶⁹ erat, computum antiquum, si non comprobasset, corrigere studuisset cum precepta legis de festorum observacionibus servari¹⁷⁰ non posse cognovit, nisi et certe computandi¹⁷¹ regule custodirentur*’.¹⁷² Hec ille. Computus Iudaicus, de quo hic dicitur, facilis, brevis et prescisus est. Et sic ex predictis patet que fuerunt cause huius erroris ultimi, unde¹⁷³ etiam Rogerius Bathon in epistola ad Clementem ait: ‘*Totus ordo ecclesiasticarum solemnitatum confunditur propter [268v] huiusmodi primaciones erroneas secundum kalendarium, sicut per equinoctiorum falsam in kalendario fictionem*’.¹⁷⁴

Capitulum quintum: de nova kalendarii ordinacione¹⁷⁵

Cum venit plenitudo temporis ille dominus Deus Sabaoth, quem iuxta verbum beati Iob 38 ‘*Laudant simul astra matutina et iubilant omnes filii*

¹⁶⁶ incepisse] incipisse *G*

¹⁶⁷ in] *iter. U*

¹⁶⁸ debuerat] *duberrat C*

¹⁶⁹ plenus] *pleno G*

¹⁷⁰ servari] *observari U*

¹⁷¹ computandi] *computande U*

¹⁷² Reinher of Paderborn, *Computus emendatus* (1.12), ed. van Wiik (n. 88), 28.

¹⁷³ unde] *ut G*

¹⁷⁴ Roger Bacon, *Opus tertium* (c. 70), ed. Brewer (n. 91), 289.

¹⁷⁵ Capitulum ... ordinacione] *om. C*

Dei,¹⁷⁶ respexit de sanctuario suo et de excelso celorum habitaculo super vespertinas et ultimas creaturas humanas, quas in laudem et gloriam suas [!] cum illis matutinis astris creavit; respexit quidem¹⁷⁷ oculis pietatis et clemencie et vidit illas a via rectitudinis oberrantes, miserans misit septiformem spiritum paraclitum, ut illas de invio in viam reduceret rectam. Inspiravit ergo ille spiritus consolator optimus patribus in sacrosancta Basiliensi synodo congregatis spiritum sapientie et intellectus, ut defectum illum grandem qui in celebratione sanctissimi festi Pasche sepius contingere solebat procul eliminarent,¹⁷⁸ maturo¹⁷⁹ et diligenti examine premissis ipsum de vinea Domini Sabaoth funditus eradicarunt et extra limen domus Dei eminus eiecerunt, de qua eradicatione duo sum dicturus. Primo dicam de defectibus antiqui kalendarii et hoc brevissime. Secundo dicam de novi kalendarii ordinacione meliori.

Quantum igitur ad primum dico quod immensus celi conditor celorum firmamentum divisit mirifice et magnifice decoravit divisitque ipsum in orbes planetarum varios, decoravit et ipsum ac¹⁸⁰ depinxit rota solis ignea, lunari lampade fulgida et innumeris micantibus syderibus.¹⁸¹ Unde Caldei delectati et mirati ipsorum motus ceperunt investigare;¹⁸² qui quendam numerum invenerunt de solis et lune coniunctionibus et Romanis hunc miserunt, qui quidem a Romanis aureus numerus est vocatus.¹⁸³ Sed iste propter negligenciam gentilium pontificum corruptus totus erat, quem

¹⁷⁶ Iob 38,7 (ed. Weber I 762).

¹⁷⁷ quidem] quidam *G*

¹⁷⁸ eliminarent] *add.* unde *C*

¹⁷⁹ maturo] matura *G*

¹⁸⁰ ac] *om.* *G*

¹⁸¹ syderibus] sideribus *CG*

¹⁸² investigare] investigari *U*

¹⁸³ vocatus] invocatus *C*

Iulius Cesar in astronomia eruditus, ut potuit, reformavit, qui sic reformatus absque defectu¹⁸⁴ non remansit. Nam, prout Iohannes de Muris attestatur,¹⁸⁵ non coniunctionis diem a principio debite demonstravit, quia nunc ipsam diem precedebat, nunc vero sequebatur, et nunc cum ipso concurrebat. Item in paribus mensibus, ut frequenter, habuit quatuor numeros contiguos et conglutinatos. Preterea numerus 19 tres lunaciones continet 29 dierum contra omnem astronomicam veritatem. Nec mirum quod fuerat defectuosum, nam Abrachis ille [269r] astronomus antiquus et antiqui ceteri usque ad Ptholomei tempora in celestibus motibus erraverunt. A tempore autem ere Iulii Cesaris usque ad tempus quo Ptholomeus edidit librum Almagesti fluxerunt 180 anni. Sed Hebreorum tabule super occasum Iherusalem fundate semper fuere vere et prescise, unde¹⁸⁶ Petrus Cameracensis inquit: *‘Si quis considerat tabulas Hebreorum, plenam in hiis reperiet veritatem. Nam a principio Hebrei fuerunt¹⁸⁷ peritissimi in sciencia astrorum et omnes nationes habuerunt hanc scienciam ab eisdem’*.¹⁸⁸

Quantum ad secundum est sciendum quod triplex labor est habitus in nova kalendarii ordinacione. Primus labor est triplex respectus. Secundus labor est terminorum situacio. Tercius labor est quatuor punctorum principalium ordinacio.

Dico primo quod primus labor habitus in kalendarii ordinacione est triplex respectus. Primus respectus est habitus ad quatuor ciclos lunares,

¹⁸⁴ defectu] *add. tum C*

¹⁸⁵ Cf. John of Murs, *Sermo de regulis computistarum*, MS Erfurt, Universitäts- und Forschungsbibliothek, BA qu. 371, fol. 44v.

¹⁸⁶ unde] *om. U*

¹⁸⁷ fuerunt] *erant C*

¹⁸⁸ Pierre d’Ailly, *Exhortatio super correctione kalendarii* (c. 6), in idem, *Tractatus* (n. 118), sig. h2r.

nam ex uno ciclo non bene potuit debitus extrahi aureus numerus. Et ideo Iulius Cesar errorem incurrit, quia ad ciclum unum oculum direxit.

Secundus respectus est habitus ad primum legalem mensem, qui Hebraice dicitur ‘Nisan’. Is a principio lunacionis que in Marcio oriri solet initium sumit et ideo in ipso Marcio ad dictum primum mensem maxime habitus est respectus; quare in quibusdam locis respectus¹⁸⁹ primus est dimissus, nam correctio kalendarii propter primum mensem post cuius quartamdecimam diem Pascha celebrari debet specialiter est facta. Ex quo igitur in Ianuario et in¹⁹⁰ Marcio coniunctiones luminarium solent conformiter contingere, ideo in ipso Ianuario et in ceteris imparibus mensibus idem habitus est respectus.

Tercius respectus est habitus ad numerum dierum lunacionum et is respectus duos primos equat, quia sicut Hebrei, Greci et Arabes faciunt unam lunacionem 30 dierum et aliam 29 dierum, sic et hic processum est. Et hec est eciam doctrina computistarum. Contingit tamen interdum ex aggregacione fractionum duas lunaciones constare ex 30 diebus. Est igitur¹⁹¹ ipsius aurei numeri¹⁹² talis situacio quod ante litteram ‘A’ Kl. Ianuarii nichil positum est, secunda die ante ‘B’ numerus ‘19’ est positus, quem immediate sequitur numerus ‘8’; et sicut in antiquo kalendario minor numerus immediate maiorem sequebatur, sic et hic processum est. Numeri vero ‘10’ ante ‘D’, tercio ydus Ianuarii, et ‘9’ ante ‘A’, 11 kalendas Februarii, positi loca habent vacua ante et retro. Circa finem Ianuarii, tercio kalendas Februarii,¹⁹³ ante ‘B’ locatus est numerus ‘11’, quem numerus ‘19’ sequitur sine medio ante ‘C’ locatus. Secunda die Februarii ante ‘E’

¹⁸⁹ quare ... respectus] *om. G*

¹⁹⁰ in] *om. U*

¹⁹¹ igitur] *ergo CG*

¹⁹² numeri] *om. C*

¹⁹³ Februarii] *Frebruarii U*

numerus ‘8’ est locatus, quem immediate sequitur numerus ‘16’ et est ibi ordo commutatus,¹⁹⁴ nam sicut in Ianuario minor numerus immediate [269v] sequitur maiorem, sic in Februario maior sequitur minorem. Sed numerum ‘2’ ante ‘D’, sexto ydus <Februarii>, et ‘17’ ante ‘D’, octavo kalendas Marcii, ante et retro loca habent vacua. In Marcio vero ipse aureus numerus prescise sicut in Ianuario est locatus et dictus ordo per totum kalendarium est servatus nec ulla est exceptio.

Pro predictis tamen est notandum quod non est necesse¹⁹⁵ multum curiose circa aurei numeri situationem insistere et hoc duplici de causa. Prima est quia aliter se habent coniunctiones in uno ciclo quam in alio. Exemplum: anno 1440 aureus numerus erit ‘16’ et coniunctio habebitur quarta die Marcii. Anno vero 1459 iterum aureus numerus erit ‘16’ et coniunctio erit tunc¹⁹⁶ quinta die Marcii et ibi numerus ‘16’ est positus, quia alias oppositio fieret crastino die Pasche, scilicet secunda feria in albis. Et necesse erat sic¹⁹⁷ aureum numerum¹⁹⁸ situare, ne Iudeos preveniremus, quare et beatus Theophilus in epistola synodica sic inquit: *‘Interdum accidere solet ut occasione quartedecime lune nonnulli in errorem cadant, si in diem dominicam veniat. Diligenter igitur animadvertendum est quod quocienscumque quartadecima luna in diem dominicam incurrerit, in sequentem dominicam paschalem diem differamus duplici de causa: prima ne tredecima luna in die sabbati ieiunium solvamus, cum et lumen ipsius lune imperfectum adhuc videatur;*

¹⁹⁴ commutatus] mutatus *U*

¹⁹⁵ necesse] notandum *G*

¹⁹⁶ erit tunc] tunc erit *C*

¹⁹⁷ sic] *om. U*

¹⁹⁸ numerum] *add. sic U*

deinde ne in die dominica quartadecima luna ieiunare cogamur illicitam rem facientes'.¹⁹⁹

Secunda causa quare non est multum curiose insistendum circa aurei numeri situationem est ista quia una situacio non potest omnibus climatibus et regionibus satisfacere. Exemplum pono casum quod sit aliqua luminarium coniunctio secunda die Marcii una hora ante mediam noctem super meridianum Tholetanum. Talis coniunctio erit plusquam dimidia hora post mediam noctem super meridianum²⁰⁰ Romanum. Illam ergo²⁰¹ coniunctionem Tholetani habent secunda die Marcii, Romani vero habent eandem tertia die Marcii, incipiendo diem in media nocte secundum morem Ecclesie. Sufficit ergo grosso modo aureum numerum ponere, quamvis in novi kalendarii ordinacione maxima diligencia sit adhibita.

Secundus labor est terminorum posicio. Ista posicio sita est post sanctorum nomina versus dextram. Numerati sunt ergo 11 dies completi a loco numeri aurei et ibi positi sunt termini. Positus est ergo primus terminus Septuagesime, scilicet 19, secundo ydus Ianuarii, ultimus autem terminus locatus est quinto ydus Februarii. Simili modo pro terminis Pasche numerati sunt 14 dies completi a locis aurei numeri et [270r] habetur ibi terminus Pasche. Est ergo primus Pasche terminus positus 17 kalendas Aprilis, ultimus nempe ydus Aprilis est locatus.

Racio quare computantur 14 dies completi est hec quia Hebrei non incipiunt diem lunacionis primam nisi in vespera incensionem sequente,

¹⁹⁹ Theophilus of Alexandria, *Prologus*, ap. Bede, *De temporum ratione* 59 (CCSL 123B, 449, ll. 55–68). Zoest here confuses the source quoted with Theophilus of Caesarea, author of the *Epistola synodica* mentioned in Bede, *De temporum ratione* 47 (CCSL 123B, 432, l. 102).

²⁰⁰ meridianum] meredianum *G*

²⁰¹ ergo] *om. G*

scilicet in occasu, et illa vespera quartedecime diei,²⁰² scilicet finis illius, est hora ymmolacionis paschalis agni, que quidem est terminus nostri Pasche, quia ewangelium sequitur legem et veritas figuram; et in signum illius olim Ecclesia in sabbato sancto incipiebat officium in occasu, prout adhuc in quibusdam ecclesiis solitum est fieri, unde patet quod a vespertina hora usque in vesperam sequentis diei dies lune computandus est. Et ideo quantumcumque incendatur luna ante solis occasum non tamen dicitur prima nisi in occasu sequente. Et, econverso, quantumcumque cito post occasum solis incendatur, non computatur prima, sed 29 vel 30 usque ad sequens vesperum. Et istud fundatur super illo quod omnis lunacio habet 29 dies et 12 horas cum fractionibus. Inter istos 29 dies 15 dies est media, que est et dies opposicionis. Oportet ergo quod hec 15 dies habeat 14 completos dies ante se et totidem post se.

Tercius labor in ordinacione kalendarii factus est situacio quatuor punctorum principalium, scilicet duorum equinoctiorum et duorum solsticiorum—equinoctium igitur vernale situatum est quarto ydus Marcii; solsticium estivale 18 kalendas Iulii; equinoctium autumpnale positum est 17 kalendas Octobris et solsticium hyemale 19 kalendas Ianuarii—quia Pascha habet respectum ad vernale equinoctium; unde beatus Augustinus super illud *Genesi* primo ‘*Fiant luminaria*’ sic inquit: ‘*Luna post equinoctium vernale vespere plenaque procedens paschalem terminum facit, que regula usque hodie viget*’.²⁰³²⁰⁴ Et Beda in libro *De temporibus*: ‘*Non alia servandi Pasche regula quam ut equinoctium vernale plenilunio succedente perficietur*’.²⁰⁵ Et est notandum quod si ista quatuor puncta in

²⁰² quartedecime diei] quartadecima die *G*

²⁰³ que regula ... viget] *om. C*

²⁰⁴ Luna ... viget] pseudo-Augustine in *Biblia Latina cum Glossa ordinaria*, Genesis 1.14 (ed. Strasbourg, 1480/81; repr. Turnhout: Brepols, 1992), p. 12.

²⁰⁵ Non alia ... perficietur] Bede, *De temporum ratione* 6 (CCSL 123B, 291, ll. 28–30).

suis locis debent manere fixa, tunc est necesse quod bissextus semper post 136 annos omittatur, prout sacrosancta synodus Basiliensis statuit et decrevit; et hii anni in margine sub Februario sunt scribendi, ex eo quod sexto kalendas Marcii bis in martilogio pronunciatur et duo dies sub illo sexto kalendas observantur. Inde et nomen habet, nam bissextus tantum valet sicut bis sexto²⁰⁶ kalendas. Et quamvis [270v] in precedenti capitulo dictum sit quod anticipacio equinoctiorum et solsticiorum unius diei fiat in 134 annis, non tamen post tot annorum curricula omittendus est bissextus, quia illi anni non sunt bissextiles. Accepti sunt ergo anni propinquiore²⁰⁷ bissextiles, scilicet 136.²⁰⁸

Est etiam hic notandum quod ista²⁰⁹ quatuor puncta predicta et ipse aureus numerus non sunt posita ad loca illa ad que ascenderant, sed sunt posita ad lineam immediate inferiorem et hoc propter omissionem diei bissextilis anno Christi 1436²¹⁰ faciendam. Preterea valde bene notandum quod illi qui non sunt bene habituati in calculacionibus tabularum pro inveniendis motibus planetarum debent subtrahere unum primum postquam annos ere sue ad quarta, tercia, secunda et prima reducerunt,²¹¹ alias errorem incurrerent²¹² unius diei integri. Perfecti vero in scientia hoc de per se cognoscunt.

²⁰⁶ bis sexto] bisexto *G*

²⁰⁷ propinquiore] *om. U*

²⁰⁸ 136] 140 *U*

²⁰⁹ ista] *om. U*

²¹⁰ 1436] *p.c. 1440 a.c. 1436 G*

²¹¹ reducerunt] *reducerint U*

²¹² alias ... incurrerunt] *om. GU*

Capitulum sextum: de primo mense et embolismis²¹³

Summus et immensus temporum dispositor, Deus, primum elegit mensem ad celebrandum in eo festa paschalia celeberrima, in quo in principio cuncta creavit ex nichilo, in quo et natus ante secula Pascha nostrum immolatus est Christus. De hoc igitur mense nunc dicenda sunt modica; et primo dicendum est²¹⁴ de ipso primo mense, secundo subiungendum est de embolismis.

Primus igitur mensis apud Hebreos a principio vocatus est 'Tisri' et eius ortus est prope equinoctium autumnale, nam ibi suum incipiunt ciclum. Sed propter illud magnum beneficium²¹⁵ quod prestitit illis Deus in prima paschali nocte precepit mensem dictum 'Nisan' ammodo vocari primum et sic Nisan est primus mensis legalis ex precepto et etiam quo ad festorum observacionem, Tisri vero primus est quo ad ciclum et lunaciones. Nicholaus de Lyra super illud Exodi 12 '*Mensis iste principium*' docet nos cognoscere primum legalem mensem quo ad principium sic inquit: '*Hoc est regulariter verum quod primus Hebreorum semper incipit a principio lunacionis propinquioris vernali equinoctio, sive principium dicte lunacionis sit ante equinoctium sive post sive ibidem*'.²¹⁶ Beda vero in libro *De temporibus* docet ipsum cognoscere quo ad medium dicens '*quoniam absque ulla dubietate constat illam lunam que primo [!] transacto equinoctio globum suum plenum ostenderit primi mensis existere lunam. Quociens ergo diem dominicam mox adveniente 15 luna habemus nil nostrum tempus paschale a legali*

²¹³ Capitulum ... embolismis] *om. CG*

²¹⁴ est] *eum U*

²¹⁵ illud magnum beneficium] *magnum illud beneficium G*

²¹⁶ Nicholas of Lyra, *Postilla super totam bibliam*, Liber Exodus 12:1(d) (ed. Strasbourg, 1492; repr. Frankfurt/Main: Minerva, 1971), sig. M9v.

discrepat, *quamvis aliis generibus sacramentorum eiusdem Pasche solemnia colimus*'.²¹⁷ Ex [271r] hiis doctorum dictis videtur quod illi duo termini, scilicet tercius et undecimus, sint male in kalendario positi, quia principia lunacionum illarum non sunt propinquiora equinoctio, sed lunaciones in fine Februarii sunt ipsi equinoctio propinquiores. Similiter se habent et²¹⁸ plenilunia. Ad hoc est dicendum quod doctorum auctoritates de equinoctio sunt intelligende aut de 12 kalendas Aprilis, ubi olim equinoctium signatum est, aut sunt intelligende de annis communibus, aut sunt intelligende de vero equinoctio. Si autem sunt intelligende altero duorum modorum predictorum, tunc non faciunt contra situationem illorum duorum terminorum. Sed si tercio modo sunt intelligende, tunc omnino sunt false, quia temporibus doctorum de equinoctio loquentium alique paschales lunaciones erant remotiores ab equinoctio quam alie lunaciones, prout unusquisque experiri potest sciens²¹⁹ in tabulis calculare.

Ex quo igitur²²⁰ tercius et undecimus sunt embolismales,²²¹ ergo non peccant. Embolismus dicitur a 'bolus', quia ex bolis, id est morsellis, colligitur. Et Ysidorus, sexto libro *Ethimologiarum*, dicit : '*Embolismus interpretatur superaugmentum*'.²²² Communis annus 12 habet lunaciones et ultima vocatur 'Adar', que incipit in Februario, primus, scilicet Nisan, in Marcio. Annus embolismalis 13 habet lunaciones et illa tredecima²²³

²¹⁷ Bede, *De temporum ratione* 61 (CCSL 123B, 451, ll. 22–28).

²¹⁸ se habent et] et se habent *U*

²¹⁹ sciens] *om. G*

²²⁰ doctorum auctoritates ... Ex quo igitur] isti anni scilicet *C*

²²¹ embolismales] *add. et C*

²²² Isidore of Seville, *Etymologiae* 6.17.23, ed. César Chaparro-Gómez (Paris: Les Belles Lettres, 2012), 105.

²²³ tredecima] 13 *C*

superexcrecens ex bolis collecta vocatur ‘Vadar’.²²⁴ Iste embolismales lunaciones possunt regulam transcendere et ergo notanter dicit Nicholaus de Lyra ‘Hoc est regulariter verum’, quasi diceret ‘de irregularibus non loquor’, et ergo eciam Beda in auctoritate predicta bene dixit ‘Non est alia servandi Pasche²²⁵ regula’. Iste lunaciones non cadunt sub regula et si illa non esset intencio Bede, tunc contradiceret sibi ipsi. Patet hoc quia in libro preallegato dicit: ‘*Non tamen umquam contingat quod nostra solempnitas paschalis aliquem legalium Pasche dierum, sepe autem omnes intra se, non complectatur*’.²²⁶ Et idem in eodem:²²⁷ ‘*Si fieri posset quod omni anno sabbati die luna quartadecima foret nil nostrum paschale tempus a legali discreparet*’.²²⁸ Si igitur vellemus primum mensem anno 11 cicli lunaris incipere ultimo die Februarii, certe tunc nostrum Pascha nullum legalium Pasche dierum intra se complecteretur, nec nostrum paschale tempus cum legali concordaret, sed maxime ab ipso discordaret, quia uno mense ipsum preveniremus. Interroga quemquam Hebreorum et dicet tibi. Interroga et Grecos et invenies veritatem: ipsi nec habent numerum aureum nec litteras, annum non in Ianuario [271v] incipiunt nec nobiscum in ciclo concordant, sed cum Hebreis. Refert eciam Beda in libro quo supra quod ‘*beatus Cirillus Alexandrinus episcopus scribit quod Pachomius monachus insignis fundator Egypti cenobiorum edidit ad monasteria que regebat litteras, quas angelo dictante preceperat, ut errorem non incurrerent in paschalis solempnitatis ratione*²²⁹ *scirentque lunam primi mensis in anno*

²²⁴ Vadar] Adar U

²²⁵ servandi Pasche] servanda Pasche G Pasche servandi U

²²⁶ Bede, *De temporum ratione* 59 (CCSL 123B, 448, ll. 29–31).

²²⁷ eodem] *add.* libro G

²²⁸ Bede, *De temporum ratione* 59 (CCSL 123B, 447, ll. 11–14).

²²⁹ ratione] *p.c., mg. celebracione* G

communi et embolismali'.²³⁰ Si ergo una esset regula annorum communium et embolismalium frustra angelus diceret 'in anno communi et embolismali', quia sufficeret dicere 'scirentque lunam primi mensis' nil addendo.

Quod autem 11 annus sit embolismalis hoc testantur omnes computi. Testatur et Reynherus et computus atque tabule Hebreorum hoc docent luculenter. Qui quidem computus verus et prescisus est, prout patet ex auctoritate Reynheri in capitulo quarto supra allegato.²³¹ Patet eciam per Albertum Magnum super illud *Luce* '*Tenebre facte sunt*', ubi sic inquit: '*Computus Hebreorum non fallit a cursu syderum*'.²³²²³³ Quod autem ille tabule sunt vere patet auctoritate Petri Cameracensis in quinto capitulo allegata.²³⁴ Patet eciam quia dominus Deus illas tabulas approbavit cum secundum illas festa celebrari iussit, quas et angelus laudavit et cotidiana experientia veras fore et cum astronomicis tabulis concordantes reperit²³⁵ considerata longitudine occasus Iherusalem. Et sine illis vel equivalenti primus legalis mensis perfecte cognosci nequaquam potest.²³⁶

Restat nunc videre qui anni sunt embolismales. Unde notandum quod tercio anno nostri cicli Iudei suum primum incipiunt 11²³⁷ kalendas

²³⁰ Bede, *De temporum ratione* 43 (CCSL 123B, 416, ll. 81–86).

²³¹ See n. 172 above.

²³² Patet eciam ... syderum] *om. C* syderum] sydorum *G*

²³³ Albertus Magnus, *Enarrationes in Evangelium Lucae* (23:45), in *Opera omnia*, ed. Auguste Borgnet, 38 vols. (Paris: Vivès, 1890–99), 23:734.

²³⁴ See n. 188 above.

²³⁵ reperit] *a.c. repetit G*

²³⁶ Et sine ... potest] *om. G* Quamvis igitur per dicta Bede et Nycolai primus mensis aliquialiter cognosci possit, perfecte tamen non potest cognosci nisi per tabulas Hebreorum *C*

²³⁷ 11] 9 *GU*

Octobris circa equinoctium autumpnale et sic concurrunt simul ipsorum primus et noster tercius usque ad Ianuarius. Et tunc incipit noster quartus et remanet ipsorum primus usque ad 4²³⁸ kalendas Octobris. Et sic²³⁹ sequenti anno concurrunt ipsorum secundus²⁴⁰ et noster quintus; postmodum concurrunt ipsorum²⁴¹ tercius et noster²⁴² sextus, ambo embolismales. Dimissis nunc annis communibus concurrunt simul ipsorum sextus et noster nonus, ipsorum octavus et noster undecimus, ipsorum undecimus et noster 14us, ipsorum 14us et noster 17us, ipsorum 17us et noster primus, ipsorum 19us et noster tercius, qui omnes sunt embolismales.²⁴³ Ex quo enim veritas sequitur figuram et ewangelium legem, et *annus embolismalis* familiarissimo Dei amico *Moysi divinitus est revelatus*, prout Ysidorus inquit libro sexto *Ethimologiarum*,²⁴⁴ ideo oportet quod nostri embolismi concordent cum embolismis Hebreorum. Hic deficit Dyonisius estimans octavum et 19 annos embolismales esse.

In martilogiis²⁴⁵ nempe que in quibusdam cathedralibus plerisque aliis collegiatis ecclesiis, in monasteriis ac ceteris religiosis domibus leguntur nil oportet variari, nisi quod primo anno cicli lunaris ‘D’ pro littera anni teneatur. Istud tamen non est prescisum, quia [272r] diversa sunt martilogia. Beatus Ieronimus edidit unum, venerabilis Beda unum et

²³⁸ 4] II *GU*

²³⁹ sic] *add.* concurrunt noster quartus et ipsorum primus *C*

²⁴⁰ secundus] *a.c.* tercius *G* tercius *U*

²⁴¹ ipsorum] noster (*a.c.* nostrorum) *G*

²⁴² noster] ipsorum *G*

²⁴³ embolismales] *add.* Unde versus: ‘Primus cum terno, sextus, nonus, undecimalis/ sunt embolismi quartusdecimus, decaseptem’ *C*

²⁴⁴ Isidore of Seville, *Etymologiae* 6.17.22, ed. César Chaparro-Gómez (Paris: Les Belles Lettres, 2012), 105.

²⁴⁵ martilogiis] mortilegiis *G*

Usuardus unum tempore Karoli magni. Raro tamen²⁴⁶ habebitur error. Et quia omnia mutantur et mutabuntur, preter eum qui semper idem est et cuius anni non deficient, idcirco et kalendarium eciam est mutabile. Et quamvis equinoctia et solsticia ad certos dies sint ligata per bissexti omissionem, verumptamen coniunctiones sicut priscis temporibus ascendere consueverunt sic ammodo deorsum cadent. Quamobrem tabula quedam²⁴⁷ parvula est ordinata multis annis duratura, in qua termini Septuagesime et Pasche facillime possunt inveniri.²⁴⁸ Scripsi nempe tractatulum hunc breviter et compendiose, ne prolixitas tedium legentibus generaret.²⁴⁹ Et non scripsi subtili stilo et sermone compto ac limato, ne quis cogatur dicere ‘*Edissere*²⁵⁰ *nobis parabolam hanc*’ (*Math.* 13),²⁵¹ quia non laboravi ‘*in magnis neque in mirabilibus super me*’ (*Ps.* 130),²⁵² sed humiliter senciebam scribens stilo rudi atque grosso, ut ab omnibus valeat intelligi. Denique, si in hoc opere aliquid minus bene dictum fuerit repertum, mihi ignosci supplico et submitto me correctioni sacrosancte synodi. Si vero bene dictum quid reperitur, non mihi sed illi referat gracularum actiones ‘*qui dat omnibus affluenter et non inproperat*’ (*Iacobi primo*).²⁵³ Cui laus, honor et gloria in secula seculorum. Amen.

²⁴⁶ tamen] tum *G*

²⁴⁷ quedam] quidam *G*

²⁴⁸ possunt inveniri] inveniri possunt *C*

²⁴⁹ generaret] gravaret *G*

²⁵⁰ Edissere] Dissere *G*

²⁵¹ Mt 13,36 (ed. Weber II 1546).

²⁵² Ps 130,1 (ed. Weber I 934).

²⁵³ Iac 1,5 (ed. Weber II 1859).

[272r]

Canon de invencione Septuagesime²⁵⁴

Si vis scire quando Septuagesima est imponenda, tunc vide quis sit aureus numerus de quo queris, quem quere in Ianuario. Si non inveneris eum in Ianuario, quere in Februario, saltem illum qui positus est versus dextram post sanctorum nomina; et ubi ipsum inveneris, ibi est terminus Septuagesime, sequenti vero dominica Septuagesima²⁵⁵ est imponenda. Sed est notandum quod si annus fuerit bissextilis et littera immediate sequens terminum fuerit dominicalis, tunc non ibi Septuagesima est imponenda, sed sequenti dominica.

De invencione Pasche²⁵⁶

Si vis scire quando celebrandum est Pascha, quere eundem aureum numerum in Marcio et si ibi repertus non fuerit, quere eum in Aprili; et ubi ipsum inveneris ibi erit terminus Pasche. Dominica vero sequente celebrabitur paschale festum celeberrimum omni veneracione dignum. Et non est hic curandum an annus sit bissextilis vel non, quia locus bissexti iam preteriit et habebitur unica littera dominicalis usque in²⁵⁷ finem anni.

²⁵⁴ Canon ... Septuagesima] *om. G*

²⁵⁵ Septuagesima] *om. G*

²⁵⁶ De invencione Pasche] *om. G* *Marginal addition in G (in Thomas Strzempiński's hand):* Silvester in decreto sinodi Romane: omnibus episcopis et presbiteris preceptum est pasche observanciam custodiri a luna 14^a primi mensis usque ad 21, ita ut dominicus dies choruscet. Et dixerunt episcopi: placet (*cf. PL 8, col. 825*).

²⁵⁷ in] ad *G*

[272v]

			Ianuarius	Aureus numerus terminum 70 ^{me} indicans
	a	Kl.	Circumcisio Domini	
XIX	b	III	Octava Stephani	
VIII	c	III	Octava Iohannis	
	d	II	Octava Innocencium	
XVI	e	Nonas	Vigilia	
V	f	VIII	Epyphania Domini	
	g	VII		
XIII	a	VI		
II	b	V		
	c	III	Pauli primi heremite	
X	d	III		
	e	II		19
XVIII	f	Ydus	Octava Epyphanie	8
VII	g	XIX		
	a	XVIII		16
XV	b	XVII		5
III	c	XVI	Anthoni monachi	
	d	XV	Prisce virginis	13
XII	e	XIII		2
I	f	XIII	Fabiani et Sebastiani	
	g	XII	Agnetis virginis et martiris	10
IX	a	XI	Vincentii martiris	
	b	X		18
XVII	c	IX		7
VI	d	VIII	Conversio Pauli	
	e	VII		15
XIII	f	VI		4
III	g	V		
	a	III		12
XI	b	III		1
XIX	c	II		

[273r]

			<Februarius>	
	d	Kl	Ignacii episcopi et martiris	9
VIII	e	III	Purificacio Marie	
XVI	f	III		17
	g	II		6
V	a	Nonas	Agathe virginis et martiris	
XIII	b	VIII		14
	c	VII		3
II	d	VI		
	e	V		11
X	f	III	Scolastice virginis	
XVIII	g	III		
	a	II		
VII	b	Ydus		
XV	c	XVI	Valentini martiris	
	d	XV		
III	e	XIII	Iuliane virginis et martiris	
XI	f	XIII		
	g	XII		
I	a	XI		
IX	b	X		
	c	IX		
XVII	d	VIII	Cathedra Petri	
	e	VII		
VI	f	VI	Mathie apostoli	
XIII	g	V		
	a	III		
III	b	III		
XI	c	II		

[273v] Hiis annis bissextus est pretermittendus:

Anno 1436—Anno 1572—Anno 1708—Anno 1844

Anno 1980—Anno 2116—Anno 2252—Anno 2388

Isti anni debent poni sub Februario, quia ibi est locus bissexti

[273v]

			Marcus	Aureus numerus terminum Pasche ostendens
	d	Kl		
XIX	e	VI		
VIII	f	V		
	g	IIII		
XVI	a	III		
V	b	II		
	c	Nonas	Thome confessoris	
XIII	d	VIII		
II	e	VII		
	f	VI		
X	g	V		
	a	IIII	Gregorii pape equinoctium	
XVIII	b	III		
VII	c	II		
	d	Ydus		
XV	e	XVII		19
IIII	f	XVI	Gertrudis virginis	8
	g	XV	Prima dies seculi	
XII	a	XIIII		16
I	b	XIII		5
	c	XII	Benedicti abbatis sol factus est	
IX	d	XI		13
	e	X	Adam plasmatus est	2
XVII	f	IX		
VI	g	VIII	Annunciatio dominica	10
	a	VII	Lugdgerii episcopi	
XIIII	b	VI		18
III	c	V		7
	d	IIII		
XI	e	III		15
XIX	f	II		4

[273ar]

			Aprilis	
	g	Kl		
VIII	a	III		12
XVI	b	II		1
	c	II	Ambrosii episcopi	
V	d	Nonas		9
XIII	e	VIII		
	f	VII		17
II	g	VI		6
	a	V		
X	b	III		14
XVIII	c	II		3
	d	II		
VII	e	Ydus		11
XV	f	XVIII	Tyburcii et Valeriani	
	g	XVII		
III	a	XVI		
XII	b	XV		
	c	XIII		
I	d	XIII		
IX	e	XII		
	f	XI		
XVII	g	X		
	a	IX	Georgii martiris	
VI	b	VIII		
XIII	c	VII	Marchi euvangeliste	
	d	VI		
III	e	V		
XI	f	III	Vitalis martiris	
	g	III		
XIX	a	II		

[273av]

			Maius	
VIII	b	Kl	Philippi et Iacobi	
	c	VI		
XVI	d	V	Invencio crucis	
V	e	III		
	f	III		
XIII	g	II	Iohannis ante portam latinam	
II	a	Nonas		
	b	VIII		
X	c	VII		
	d	VI		
XVIII	e	V		
VII	f	III		
	g	III	Servacii episcopi	
XV	a	II		
III	b	Ydus		
	c	XVII		
XII	d	XVI		
I	e	XV		
	f	XIII		
IX	g	XIII		
	a	XII		
XVII	b	XI		
VI	c	X		
	d	IX		
XIII	e	VIII	Urbani pape et martiris	
III	f	VII		
	g	VI		
XI	a	V		
XIX	b	III		
	c	III		
VIII	d	II	Petronille virginis	

[273br]

			Iunius	
XVI	e	Kl		
	f	III		
V	g	III		
XIII	a	II		
	b	Nonas	Bonifacii	
II	c	VIII		
	d	VII		
X	e	VI		
XVIII	f	V	Primi et Feliciani	
	g	III		
VII	a	III	Barnabe	
XV	b	II		
	c	Ydus		
III	d	XVIII		
XII	e	XVII	Viti martiris	
	f	XVI		
I	g	XV		
IX	a	XIII		
	b	XIII	Gervasii et Prothasii	
XVII	c	XII		
	d	XI		
VI	e	X		
XIII	f	IX	Vigilia	
	g	VIII	Nativitas Iohannis	
III	a	VII		
XI	b	VI	Iohannis et Pauli	
	c	V		
XIX	d	III	Vigilia	
VIII	e	III	Petri et Pauli	
	f	II	Commemoracio Pauli	

[273bv]

			Iulius	
XVI	g	Kl		
V	a	VI	Visitacio Marie	
	b	V		
XIII	c	III		
II	d	III		
	e	II		
X	f	Nonas		
	g	VIII		
XVIII	a	VII		
VII	b	VI		
	c	V	Translacio sancti Benedicti	
XV	d	III		
III	e	III	Margarete virginis et martiris	
	f	II		
XII	g	Ydus		
I	a	XVII		
	b	XVI		
IX	c	XV		
	d	XIII		
XVII	e	XIII		
VI	f	XII		
	g	XI	Marie Magdalene	
XIII	a	X		
III	b	IX		
	c	VIII	Iacobi apostoli	
XI	d	VII		
XIX	e	VI		
	f	V	Pantaleonis martiris	
VIII	g	III		
XVI	a	III	Abdon et Sennes	
	b	II		

[273cr]

			Augustus	
V	c	Kl	Vincula Petri	
XIII	d	III		
	e	III	Invencio sancti Stephani	
II	f	II		
	g	Nonas		
X	a	VIII	Sixti pape et martiris	
XVIII	b	VII		
	c	VI	Cyriaci et sociorum eius	
VII	d	V	Vigilia	
XV	e	III	Laurencii martiris	
	f	III		
III	g	II		
XII	a	Ydus		
	b	XIX	Vigilia	
I	c	XVIII	Assumpcio Marie	
IX	d	XVII		
	e	XVI		
XVII	f	XV		
	g	XIII		
VI	a	XIII	Bernardi abbatis	
XIII	b	XII		
	c	XI		
III	d	X		
XI	e	IX	Bartholomei apostoli	
	f	VIII		
XIX	g	VII		
VIII	a	VI		
	b	V	Augustini episcopi	
XVI	c	III	Decollacio Iohannis	
V	d	III		
	e	II		

[273cv]

			September	
XIII	f	Kl	Egidii abbatis	
II	g	III		
	a	III		
X	b	II		
	c	Nonas		
XVIII	d	VIII		
VII	e	VII		
	f	VI	Nativitas Marie	
XV	g	V	Gorgonii martiris	
III	a	III		
	b	III		
XII	c	II		
I	d	Ydus		
	e	XVIII	Exaltacio sancte crucis	
X	f	XVII		
	g	XVI		
XVII	a	XV	Lamberti episcopi	
VI	b	XIII		
	c	XIII		
XIII	d	XII	Vigilia	
III	e	XI	Mathei apostoli	
	f	X	Mauricii et sociorum eius	
XI	g	IX		
XIX	a	VIII		
	b	VII		
VIII	c	VI		
XVI	d	V	Cosme et Damiani	
	e	III		
V	f	III	Michaelis archangeli	
XIII	g	II		

[273dr]

			October	
	a	Kl	Remigii episcopi	
II	b	VI		
	c	V		
X	d	III		
XVIII	e	III		
	f	II		
VII	g	Nonas		
XV	a	VIII		
	b	VII	Dyonisii et sociorum eius	
III	c	VI	Gereonis et Victoris	
XII	d	V		
	e	III		
I	f	III		
IX	g	II		
	a	Ydus		
XVII	b	XVII		
	c	XVI		
VI	d	XV	Luce ewangeliste	
XIII	e	XIII		
	f	XIII		
III	g	XII	Undecim milium virginum	
XI	a	XI		
	b	X		
XIX	c	IX		
VIII	d	VIII	Crispini et Crispiniani	
	e	VII		
XVI	f	VI	Vigilia	
V	g	V	Symonis et Iude	
	a	III		
XIII	b	III		
II	c	II	Vigilia	

[273dv]

			November	
	d	Kl	Omnium sanctorum	
X	e	III		
	f	II		
XVIII	g	I		
VII	a	Nonas		
	b	VIII	Leonardi	
XV	c	VII		
III	d	VI		
	e	V		
XII	f	III		
I	g	II	Martini episcopi	
	a	I		
IX	b	Idus	Brictii	
	c	XVIII		
XVII	d	XVII		
VI	e	XVI		
	f	XV		
XIII	g	XIII		
II	a	XII	Elizabeth	
	b	XI		
XI	c	X		
XIX	d	IX	Cecilie virginis et martiris	
	e	VIII	Clementis	
VIII	f	VII		
XVI	g	VI	Katherine virginis et martiris	
	a	V		
V	b	IV		
XIII	c	III		
	d	II	Vigilia	
II	e	I	Andree apostoli	

[273er]

			December	
	f	Kl		
X	g	III		
XVIII	a	II		
	b	II	Barbare virginis et martiris	
VII	c	Nonas		
XV	d	VIII	Nicholai episcopi	
	e	VII		
III	f	VI	Concepcio Marie	
XII	g	V		
	a	III		
I	b	III		
IX	c	II		
	d	Ydus	Lucie virginis et martiris	
XVII	e	XIX		
	f	XVIII		
VI	g	XVII		
XIII	a	XVI		
	b	XV		
III	c	XIII		
XI	d	XIII		
	e	XII	Thome apostoli	
XIX	f	XI		
VIII	g	X		
	a	IX	Vigilia	
XVI	b	VIII	Nativitas Domini	
V	c	VII	Stephani prothomartiris	
	d	VI	Iohannis ewangeliste	
XIII	e	V	Innocentium	
II	f	III	Thome episcopi et martiris	
	g	III		
X	a	II	Silvestri pape	

[273ev]

Anno Christi 1440 Primus ciclus					Anno Christi 1712 Secundus ciclus				Anno Christi 1984 Tertius ciclus				Anno Christi 2256 ²⁵⁸ Quartus ciclus				Anno Christi 2528 Quintus ciclus			
1	30	Ia	3	Ap	31	Ia	4	Ap	1	Fe	5	Ap	2	Fe	6	Ap	3	Fe	7	Ap
2	19	Ia	23	Ap	20	Ia	24	Ma	21	Ia	25	Ma	22	Ia	26	Ma	23	Ia	27	Ma
3	7	Fe	11	Ap	8	Fe	12	Ap	9	Fe	13	Ap	10	Fe	14	Ap	11	Fe	15	Ap
4	27	Ia	31	Ma	28	Ia	1	Ap	29	Ia	2	Ap	30	Ia	3	Ap	31	Ia	4	Ap
5	16	Ia	20	Ma	17	Ia	21	Ma	18	Ia	22	Ma	19	Ia	23	Ma	20	Ia	24	Ma
6	4	Fe	8	Ap	5	Fe	9	Ap	6	Fe	10	Ap	7	Fe	11	Ap	8	Fe	12	Ap
7	24	Ia	28	Ma	25	Ia	29	Ma	26	Ia	30	Ma	27	Ia	31	Ma	28	Ia	1	Ap
8	13	Ia	17	Ma	14	Ia	18	Ma	15	Ia	19	Ma	16	Ia	20	Ma	17	Ia	21	Ma
9	1	Fe	5	Ap	2	Fe	6	Ap	3	Fe	7	Ap	4	Fe	8	Ap	5	Fe	9	Ap
10	21	Ia	25	Ma	22	Ia	26	Ma	23	Ia	27	Ma	24	Ia	28	Ma	25	Ia	29	Ma
11	9	Fe	13	Ap	10	Fe	14	Ap	11	Fe	15	Ap	12	Fe	16	Ap	13	Fe	17	Ap
12	29	Ia	2	Ap	30	Ia	3	Ap	31	Ia	4	Ap	1	Fe	5	Ap	2	Fe	6	Ap
13	18	Ia	22	Ma	19	Ia	23	Ma	20	Ia	24	Ma	21	Ia	25	Ma	22	Ia	26	Ma
14	6	Fe	10	Ap	7	Fe	11	Ap	8	Fe	12	Ap	9	Fe	13	Ap	10	Fe	14	Ap
15	26	Ia	30	Ma	27	Ia	31	Ap	28	Ia	1	Ap	29	Ia	2	Ap	30	Ia	3	Ap
16	15	Ia	19	Ma	16	Ia	20	Ma	17	Ia	21	Ma	18	Ia	22	Ma	19	Ia	23	Ma
17	3	Fe	7	Ap	4	Fe	8	Ap	5	Fe	9	Ap	6	Fe	10	Ap	7	Fe	11	Ap
18	23	Ia	27	Ma	24	Ia	28	Ma	25	Ia	28	Ma	26	Ia	29	Ma	27	Ia	30	Ma
19	12	Ia	16	Ma	13	Ia	17	Ma	14	Ia	18	Ma	15	Ia	19	Ma	16	Ia	20	Ma

Tabula hec compendiosiori et directiori modo bene fuisset composita, sed propter simplices hic modus est electus. Incipit vero ab anno 1440 et durat usque ad annum Christi 2800. Ultra illos annos non est processum, tum quia creditur mundus non tam diu durare, tum quia possibile est posteros nostros aliquos celestes motus nondum inventos invenire, maxime quia vera quantitas anni nondum est inventa; propter quam etiam causam non promitto hanc tabulam tam diu fore durabilem, quia hoc esset satis presumptuosum. Continet autem ipsa quinque ciclos quorum unusquisque continet 272 annos. Si igitur vis scire terminum Septuagesime vel Pasche, considera primo in quo ciclo sis; nam Christi anni in capite positi hoc ostendunt. Deinde quere aureum numerum anni²⁵⁹ de quo queris, quem debes querere in prima linea versus sinistram, quo invento ex directo eius

²⁵⁸ 2256] 2356 *U*

²⁵⁹ anni] annis *U*

sub ciclo habes diem et mensem termini Septuagesime, deinde termini et mensem Pasche. Dominica vero sequens terminum est festum. Sed est notandum quod in anno bissextili pro termino Septuagesime addenda est unitas, pro termino paschali nichil est addendum. Exemplum: anno Christi 1456 aureus numerus erit 13 et est annus bissextilis, littere dominicales E et D, terminus Septuagesime 18 Ianuarii; addenda est igitur unitas et sic terminus erit 19 die Ianuarii, quia si unitas non adderetur, tunc 19 die Ianuarii, cum sit dominica, esset Septuagesima imponenda et per consequens essent 10 ebdomade a Septuagesima usque ad Pascha, cum tamen non sint nisi 9. Pascha enim tunc celebrabitur 29 die Marcii, nam terminus eius erit 22 die Marcii, que est dominica, et secundum regulam computi "terminus et festum numquam²⁶⁰ celebrantur eodem."

²⁶⁰ numquam] *iter. U*

Appendix III: The decree of 1437 in its earliest version

As far as the preserved sources allow us to ascertain, the calendrical task force convened by the Council of Basel went through two separate phases of activity, each of them focused on a different reform proposal. The first proposal, datable to early 1435, is documented more or less exhaustively by the texts edited above in Appendices I and II. An early glimpse of the second proposal is offered by Thomas Strzemiński's *Relacio*, where we learn of an alternative plan that prescribed the omission of a week from the year 1436 with a simultaneous reduction of the Golden Number from 12 to 9 (§8: *Est et alia opinio tertia de alia ymaginacione, scilicet quod 1436 de ebdomadis intervalli deberent auferri septem dies et aureus numerus, qui erit 12, mutari deberet in 9, et tunc redirent omnia in statum pristinum*).

A much more detailed presentation of this kind of plan can be found in Nicholas of Cusa's treatise *De correctione kalendarii*, in which the reform is postponed to the year 1439 and comprises the following core elements: (a) the omission of seven days, such that 24 May (Whitsunday) will be followed immediately by 1 June; (b) the reduction of the Golden Number by three units; 1439 was hence going to be the 12th rather than the 15th year of the 19-year cycle; (c) the omission of a bissextile day every 304 years thereafter. The same measures are repeated in a brief *Avisamentum de correctione kalendarii*, which follows upon Cusanus's treatise in the two earliest manuscripts we have of this work.¹ It seems very plausible that this text provided the basis for the report Cusa is known to have presented to the council's general assembly in March 1437 (see p. 221 above). We know about this report from John of Segovia, who in

¹ MSS Vienna, Österreichische Nationalbibliothek, 5266, fols. 283va–84rb, and Wolfenbüttel, Herzog-August-Bibliothek, Cod. Guelf. 354 Helmst., fols. 126r–27v.

summarizing Cusanus's proposal omits element (b) and mischaracterizes (a) by claiming that the seven days were meant to be omitted from June rather than May.²

The council's steering committee, which was made up by three members of each deputation, appears to have treated the new proposal with a degree of caution. On 19 April 1437, the delegates of the calendrical task force received an order to define an extension period, during which anyone desiring to comment on the matter should be heard.³ Notwithstanding the delay that may have resulted from this, it was clear that a new reform decree would have to be drafted. One of the authors responsible for this new decree was almost certainly Hermann Zoest,⁴ who used this

² John of Segovia, *Historia gestorum generalis synodi Basiliensis* (8.19), ed. E. Birk, *Monumenta conciliorum generalium seculi decimi quinti*, vol. 2 (Vienna: Typ. Aulæ et Status, 1873), 709: "Unde Marcio mense anno XXXVII^o, cetu patrum sedente in refectorio fratrum minorum, per Nicolaum de Cusa facta est relacio de pertractatis inter deputatos, quorum omnium fere votum avisamentumque erat, quomodo anno bissextili una additur dies computata inter dies signatos in kalendario, ita in anno currente a nativitate domini MCCCCXXXIX^o de mense Junii quod dimitterentur septem dies non computandi in numero dierum anni illius, et sic defalcatis VII. diebus de cursu celi kalendarium rediret ad rationem de tempore nativitatis Christi aut Niceni concilii, quando institutum esse dicitur kalendarium ipsum, quo ecclesia utitur; affirmabatque relator ipse conclusionem hanc, ut comparato celi cursu ad computum kalendarii, ne error in futurum contingeret, in singulis CCCIII. annis oporteret intercalari unum diem, quod hactenus quia factum non extiterat, ideo in kalendario reperiebatur error."

³ *Concilium Basiliense: Studien und Quellen zur Geschichte des Concils von Basel*, ed. Johannes Haller [et al.], 8 vols. (Basel: Reich [et al.], 1896–1936), 6:40.

⁴ John of Segovia, *Historia* (8.19), ed. Birk (n. 2), 709: "...dataque potestate deputatis concipiendi formam decreti multi opere presertim dicti Hermanni, quinyimo importunitate, extitit laboratum, ut sancta synodus sic fieri mandaret per totam christianam religionem." See on this point also Olivier de Solan Bethmale, *Les propositions de réforme du calendrier au XV^e siècle* (Diploma thesis, École Nationale des Chartes [Paris], 1998), 131–32.

opportunity to completely re-write his *Phaselexis*, bringing its arguments in line with the fundamentally changed proposal. This second version still survives in 14 substantially complete copies (all fifteenth century) as well as one fragment and was thus vastly more popular than *Phaselexis* (1st ver.)—or even Cusanus's *De correctione kalendarii*—during the decades after its composition. Half of these copies append some version of the new reform decree that Hermann Zoest sought to elucidate with this treatise:

1. Basel, Universitätsbibliothek, A.V.25, fols. 165r–82r [a. 1455]
2. Berlin, Staatsbibliothek, lat. fol. 246, fols. 94v–101ra (*Phaselexis*), 101ra–va (decree) [a. 1458]
3. Berlin, Staatsbibliothek, theol. lat. qu. 240, fols. 108v–10r (decree), 110r–40r (*Phaselexis*)
4. Erlangen, Universitätsbibliothek, 542, fols. 192r–207r (*Phaselexis*), 207v–208v (decree)
5. Göttingen, Universitätsbibliothek, Fasc. XIII (fragment)
6. Kraków, Biblioteka Jagiellońska, inv. nr. 1891 (formerly Berlin, Staatsbibliothek, lat. qu. 23), fols. 82r–107v
7. London, Wellcome Library, 505, fols. 1r–22r [a. 1479]
8. Melk, Stiftsbibliothek, 800, fols. 35r–51v (*Phaselexis*), 51v–52v (decree) [a. 1471]
9. Melk, Stiftsbibliothek, 1916, pp. 1–23 (*Phaselexis*), 23–25 (decree) [a. 1467]
10. München, Bayerische Staatsbibliothek, Clm 3564, fols. 138r–43br
11. München, Bayerische Staatsbibliothek, Clm 18470, fols. 4r–19r [s. XV^{2/4}]
12. München, Bayerische Staatsbibliothek, Clm 24868, fols. 1r–23v [a. 1490]

13. München, Universitätsbibliothek, 2° 262, fols. 181r–96r (*Phaselexis*), 196r–97r (decree) [s. XV^{2/4}]
14. Oxford, Bodleian Library, Lyell 63 (formerly Melk, Stiftsbibliothek, 494), fols. 301r–13va (*Phaselexis*), 14ra–vb (decree) [a. 1453]
15. Vatican City, Biblioteca Apostolica Vaticana, Pal. lat. 870, fols. 1r–13v (*Phaselexis*), 13v–14v (decree) [a. 1462].

The reform proposal discussed in this work is in its most fundamental aspects identical to the one known from Cusanus's treatise and the aforementioned *Avisamentum*. One salient difference concerns item (c), that is, the period after which the bissextile day was to be suppressed. In the *Phaselexis* (2nd ver.), it is lowered from 304 years to 300 years, the first such intervention being slated for 1740.⁵ Another change to the original proposal appears only in the five copies numbered (2), (10), (11), (12), and (15), where one passage towards the end of the eighth of ten chapters redates the planned reform from May 1439 to February 1441. It would appear plausible that this postponement reflects the successive delays incurred until the whole idea was finally dropped in December 1440 (see p. 213 above).

More puzzling than any of the alterations mentioned so far is the fact that none of the recensions of Hermann Zoest's *Phaselexis* (2nd ver.) fully conforms to the content of the reform decree that was placed next to it by the scribes of (2), (3), (4), (8), (9), (13), (14), and (15). While they all agree with Zoest in reducing the interval for future adjustments to a round three centuries, the targeted month for the omission of seven days is neither May nor February, but October, with a prescribed transition from the 20th

⁵ See Hermann Zoest, *Phaselexis* (2nd ver.), c. 10, MS O, fols. 311vb–312ra, where the modified leap-year rule is justified as being easier to memorize.

to the 28th of the month. Of the seven manuscripts mentioned, (2) is the only copy to furnish the decree itself with a date, indicating at the very end that it was drafted or submitted on Monday, 2 September 1437. This dating clause is followed by protocol excerpts, dated 4 and 6 September, which document the decree's receipt by the four deputations.⁶ According to one of these notes, the deputations selected four experts to examine the decree and make any necessary changes. The delay thus created would appear to explain why all copies except for (2) change the mentioned target date from October 1439 to October 1440.⁷

The move from May to October is commemorated—but falsely, as one from June to “May or October”—by John of Segovia, who blames it on Hermann Zoest, claiming—with evident hyperbole—that the monk from Marienfeld “made a great effort for several years” to have this change implemented.⁸ Kaltenbrunner, whose transcription follows manuscript no.

⁶ MS Berlin, Staatsbibliothek, lat. fol. 246, fol. 101va. These notes are printed by Wilhelm Wattenbach, “Über Hermann von Marienfeld aus Münster,” *Sitzungsberichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin*, phil.-hist. Kl., 9 (1884): 93–109, at pp. 108–9, and discussed in more detail by Solan Bethmale, “Les propositions” (n. 4), 114–15, 153–54.

⁷ The decree in MS München, Universitätsbibliothek, 2° 262, fol. 197r, concludes with the following remark: “Hec forma decreti conclusa est in generali congregatione, revisa et aptata per reverendos patres, doctores et dominos, scilicet abbatem Virgiliensem, Abbatem de Scotia, Thomam de Curcellis et priorem Fontis Salutis, ad hoc deputatis.” This note also appears in MS Berlin, Staatsbibliothek, theol. lat. qu. 240, fol. 110r. It agrees with the protocol excerpts that accompany the decree in MS Berlin, Staatsbibliothek, lat. fol. 246, fol. 101va, printed by Wattenbach, “Über Hermann” (n. 6), 108–9. See also *Concilium Basiliense* (n. 3), 6:103 (6 September 1437), 462 (29 May 1439), 713 (16 November 1439).

⁸ John of Segovia, *Historia* (8.19), ed. Birk (n. 2), 709: “Atqui superveniens postea Hermannus monachus monasterii N. [!] fecit pluribus annis magnam instanciam, ut praefati dies vii. non de Junii, sed Maii vel Octobris aucuparentur mensibus.”

(9), suspected that the insistence on a different month may have been a way of depriving Nicholas of Cusa, who had become *persona non grata* after defecting to the pro-papal party in May 1437, of his authorship.⁹ A simpler explanation for the switch may be that the omission of a week immediately after Whitsunday (24 May in 1439) would have interfered with the date of Corpus Christi, which was supposed to follow Pentecost at a fixed interval of 11 days. Comparatively fewer disturbances could be expected from an intervention in October. Indeed, when Pope Gregory XIII finally reformed the calendar in 1582 by eliminating ten days, his advisers again chose October for its relatively low frequency of important saint days.¹⁰

Whatever the details behind the mentioned changes, the versions targetting October 1439 or 1440 do not represent the original draft of the reform decree. This is abundantly clear from the pertinent passages in the *Phaselexis* (2nd ver.) by Hermann Zoset, who wrote with an existing decree text in mind, but only ever spoke of May 1439 in the earlier recensions of this treatise. Olivier de Solan, who examined the evidence for his 1998 diploma thesis, hence rightly concluded that the known two versions of the decree must have been preceded by an earlier draft, now apparently lost.¹¹ As luck would have it, a copy of this original draft has in fact survived in the South Tyrolean town of Brixen, where Nicholas of Cusa ruled as prince-bishop during the 1450s:

⁹ Ferdinand Kaltenbrunner, “Die Vorgeschichte der gregorianischen Kalenderreform,” *Sitzungsberichte der philosophisch-historischen Classe der kaiserlichen Akademie der Wissenschaften* [Vienna] 82 (1876): 289–414, at p. 342.

¹⁰ See the explanation given in Christoph Clavius, *Calendarii a Gregorio XIII p. m. restituti Explicatio* (Rome: Zannetti, 1603), 74–75.

¹¹ Solan Bethmale, “Les propositions” (n. 4), 48, 131, 152, 310.

X Brixen (Bressanone), Bibliothek der Philosophisch-
Theologischen Hochschule, C 16, fols. 81v–82v

It is part of a voluminous collection (299 fols.) of documents relating to the history of the Council of Basel in the years 1434 to 1439. The existence of this collection was already noted by Paul Oskar Kristeller, who examined the manuscript archive of Brixen's Priesterseminar (now part of the Philosophisch-Theologische Hochschule) in 1955 and published the results in the first volume of his indispensable *Iter Italicum*.¹² The heading on fol. 81v introduces the calendar decree very laconically as "some conclusion by the holy council on the reform of the calendar" (*Est quedam conclusio sacri concilii Basiliensis que sequitur super reformatione kalendarii*), which does not seem to betray any deeper insight into the text or its genesis. That it is the version of the text used by Hermann Zoest when he worked on his *Phaselexis* (2nd ver.) is clear from a slightly condensed quotation included in manuscripts no. (1) and (6) from the list above:

Ex qua meridiana luce clarius patuit unam viam esse commodissimam, ut anno Domini 1439 ex mense Maii 7 dies ultimi in computacione kalendarii omittantur, sic ut in crastino festi Penthecostes illius anni incipiatur mensis Iunii. Sic autem numerus

¹² Paul Oskar Kristeller, *Iter Italicum: A Finding List of Uncatalogued or Incompletely Catalogued Humanistic Manuscripts of the Renaissance in Italian and other Libraries*, vol. 1, *Italy: Agrigento to Novara* (London: The Warburg Institute, 1963), 37. The library's inventory records the codex as "probabiliter per Nic. Cusanus Brixinam portatus," although it should be underlined that the manuscript as well as most of the texts contained in it post-date Cusanus's departure from the council on 17 May 1437. I am very grateful to Hartmann Eller of the Philosophisch-Theologische Hochschule Brixen for sending me a catalogue description of MS C 16.

ille, qui aureus vulgariter dicitur in antiquum ciclum lunarem connumerabitur, et qui erat 15 fiet 12, et coniunctionis diem monstrabit absque tamen variacione situacionis quam ipse numerus aureus in kalendario hucusque habuit. Primum eciam Pasca in kalendario 11 kl. Aprilis et ultimum 7 kl. Maii velut olim signabitur. In martilogiis quoque, que in plurimis cathedralibus, ecclesiis et monasteriis legi solent, pro littera anni non P sed M tenebitur. Sed in kl. Ianuarii sequentibus ciclus lunaris erit 13 litteraque in martilogiis erit N.¹³

The discovery of the Brixen copy confirms a conclusion already drawn by Olivier de Solan, who correctly identified this as a passage stemming from the original decree.¹⁴ What follows below is a transcription of the complete decree text as contained in the Brixen codex (= X). The apparatus highlights the changes later made for the second version of the decree (reform in October 1439), as represented by the single copy in MS Berlin, Staatsbibliothek, lat. fol. 246, fols. 101ra–va (= B). In a few cases where the text in X seems corrupt or B presents a more plausible reading, I have placed the latter in the main text, relegating words in X to the apparatus.

¹³ Hermann Zoest, *Phaselexis* (2nd ver.), c. 9, in MSS Basel, Universitätsbibliothek, A.V.25, fol. 178r, and Kraków, Biblioteka Jagiellońska, inv. nr. 1891 (formerly Berlin, Staatsbibliothek, lat. qu. 23), fol. 102r. I follow the spelling in the latter.

¹⁴ See Solan Bethmale, “Les propositions” (n. 4), 130, 177–80, who groups the copies of the *Phaselexis* known to him into ‘versions précises’ (which contain the passage) and ‘versions imprécises’ (which come without it).

<FORMA DECRETI BASILIENSIS SYNODI SUPER CORRECTIONE KALENDARI>

Sacrosancta generalis synodus Basiliensis in spiritu sancto legitime congregata, universalem ecclesiam representans, ad perpetuam rei memoriam. Saluberrimas ordinationes, quas patres nostri multo studio ad omnipotentis Dei gloriam observare studuerunt, nullatenus per negligenciam aut incuriam nostri temporis fieri irritas aut in oblivionem abire dignum est, presertim dum per eas misteria¹⁵ gracie facta per Ihesum Christum salvatorem nostrum et veteris testamenti figuris designata legalibus in memoriam¹⁶ hominum assidue reducuntur, ut omni devocione mirabilia opera domini et eius immensa beneficia commemorent.¹⁷

Fuit autem sanctis patribus hec maxima sollicitudo ut Pasce festum, inter solempnitates utriusque testamenti¹⁸ celeberrimum, debite coleretur¹⁹ et observaretur. Decretis quoque et institutionibus generalium conciliorum atque sancte sedis apostolice ad perpetuam rei memoriam statui curaverunt, ut dominica proxima post decimam quartam lunam primi mensis ab universis Christianis sancta hec celebretur festivitas. Quod et longis temporibus in ecclesia Dei observatum extitit. Verum lapsu temporis ex anticipacione equinoctiorum, solsticiorum et luminarium²⁰ coniunctionum defectus plurimi super signacione dierum ipsis equinoctiis, solsticiis et luminarium²¹ coniunctionibus olim correspondencium successerunt, ita ut iam notorie plerumque contingat non dominicam

¹⁵ misteria] misterio X

¹⁶ memoriam] memoria X

¹⁷ commemorent] commemorant X

¹⁸ testamenti] *add.* ut X

¹⁹ coleretur] celebretur X

²⁰ luminarium] lunarum X

²¹ luminarium] lunaribus X

prefatae quartedecime lune proximam, sed alteram longius distantem adversus sanctorum patrum instituta ipsi celebrationi festi pascalis deputari, quod non parva scandala in populo Christiano, si non provideretur, prestare valeret in futurum.

Ut itaque tanto defectui obvietur et antiqua ecclesie institutio ad debitum ordinem reducatur, quamplurimis²² prelati et doctoribus iniunximus, ut, consultis super ea re viris peritis et omnibus difficultatibus diligenter examinatis, modum convenientiorem exquirerent, per quem in hoc providere valeret. Quorum tandem relatione compertum est ad reparacionem defectus predicti unam viam esse commodissimam, ut adveniente anno domini M^oCCCC^oXXXIX ex mense Maiio²³ septem dies ultimi²⁴ in computacione kalendarii omittantur,²⁵ sic ut in crastino festi Penthecostes illius anni incipiatur mensis Iunii et festum beati Barnabe in die solemnitatis corporis Christi assignetur, festum quoque nativitatib beati Iohannis Baptiste quarta decima die inclusive sequentem post festum ipsum corporis Christi celebretur atque deinceps observetur proportionaliter sequencium dierum et festorum numeracio.²⁶ Sic autem numerus ille, qui aureus vulgariter dicitur, in antiquum ciclum lunarem commutabitur, et qui erat quindecim fiet duodecim atque diem coniunctionis²⁷ solis et lune monstrabit absque tamen variacione situacionis

²² quamplurimis] quam pluribus *X*

²³ Maiio] Octobri *B*

²⁴ ultimi] *om. B*

²⁵ omittentur] omittentur *X*

²⁶ in crastino ... numeracio] die tercio post festum beati Luce ewangeliste, videlicet die Mercurii immediate sequente, celebretur festum beatorum apostolorum Simonis et Iude et die Dominica ex tunc immediate sequente festum Omnium Sanctorum, et sic deinceps festa computentur ex ordine quo in kalendario describuntur *B*

²⁷ coniunctionis] incensionis *B*

quam ipse numerus aureus in kalendario hucusque habuit. Primum etiam pascha in kalendario die undecimo kalendas Aprilis et ultimum septimo kalendas Maii, velut olim, deinceps signabitur.²⁸ In martilogiis quoque, que²⁹ in plurimis ecclesiis, cathedralibus et monasteriis legi solent, pro littera anni non P sed M tenebitur et in kalendis Ianuarii sequentibus ciclus lunaris erit tredecim litteraque in martilogiis erit N.

Hunc igitur modum velut faciliorem et commodiorem acceptans decrevit sancta synodus ipsum per universam ecclesiam diligenter observari, precipiens cunctis Christi fidelibus ut anno domini M^oCCCC^oXXXIX principium mensis Iunii in crastinum festi Penthecostes assignetur festaque beati Barnabe et nativitatis Iohannis Baptiste³⁰ atque alia subsequencia ordine premissa celebrare curent. Insuper, ne aliquis error circa hoc contingat in futurum, statuit hec sancta synodus quod semper post trecentos annos unus bissextus omittatur. Et, ne quis huius solemnis decreti pretendere valeat ignoranciam, universis archiepiscopis et episcopis³¹ precipimus et mandamus quatenus adveniente festo Pasce³² anni prefati M^oCCCC^oXXXIX faciant huiusmodi decretum in singulis cathedralibus et parochialibus ecclesiis suarum³³ diocesum publicari, etiam per omnes dominicas sequentes ab ipso festo Pasce³⁴ usque ad festum Penthecosten³⁵ in singulis predictarum ecclesiarum huiusmodi

²⁸ signabitur] signabat X

²⁹ que] qui X

³⁰ principium ... Baptiste] festum beatorum apostolorum Simonis et Iude die Mercurii immediate sequenti [!] post festum beati Luce ewangeliste et festum Omnium Sanctorum in die Dominico sequente, ut premissum est B

³¹ archiepiscopis et episcopis] universisque episcopis X

³² Pasce] Nativitatis beate Marie B

³³ suarum] suorum X

³⁴ Pasce] Nativitatis beate Marie B

³⁵ Penthecosten] beatorum apostolorum Simonis et Iude B

publicacionem continuando ut in crastino ipsius festi Penthecostes³⁶ et deinceps hec salubris institutio per omnes concorditer observetur. Denique ad evitacionem variorum litigiorum, que occasione huius reformationis contingere possent,³⁷ declarat hec sancta synodus universos et singulos, qui ad solvendum, dandum vel faciendum aliquid certo die vel infra certum diem ex contractu vel alias fuerint obligati, non debere pro anno illo quovis modo ad huiusmodi solutionem, dacionem vel facti adimplecionem teneri aut compelli, donec octava dies post ipsum diem pro solutione advenerit. Datum.³⁸

³⁶ crastino ipsius festi Penthecostes] ipso festo apostolorum Simonis et Iude *B*

³⁷ possent] possint *X*

³⁸ Datum] *add.* die Lune 2^a Septembris Anno etc. XXXVII^o *B*