# LES ENLUMINURES paris chicago new york

www.lesenluminures.com

# Astronomical Calendar In Latin and Italian, decorated manuscript on parchment Italy, c.1534

12 folios on parchment, modern foliation in pencil top outer corner recto, complete (one quire of twelve leaves), ruled in hard point (justification varies depending on layout, c. 110-x 92-80 mm.; table f. 12, 135 x 60 mm.), written in a cursive humanistic script, majuscules touched in red, red used for rubrics and initials or numbers, two 2-line red initials, three circular diagrams, some light marginal staining, in very good condition. Preserved in an original (or early) limp vellum wrapper. Dimensions 168 x 110 mm.

We rarely think about the calendar today (except perhaps for debates about Daylight Savings Time). But, by the later Middle Ages, it was common knowledge that the ecclesiastical calendar was seriously out of sync with the lunar calendar, with the result that the date of Easter (and the other movable feasts) often fell at the wrong time of the year. The astronomical calendar copied in this manuscript should be understood in this context, leading up to the Gregorian calendar reform of 1582. It is accompanied by texts and diagrams that explain these calculations in an unusually clear manner. This is a rare survival of a small pamphlet which was likely never part of a longer manuscript, still in an original, or early, limp vellum wrapper.

## PROVENANCE

- 1. Copied in Italy in the early sixteenth century, likely c.1534, since that date has been copied outside the circular diagram of dominical letters on f. 9, alongside 'P'. The text on f. 9v mentions "the current year, 1520," and the diagrams on f. 10 on the gold number and dominical letters mention "1500."
- 2. Erased inscriptions in an 17th- or 18<sup>th</sup>-century Italian hand on f. 2 (likely recoverable with imaging or patience use of an ultra-violet light).
- Belonged to the Counts Florio of Udine, most likely Daniele (1710-1789) and Francesco (1705-1792), bibliophiles and men of letters who set up the renowned Florio Library (Online Resources). This library was given to the Università degli Studi di Udine in 2013, but our manuscript was not included in this gift; see below.
- 4. Inscription in Italian, f. 1, stating that the manuscript, described as a calendar from the early fifteenth century, had once belonged to the Florio library in Udine, and was obtained by the writer in exchange for some other books, despite the jealousy with which the counts held onto their manuscripts. This statement is unsigned, but it may describe how Andrea Tessier obtained the manuscript (see below).
- 5. Belonged to Andrea Tessier (1819-1896), bibliophile and bibliographer of Venice. Sold at the Tessier Library sale by Jacques Rosenthal in Munich, *Katalog eines grossen Theils der Bibliotheken des verstorbenen Cavaliere Andrea Tessier und des Marchese de* \*\*\* ..., Munich, May 21,

One Magnificent Mile 980 North Michigan Ave., Suite 1330 Chicago IL 60611 +1 773 929 5986 chicago@lesenluminures.com 22 and 23, 1900, no. 18. (stating that it is early fifteenth century).

- 6. A catalogue clipping in French, no. 511 (for M. 120-) is pasted inside the upper cover (almost identical in wording to Rosenthal's description above; note that it lists contents in Italian, with a one sentence description in French).
- 7. Breslauer and Meyer, *Ein Katalog seltener Bücher und Manuscripte zur fünfhundersten Wiederkehr des Geburtstages Johann Gutenbergs*, Berlin, June 24, 1900, no. 444, priced at 120 Deutsch marks (Schoenberg Database 83142); also listed in their 1902 catalogue, lot 1213 (Schoenberg Database 272303).
- 8. In pencil, inside back cover, 174, circled; and LB 854.
- 9. Private collection.

## TEXT

[f. 1, originally blank; now with later note in Italian about its ownership; see Provenance, above; ff. 1v-2, originally blank, traces of later script in pencil and ink (now erased);

f. 2v, [Blank apart from two lines of text] "Post Regum Festa quere novilunia trina/ Post domica [sic] tertia sacrum Pasca celebra";

ff. 3-8v, Calendar from January to December, with one month per page, with columns for the days of the month (in Arabic numerals), for the golden numbers, here expressed with red capital letters, with gaps (A-T, with A for '1' continuing through T for '19'), the dominical (or ferial) letters (capital A-G in black ink), and finally two columns of Arabic numerals, with entries corresponding to each golden number, labelled "hore" "punti" for the hour and minute of the new moon;

ff. 9rv, [Circular diagram with letters, A-T]; text inside the circle, "Istud est alphabetum quod dicitur in sequenti rubrica etc. Scias quod in anno domini 1051 currit A. [outside the circle, next to 'P'], "1534"]. [Below the diagram, prose paragraph] incipit, "Per duodecim tabulas anni scriptas potest Scire quo die et hora et puncto renovetur luna. Nota quod alfabetum suprascriptum continet 19 literas seruientes 19 annis lunaribus ... [f. 9v] Vnde primum A. dicti alphabeti seruit anno currentis 1520 ... Similiter nota quod quelibet luna habet dies 29 horas 12 et punctos 793 etc.";

Circular diagram with letters corresponding to the nineteen years of the metonic lunar cycle. The metonic cycle refers to the fact that new moons each year appear on different dates for nineteen years, and then return to the dates of the starting year; a golden number is the number, or in this case letter, assigned to each year of this cycle. The prose discussion explains the contents of the calendar and how to use that information.

f. 10, [Two Circular diagrams, the first with two rows of Arabic numerals, with 1-19 in the outer circle; below that, a second diagram with letters, A-G; text, upper diagram], incipit, "Questo rota te dimostra lo aureo numero ... Et Sapi che il 1500 corse 19 per aureo numero...

imperpetuum"; [text, lower diagram], "Questa rota te dimostra ogni anno la lettera domenicale ... Et Sapi che il 1500 ...";

The first diagram is used to calculate the Golden Numbers and epacts (epacts are the surplus days of the solar over the lunar year); the second diagram records the Dominical Letters used to determine on which weekday a date would fall on in a given year; both diagrams mention the year 1500.

ff. 10v-11v, Table for moveable feasts (Septuagesima, Quadragesima, Pascha, ..., Pentecost) and instructions in Italian on how to find the date of these feasts, all of which depend on the movable date of Easter in a given year; [f. 11v], incipit, "La Tauola sovraposta te dimostra a trouar imperpetuum le festum mobile ...";

f. 12rv, Table with the dominical letters and the golden numbers, followed by instructions in how to calculate Easter (in Latin) using the circular diagrams and the table on f. 12, [f. 12v], incipit, "Si vis In hac tabula supraposita reperire pasca prius quere aureum numerum et littera dominicale ... et sub illa descendes."

This brief, practical manuscript begins with an astronomical calendar. Calendars can be found in many different types of manuscripts in the Middle Ages: Breviaries, Missals, Psalters, Books of Hours, medical almanacs, and astronomy books, to name the most common, they can also be found appended to other texts (for example, on this site, see TM 1342, where a calendar was added to a copy of William Peraldus' treatise on the virtues, and TM 1192, where a calendar was copied following the *Consolation of Philosophy* by Boethius). Our manuscript is an example of a calendar (and related texts) that seems to have always been a small independent unit; there is no evidence that it was ever part of a longer manuscript.

Easter, the most important Christian liturgical feast, is a moveable feast, observed on the first Sunday after the first full moon to fall on or after the vernal equinox, defined by the church as March 21<sup>st</sup>. The date of Easter also determines the dates of all the other moveable feasts of the Church's year, including the beginning of Lent, the Ascension, and Pentecost. Determining the date of Easter was therefore a topic of great importance throughout the Middle Ages and Renaissance. To determine the date of Easter in any given year, one needs to know when the full moon occurs, and which days are Sundays, information that was found by referring to the Golden Numbers and Dominical Letters. The Golden Number places the year in the nineteenyear lunar cycle, indicating the occurrences of new moons (and thus full moons, fourteen days later) throughout the year. The Dominical Letters (A through G) are a way to determine the days of the week. For example, A year with a Dominical Letter A means that January 1st is a Sunday, and each subsequent 'A' day lettered will also be a Sunday. A year that starts on a Monday in contrast, will not have a Sunday until we get to the letter G, the Dominical Letter for that year.

Calendars appended to liturgical or devotional manuscripts record religious feasts, in particular saints' days, throughout the year (some of these calendars also include illustrations of the labors of the months and signs of the zodiac), and also record some astronomical information. The calendar described here, in contrast, is an example of a calendar that includes only astronomical information, narrowly focused on the information needed to find the date of Easter. Our

manuscript begins with a calendar, with columns recording the days of the month, the Golden Numbers, here expressed with red capital letters rather than in numerals, followed by the Dominical, or Ferial, letters (A-G), and finally columns, corresponding to the Golden Numbers, with the hour and "punctus" of the new moon (the punctus is a medieval division of an hour). All this information is supplemented and discussed, in very clear prose (mostly in Italian, apart from the text on the last page, which is in Latin) in the tables that follow on the practical use of the Golden Numbers and the Dominical Letters to determine the date of Easter and the other movable feasts.

For many centuries prior to the Gregorian reform of 1582, establishing the calendar still used today, there were numerous attempts to reform the calendar and to bring it into sync with actual astronomical phenomenon and the seasons of the year (Nothaft, 2018). The calendar and accompanying texts found in our manuscript provide practical information, focused on how to find the date of Easter, rather than theoretical discussions of this topic. Nonetheless the debates about calendar reform provide the context to understand the creation and use of manuscripts such as this one.

### LITERATURE

Nothaft, C. Philipp E. Dating the Passion: The Life of Jesus and the Emergence of Scientific Chronology (200– 1600), Time, Astronomy, and Calendars: Texts and Studies 1, Leiden and Boston, 2012.

Nothaft, C. Philipp E. Scandalous Error: Calendar Reform and Calendrical Astronomy in Medieval Europe, Oxford, 2018.

Ware, R. Dean. "Medieval Chronology: Theory and Practice," in *Medieval Studies: An Introduction*. 2d ed., edited by James M. Powell, Syracuse, New York, 1992, pp. 252–277.

Roger Wieck, The Medieval Calendar: Locating Time in the Middle Ages, New York, 2017.

### ONLINE RESOURCES

Biblioteca Florio Biblioteca Florio — UNIUD - Università degli Studi di Udine

Seb Falk, "How to read a medieval astronomical calendar," May, 2020. <u>https://www.sebfalk.com/post/how-to-read-a-medieval-astronomical-calendar</u>

H. Thurston, "Dominical Letters," in *The Catholic Encyclopedia*, Vol. 5., New York, 1909 <u>https://www.newadvent.org/cathen/05109a.htm</u>.

<u>Faith Wallis, "Calendars and Time"</u> <u>Calendars and Time (Christian) - Medieval Studies - Oxford Bibliographies</u>

TM 1326