

Pseudo-Masha'allah
On the Astrolabe

A Critical Edition of the Latin Text
with English Translation
by

Ron B. Thomson

Version 1.5

Toronto, Canada
2019

© copyright 2012, 2014, 2015, 2016, 2018, 2019 by Ron B. Thomson

COPYRIGHT CONDITIONS

Any individual may

- (A) print out any or all of the pages of this work for personal study,
- (B) bind this print-out in book form, and/or
- (C) quote from or cite from it following the normal rules of fair dealing.

No one may

- (A) produce a copy (of all or part of the work) for a fee or for sale,
- (B) produce multiple copies of all or parts of this work, and/or
- (C) sell copies of this work

without the permission of the copyright owner.

Copyright extends for the life of the author/editor, and for another 75 years after that (during which time copyright is administered by the author's estate/heirs/executor).

Proper citation of this work:

Pseudo-Masha'allah, *On the Astrolabe*, ed. Ron B. Thomson, version 1.5 (Toronto, 2019).

PART I: INTRODUCTION

PART II: *COMPOSITIO*
CRITICAL EDITION WITH ENGLISH TRANSLATION

PART III: THE LISTS OF STARS
CRITICAL EDITION WITH ENGLISH TRANSLATION

PART IV: *PRACTICA*
CRITICAL EDITION WITH ENGLISH TRANSLATION
[*IN PART*]

PART V: LATIN TEXT

PART VI: ENGLISH TRANSLATION

PREFACE

This edition was begun because of the deficiencies in the edition printed by Gunther in 1929. While preparing my thesis on the mathematics of astrolabes,¹ I became aware of these deficiencies when I tried to make sense of the edition of chapters 16 to 18. I did a quick collation of the printed version with several manuscripts in the Bibliothèque nationale de France in Paris, and discovered that the edition printed by Gunther, based on only a few English manuscripts, was faulty both in words and phrases omitted from the text and in words and phrases added to it.

While I have worked on this project for over 25 years, I simply did not have the time to make any real progress until the last few years. I began by collecting references to manuscripts of the text and ended up with a list of approximately 200 different manuscripts which possibly contained either the “Construction” chapters or the “Uses” chapters or both. I also began, with a few small grants, to collect microfilms of these manuscripts in order to do transcriptions, or to eliminate them as false or ghost references. The current list – manuscripts containing the text, lost manuscripts, erroneous or ghost references, rejected manuscripts, manuscripts still to be examined – can be found below (with their sigla) in section D and addenda. These lists will be updated as copies of the yet-to-be-examined manuscripts have been obtained.

The collection of this manuscript information has led me into one interesting side-track, the identification of the current whereabouts of the more than 600 manuscripts which were part of the private collection of Prince Baldessarre Boncompagni (1821-1894). When Boncompagni died in 1894, his entire library was sold by his heirs at auction in Rome in 1898 and thereby dispersed. This library contained four copies of Pseudo-Masha'allah's text,² hence my search. While Menso Folkerts (who began to systematically search for these missing manuscripts) and I have identified nearly 300 manuscripts from the collection,³ we have yet to find the four useful for this edition.

I also became aware in the 1980s that the late Prof. Michael Masi of Loyola University in Chicago (Department of English) was interested in preparing an edition of the text. I offered at the time to co-operate with him in the preparing of a complete edition, but his interest was to prepare a text that might have been the exemplar for Chaucer's English text, “On the Astrolabe.” Prof. Masi completed his edition but it was not published before he died. His heirs have generously sent me his typescript and related files, which helped me identify more copies of the text and to eliminate others which he had personally examined. I have not used his text while preparing this critical edition, but I have compared my final text with his in order to benefit from any insights he might

¹ “Thirteenth-Century Mathematical Astronomy: *De plana sære Iordani*,” Ph.D thesis, University of Oxford, Faculty of Modern History, 1975; republished as *Jordanus de Nemore and the Mathematics of Astrolabes: De plana sære*, Studies and Texts 39 (Toronto: Pontifical Institute of Mediaeval Studies, 1978).

² Boncompagni, ms. 51 (*olim* 326); ms. 104 (*olim* 279); ms. 128 (*olim* 40); ms. 357 (*olim* 328).

³ See “Boncompagni Manuscripts: Present Shelfmarks,” Beta Version 1.9 (June 2016), website of the Warburg Institute, London. First presented in September 2009.

have had. For this I am thankful, and have noted points in the text where his contribution has been invaluable.⁴

By publishing the text on line, I am attempting to make what would otherwise be an expensive book much more readily available to users. As such, while retaining copyright, I am allowing users to download a print a personal copy of either part or all of the text and translation. What I am not allowing is the printing of the text for resale, or for its incorporation into other works. I expect when finished to deposit a limited number of printed copies in various major research libraries so that they will be available over time, even if the internet system fails. I also expect to offer through a print-on-demand house the opportunity for users to purchase a printed copy.

Finally, I am producing this work in four parts. First the introduction which lists the manuscripts and other relevant information for the critical edition. Second, there is the critical edition consisting of the Latin text, the apparatus criticus, and a “facing” English translation. Third, there is the Latin text alone, without the apparatus, but retaining the critical edition’s line numbers which will allow readers access to a more compact text, while still allowing them to cite passages by capitulum and line. Finally, there is the English translation alone, for those who simply wish a convenient version of the English text. I hope this will make the whole project more convenient, while still retaining its academic foundation.

Throughout the publication process, I will always welcome comments and criticisms which might be incorporated into a later version.

Ron B. Thomson, D.Phil.
Toronto, August, 2012

PREFACE, VERSION 1.1

I have now been able to add Chapters 7 to 16 to this publication. There have been no real changes to the Latin, nor have the earlier line numbers shifted. More material has been added to the apparatus of the earlier material, and the English translation and the diagrams have been tweaked a bit. The division into pages may have changed in places, but by referring to the text by Capitulum and line, no changes need to be made to any citations either in the past or in the future.

As well I have added an appendix to gather together all the information about various stars cited or listed in the text, in the apparatus, and in the diagrams; this appendix will serve as an index to the stars and their citations (and variants) in the text.

Toronto, September 2014

⁴ Because he was interested in a base text for Chaucer, he ended up editing the treatise as found in Oxford, Bodleian Library, ms. Selden Supra 78, ff. 51^r-70^r (early 14th century), my ms Oτ, with comparisons to 6 other manuscripts for each of the two main sections of the treatise (construction and use).

PREFACE, VERSION 1.2

I have now been able to add Chapters 17 to 22 to this publication, which completes the “composition” section of the text (other than the list of stars to be engraved on the rete – which is the next editing phase). There have been no changes to the Latin, nor have the earlier line numbers shifted. More material has been added to the apparatus of the earlier material, and the English translation and the diagrams have been tweaked a bit. The division into pages may have changed in places, but by referring to the text by *Capitulum* and line, no changes need to be made to any citations either in the past or in the future.

I have been fortunate to receive a research grant from the Cogito Foundation in Wallerau, Switzerland, which will allow me to purchase copies of all the manuscripts of the text which I do not already have. This more or less guarantees that I can finish the project, including the editing of the “*Practica*” section.

Toronto, September 2015

PREFACE, VERSION 1.3

This version includes the Lists of Stars which usually accompany the text of the *Compositio*. As well, I have collated a number of other copies of the text, from manuscripts of which I did not have copies earlier, or newly found manuscripts of the text. I should thank all those who regularly contribute information about these manuscripts.

The new collations have meant some shifting in pagination, but not in line numbers. The Latin itself has not been changed, and reference should continue to be by *Capitulum* and line. The appendix concerning the stars found in the text has been shifted to become an appendix to the Lists of Stars, keeping all this material together.

I have renumbered the parts, so that the critical edition will now consist of three parts – the *Compositio*, the Lists of Stars, and the *Practica*. If kept as one part as originally planned, that section would be too long and unwieldy. But these are merely matters of form and not of content.

I have updated the introduction as much as possible, given the stage of the project. It will not assume its final form until the *Practica* has been edited, and precise information about the manuscripts has been fully gleaned.

Toronto, November 2016.

PREFACE, VERSION 1.4

With this version I have begun the editing of the *Practica* text, or “How to Use an Astrolabe.” This edition is based on approximately 140 manuscripts. There are 20 or 30 other manuscripts which might contain the text, but they vary so much they cannot be collated at this point; I will look at them again when the *Practica* text has been finished.

Because this is still a work-in-progress, the introduction is not in its final form. While I consider it “up-to-date”, more changes will be entered as I finish this last section of the text.

Again I have collated a few outstanding manuscripts of the *Compositio*, which in some cases has forced repagination. I have also made a modification to the Latin at Capitulum 4 line 27; this has meant that the lineation of lines 27 to 33 has changed. Otherwise the line numbers of the Latin are the same as before so that earlier references are still valid. When citing the Latin text, it is best to do so by capitula and line number, rather than page. For other parts, a capitula reference is also recommended, given the fact that the pagination there might change also.

Toronto, July 2018

PREFACE, VERSION 1.5

This version adds 12 more capitula of the *Practica* text, as well as at least one more ms collated with the text of the *Compositio*. Some elements of the Introduction have been updated, and a list of printed editions has been added as a third addendum.

Toronto, June 2019

PART I
INTRODUCTION

PART I: INTRODUCTION

A. The Author	3
B. Sections of the Text	4
C. Summary of Contents	5
D. The Manuscripts	7
E. The Manuscripts of Each Section	52
F. The Text	58
G. Arabic Astrolabe Terms	59
H. The Lists of Stars	61
I. Editorial Principles	62
J. Acknowledgements	64
Addendum 1. Lost Manuscripts and Erroneous, Non-Functioning, and Ghost References	65
Addendum 2. Spurious References: Other Astrolabe Texts	68
Addendum 3. Printed Editions of Pseudo-Masha'allah	77
Sigla	81

A. The Author

The text edited here was studied in detail by Dr. Paul Kunitzsch (Munich) in a very significant article published in 1981.¹ He not only found that the text was an agglomeration from a variety of sources (especially the part on the construction of an astrolabe) but also shed serious doubt on the authorship of the text (and its parts). As a result of his studies, we have come to refer to the author as “Pseudo-Masha’allah” (although it is highly unlikely that there was one author for all of the parts).

As can be seen from the incipit of the prologue to the construction, the manuscripts assign the text to a “Messehalle” (with a wide variety of spellings):²

Macelama	Messahale	Messehallach
Macellama	Messahallach	Messehallat
Mesaaalat	Messahallah	Messehallath
Mesahallach	Messahalle	Messehallaz
Mesalahat	Mesalahat	Messehallaz ₄
Mesalle	Messcallath	Messehalla ₃
Mesehalle	Messeh ^a ...	Messehalle
Mese ^{le}	Messehalat	Messehallhach
Meshalle	Messehalath	Messehhalath
Messahalach	Messehale	Methalle

As Kunitzsch argues, these ascriptions cannot be trusted and tell us nothing. After his detailed study he concludes:

that nothing of the popularized treatise on the composition and use of the astrolabe generally ascribed to Messahalla can be traced back to this author. Part i, *De compositione*, is a western Latin compilation, perhaps from the middle or second half of the 13th century A.D., consisting of four or five distinct sections of different origin, none of which bears a recognizable relation to Messahalla. ... Part ii, *De operatione*, has proved to be a purely western compilation and fabrication made on the basis of Johannes Hispalensis’ Latin translation of the Arabic treatise on the use of the astrolabe by the Spanish-Muslim astronomer Ibn aṣ-Ṣaffār, one of Maslama’s

¹ “On the authenticity of the treatise on the composition and use of the astrolabe ascribed to Messahalla,” *Archives Internationales d’Histoire des Sciences*, 31 (1981), 42-62; reprinted in *The Arabs and the Stars*, Northampton: Variorum, 1989.

² Plus one to John of Sacro Bosco. Note, the -e endings on some of the variants is simply the genitive form of a nominative -a ending.

[i.e., Maslama al-Mağrīfī] disciples. Thus, not only does each of the two parts show its internal elements of compilation, but even the two parts as a whole are of different origin. The question cannot yet be answered whether the composition of the whole was the work of one man, or whether the two parts were conceived independently and merely put together later by readers or scribes.³

Further to this discussion, I myself am inclined to consider the prologue to the *Practica* to be possibly of a different origin from the rest of the *Practica*. In twelve manuscripts it is missing, the text beginning only with capitulum 1; in one manuscript it is found alone (ms Bε₁). The content of the prologue, listing the parts of the astrolabe, while possible useful, is totally different in nature from the set of 47 capitula which follows. This is reinforced by the different uses of the term “almuri” in the prologue and in the following chapters.⁴

There is also the question of the interpolation of certain capitula into the set traditionally ascribed to Pseudo-Masha’allah, especially Cap. 11 and 12 of the *Practica*. Many manuscripts do not contain these two capitula, skipping from Cap. 10 to Cap. 13. As well Millàs Vallicrosa argued in 1932 that these, as well as other parts, must have been introduced later into whatever the original text or texts was or were. However, given our present understanding that the entire treatise appears to be a compilation of earlier and disparate parts, arguments which depend on the “integrity” (or not) of an original Islamic text no longer are convincing.⁵

B. Sections of the Text

As Kunitzsch argues, the text as we now know it is actually an agglomeration, with distinct changes and styles. His divisions are these (with my division of the *Practica*):

Compositio or Construction: prologue,
Compositio or Construction: chapters 1 to 6;
Compositio or Construction: chapters 7 to 16;
Compositio or Construction: chapters 17 to 22;
Compositio or Construction: lists of stars;

³ Kunitzsch, “Authenticity,” p. 56.

⁴ See the discussion of this term in the *Practica*, see the Prologue, line 18 and Cap. 3, line 12, and note.

⁵ J. Millàs Vallicrosa, “La introduccion del cuadrante con cursor en Europa,” *Isis* 17 (1932), 218-258, especially pp. 254-258. See also Nan L. Hahn, *Medieval Mensuration: Quadrans Vetus and Geometrie Due Sunt Partes Principales ...*, Transactions of the American Philosophical Society vol. 72 part 8 (Philadelphia: American Philosophical Society, 1982), pp. xxiv-xxvi.

Practica or Use: prologue

Practica or Use: chapters 1 to 47

I am following these divisions in my edition, and list for each manuscript what material it contains (section E). In the end I hope this gives us a better idea of how the text was assembled over time.

Furthermore, especially the *Practica* section, I have followed the traditional ordering of capitula and their numbering, even though in some instances (e.g., Cap. 6) some mss divide a capitulum into 2, and in other mss some capitula are run together as one (e.g., Cap. 11 and 12, 21 and 22). I hope in this way that past and future references to the various parts will be consistent and therefore easier to navigate.

C. Summary of Contents

Composition/Construction

Prologue: general comments on astrolabes.

[Section I]

Chapter 1: the making of the mother, rim and plates.

Chapter 2: the engraving of the back of the astrolabe: the circle of signs of the zodiac (and the division into signs and degrees), the calendar circle (and the division into months and days).

Chapter 3: the engraving of the shadow square on the back of the astrolabe.

Chapter 4: the construction of the alidade (on the back of the astrolabe) for sighting the sun and other planets and stars.

Chapter 5: the marking of the (unequal) hour divisions along the alidade.

Chapter 5 bis: the making of the novella for the front of the astrolabe.

Chapter 6: the making of the central pin and wedge (or “horse”) to hold the astrolabe together.

[Section II]

Chapter 7: to draw the circle through the beginning of Capricorn, of Cancer, and of Aries and Libra, starting with any one of the three.

Chapter 8: to draw the circle of signs or zodiac.

Chapter 9: to divide the zodiac into its signs.

Chapter 10: to plot the position of a star given its co-ordinates.

Chapter 11: to construct the rete.

Chapter 12: to draw the horizon at a given latitude.

Chapter 13: to draw the almucantars at a given latitude.

Chapter 14: to draw the azimuths at a given latitude using arcs.

Chapter 15: to draw the azimuths at a given latitude using the zenith.

Chapter 16: to draw the unequal/natural hour lines.

[Section III]

Chapter 17: the projection of the surface of a sphere onto a plane.

Chapter 18: the projection onto a plane of any circle on a sphere parallel to the ecliptic.

Chapter 19: another method for drawing the azimuths.

Chapter 20: a second alternative method for drawing the azimuths.

Chapter 21: to draw the twilight (or daybreak) line.

Chapter 22: to place stars in the rete using distances measured from the ecliptic.

[Lists of Stars]

Star List 1

Star List 1-A

Star List 2

Star List 3-A

Star List 3-B

[Practica: Operation or Use of the Astrolabe]

Prologue: The parts of an astrolabe

Chapter 1: To find the position of the sun along the ecliptic

Chapter 2: To measure the elevation of the sun or of a star above the horizon

Chapter 3: To find the time in unequal hours

Chapter 4: To find the end of evening twilight and the beginning of morning twilight

Chapter 5: To find the arc of the day and the arc of the night

Chapter 6: To find the length of an unequal (daylight) hour (and the number of equal hours in a day)

Chapter 7: To find how much of an [unequal] hour has passed

Chapter 8: To find how many equal hours have passed

Chapter 9: To convert unequal hours into equal hours

Chapter 10: To find the altitude of the sun at mid-day

Chapter 11: To find the time of day using the alidade

Chapter 12: To find the time of day using the hour-lines

Chapter 13: Preliminary material concerning points on the ecliptic

Chapter 14: To find the position of the sun along the ecliptic

Chapter 15: To find which days are equal to each other

Chapter 16: To find the degree of the ecliptic which crosses the meridian at the same time as a particular star

Chapter 17: To find the azimuth of the sun at any time

Chapter 18: To find the points on the horizon where the sun rises and sets

Chapter 19: To find the four cardinal directions using an astrolabe

Chapter 20: To find the declination of any point along the ecliptic

Chapter 21: To find the latitude of some position on earth, or the altitude of the pole at that point

Chapter 22: A different way to find the latitude of some position on earth

D. The Manuscripts

[This section will be revised as the editing continues and as more manuscripts are examined in detail.]

The following is a list of the manuscripts containing Pseudo-Masha'allah, *On the Astrolabe*, as confirmed to date. Given are: library, fonds (if any) and shelf-mark, the folios of the sections of the text found in the manuscript, the date (if known), and siglum. Material in square brackets is not yet confirmed.

Because of the large number of manuscripts, each siglum is a combination of a roman capital letter plus a Greek lower-case letter. The initial capital letter generally refers to the home city of the library, except in a few cases where there are simply too many manuscripts; in this case Q carries on with manuscripts in cities beginning with P and X continues on with manuscripts in cities beginning with V. (Spellings of [f the cities tend to be the local spelling, e. g., Wien rather than Vienna.) I have added a key to the sigla at the end of the introduction (p. 81).

The addenda to this introduction list:

- Lost Manuscripts and Erroneous, Non-Functioning, and Ghost References
- Spurious References: Other Astrolabe Texts

Assisi, Biblioteca del Sacro Convento,⁶ Fondo Antico Communale, ms. 174

ff. 105^{rb}-111^{va}: *Compositio*, Proemium – Cap. 18

ff. 112^{r-v}: Star List 1

ff. 113^{r-v}: Star List 2

ff. 113^r: *Practica*, Cap. 46 line 2 to end.

14th cent.⁷

Aα

Bamberg, Staatsbibliothek., ms. Class. 84, ff. 121^{ra}-132^{vb}

ff. 121^{ra}-132^{vb}: *Practica*, Proemium – [ca. 40]; [“De compositione quadrantus”, fol. 125^{rb}]

⁶ *Olim*: Biblioteca del Convento di S. Francesco

⁷ G. Mazzatinti and L. Alessandri in G. Mazzatinti, *Inventari dei Manoscritti della Biblioteche d'Italia*, 4 (1894), p. 51.

14th cent.⁸

Bβ

Basel, Öffentliche Bibliothek der Universität Basel, ms. F-III-25

ff. 26^v-34^v: *Compositio*, Proemium – Cap. 16

ff. 35^r-41^v: *Practica* (complete, but non-standard order)⁹; does not appear to be version of Johannes Hispalensis.¹⁰

13th/14th cent.¹¹

Bζ

Berlin, Staatsbibliothek zu Berlin - Preussischer Kulturbesitz,¹² ms. lat. fol. 192¹³

ff. 29^{ra}-29^{rb}: *Compositio*, Cap. 20 line 7 – Cap. 22

29^{rb}-32^{rb} *Practica* (complete)

15th cent.¹⁴

Bδ

Berlin, Staatsbibliothek zu Berlin - Preussischer Kulturbesitz, ms. lat. fol. 246

ff. 32^r-37^{ra}: *Compositio*

– inserted leaves 35^{bis} and 35^{ter} are not part of this treatise¹⁵

ff. 37^{ra}-38^{vb}: *Practica*

⁸ Friedrich Leitschuh, *Katalog der Handschriften der Königlichen Bibliothek zu Bamberg* (Bamburg, 1895; rpt. Wiesbaden, 1966), vol. 1, part 2, p. 90.

⁹ Prologue: 41r; Cap. 1– : 35r-

¹⁰ See the table of various versions in Paul Kunitzsch, "On the authenticity of the treatise on the composition and use of the astrolabe ascribed to Messahalla," *Archives Internationales d'Histoire des Sciences*, 31 (1981), 52.

¹¹ Martin Steinmann, *Die Handschriften der Universitätsbibliothek Basel. Register zu den Abteilungen CI-CVI, D-F ...* (Basel: Verlag der Universitätsbibliothek Basel, 1998), p. 36. Barnabas B. Hughes, *Medieval Mathematical Latin Writings in the University Library, Basel. A Provisional Catalog* (Privately printed, 1972), p. 28 says 14th-15th cent.

¹² *Olim*: Deutsche Staatsbibliothek; Staatsbibliothek Preussischer Kulturbesitz.; Königliche Bibliothek.

¹³ Also known as ms. 963 (catalogue entry number).

¹⁴ Valentin Rose, *Die Handschriften-verzeichnisse der Königlichen Bibliothek zu Berlin, 13: Verzeichnis der Lateinischen Handschriften*, vol. 2, part 3 (Berlin 1905), pp. 1199-1200; entry 963.

¹⁵ Michael Masi writes that Ernst Zinner in his notes (in Berlin) on this manuscript says that these interleaves are from Sacrobosco.

f. 59^r: *Practica*, Proemium only (second copy)

15th cent.¹⁶

Bε

Bε₁ [f. 59^r]

Berlin, Staatsbibliothek zu Berlin - Preussischer Kulturbesitz, ms. lat. fol. 610¹⁷

ff. 63^r-75^v: *Compositio*

– ff. 72^v -73^r: blank [for the lists of stars?]

75^v-82^r: *Practica*

13-14th cent. (1276-1277)¹⁸

Bγ

Bernkastel-Kues, St. Nikolaus-Hospitals, Bibliothek, ms. 209

f. 77^{va}: Star List 2 [13 stars only and not collated]¹⁹

Bernkastel-Kues, St. Nikolaus-Hospitals, Bibliothek, ms. 212

ff. 118^{ra}-122^{ra}: *Compositio*, Proemium – Cap. 16

– ff. 122^r-123^v: “Opus armillarum”

124^{ra}-126^{vb}: *Practica*

15th cent.²⁰

Bη

Bologna, Biblioteca Universitaria, ms. 132 (154)

ff. 98^r-111^v: *Compositio*, Cap. 2 line 28 – Cap. 22

ff. 96 and 97 are missing.²¹

112^r: Star List 1

112^v: Star list 2

113^r-119^v: *Practica*

¹⁶ Michael Masi noted that the typed catalogue in the Berlin Library dates the manuscript to the 15th century (1443-1458 – scribe’s dates).

¹⁷ *Olim*: Phillips 254 (inside front cover).

¹⁸ Explicit on fol. 250^{vb}.

¹⁹ See Paul Kunitzsch, *Typen von Sternverzeichnissen in astronomischen Handschriften des zehnten bis vierzehnten Jahrhunderts* (Wiesbaden: Harrassowitz, 1966), pp. 47-48

²⁰ Benjamin and Toomer, p. 88.

²¹ Francis S. Benjamin, jr., and G. J. Toomer, *Campanus of Novara and Medieval Planetary Theory. Theorica planetarum* (Madison: University of Wisconsin Press, 1971), p. 109.

14th cent.²²

Bθ

Brno, Moravská zemská knihovna v Brně (*olim* Státní vědecká knihovna; *olim* Univerzitní knihovna), ms A 64

ff. 406^v-411^r: *Practica* (complete except for Cap. 19)²³

ff. 411^r-420^r: *Compositio*

ca. 1477 AD²⁴

Bκ

Brugge, Openbare Bibliotheek Biekorf, ms. 522

ff. 60^{ra}-68^{rb}: *Compositio*, Proemium – Cap. 16

f. 68r: Star List 3-B

ff. 68^{va}-74^{rb}: *Practica* (complete; non-standard order; probably not Johannes Hispalensis version)²⁵

14th cent.²⁶

Bι

Brugge, Openbare Bibliotheek Biekorf, ms. 523

ff. 79^r-85^v: *Compositio*, Proemium – Cap. 16

– varies greatly from base text in places

13th cent.²⁷

Bα

Cambridge, Gonville and Caius College Library, ms. 174/95

pp. 24^a-47^b: *Compositio*

pp. 39-40: Star List 1

p. 40: Star List 2

pp. 47^b-53^b: *Practica*

²² Benjamin and Toomer, p. 108.

²³ In ms Bκ the later capitula are ordered ... 16, 20, 21, 22, 18. Cap. 19 is missing.

²⁴ Online information: www.manuscriptorium.com.

²⁵ See fol. 370^v.

²⁶ A. De Poorter, *Catalogue des manuscrits de la bibliothèque publique de la ville de Bruges*, *Catalogue général des manuscrits des bibliothèques de Belgique* 2 (Gembloux and Paris, 1934), p. 610.

²⁷ De Poorter, p. 615.

14th/15th cent.²⁸

C₁

Cambridge, St John's College Library, ms. 155 (*olim* F.18),

ff. 50^r-55^v: *Practica*, Cap. 1 –; incomplete set; probably Johannes Hispalensis version²⁹

15th cent.³⁰

C_α

Cambridge, St John's College Library, ms. 162 (*olim* F.25)

ff. 50^r-54^r: *Compositio*, Proemium – Cap. 16

ff. 55^r– : a text on planimetrics; Jordanus de Nemore, *De plana spera*

ff. 61^v-69^v: Maslama ibn Aḥmad al-Majrīṭī, astrolabe text (inc.: “Primum horum armilla per quam suspenditur ...”)³¹

13th/14th cent.³²

C_β

Cambridge, Trinity College Library, ms. 567 (R.2.86)

ff. 26^r-32^r: *Practica*

15th cent.³³

C_γ

Cambridge, University Library, ms. 1684 (*olim* Hh.6.8)

pp. 208-219 (ff. 185^r-190^v): *Compositio*, Proemium – Cap. 16

pp. 220-223 (ff. 191^r-192^v): other astrolabe material

pp. 224-233 (193^r-197^v): *Practica*

p. 236 (f. 199^r): Star List 3-A

²⁸ Montague Rhodes James, *A Descriptive Catalogue of the Manuscripts in the Library of Gonville and Caius College* (Cambridge, University Press, 1907), I: 196.

²⁹ See the comparative table in Kunitzsch, “Authenticity,” p. 52.

³⁰ Montague Rhodes James, *A Descriptive Catalogue of the Manuscripts in the Library of St John's College* (Cambridge, 1913), p. 186.

³¹ Thorndike and Kibre, item 1118-10.

³² James, *St John's College*, p. 192.

³³ Montague Rhodes James, *The Western Manuscripts in the Library of Trinity College, Cambridge. A Descriptive Catalogue* (Cambridge, 1901), 2: 43.

13th cent., end³⁴

Cδ

Cambridge, University Library, ms. 1705 (*olim* Ii.1.13)

ff. 84^v-92^r (*olim* 75^v-83^v): *Compositio*

ff. 90^v-91^r (*olim.* 81^v-82^r): Star List 1

f. 91^r (*olim.* 82^r): Star List 2

ff. 92^r-94^v (*olim.* 83^r-85^v): *Practica*

14th cent.³⁵

Cε

Cambridge, University Library, ms. 1767 (*olim* Ii.3.3)

ff. 61^r-73^v: *Compositio*

f. 70^v: Star List 1

f. 71^r: Star List 2

ff. 74^r-79^r: *Practica*

[used in the edition published by Gunther]

1276 AD³⁶

Cη

Cambridge, University Library, ms. 1935 (*olim* Kk.1.1)

ff. 105^{vb}-109^{va}: *Compositio*, Proemium – Cap. 16

ff. 112^{ra}-117^{vb}: a set of *Practica* in 40 chapters, but not Pseudo-Masha'allah

13th cent.³⁷

Cθ

Cambridge, University Library, ms. Additional 6860

ff. 66^v-70^v: *Compositio*, Cap. 1 line 18 – Cap. 16

ff. 70^v-71^r: Star List 1-A

ff. 71^v-77^v: *Practica*, incomplete set; probably Johannes Hispalensis version³⁸

³⁴ *A Catalogue of the Manuscripts Preserved in the Library of the University of Cambridge*, vol. 3 (1858), p. 302.

³⁵ *A Catalogue of the Manuscripts*, 3: 321.

³⁶ *A Catalogue of the Manuscripts*, 3: 404.

³⁷ *A Catalogue of the Manuscripts*, 3: 547.

³⁸ See the comparative table in Kunitzsch, "Authenticity," p. 52.

early 14th cent.³⁹

CĹ

Darmstadt, Universitäts- und Landesbibliothek, ms. 1227

117^r-120^v: *Compositio*, Proemium – Cap. 3 line 7 (“... et divides spacia”)

14th cent., first quarter⁴⁰

Dβ

Darmstadt, Universitäts- und Landesbibliothek, ms. 2661

ff. 146^r-161^r: *Compositio* (complete except for Cap. 17)⁴¹

f. 156^v: Star List 3-B

f. 157^r: Star List 2

ff. 161^r-168^r: *Practica*

12th-13th cent.⁴²

Dγ

Douai, Bibliothèque Municipale, ms. 715

ff. 9^r-14^r: *Practica*.

AD 1338⁴³

Dδ

³⁹ Thorndike and Kibre, item 893-7 (re Honorius of Autun, *Imago mundi*). Before 1936 this manuscript was part of the Gurney collection (see W. D. Macray, “The Manuscripts of the Late John Henry Gurney, Esq. of Keswick Hall, Norfolk” in Royal Commission on Historical Manuscripts, *The Manuscripts of the Duke of Beaufort, K.G., the Earl of Donoughmore, and others*, 12th report, appendix, part 9 [London, 1891], pp. 121-2 [item IV]). It has been identified as from the Abbey of Bury St. Edmunds, both from its abbey shelf-mark (A.229) and the donation citation on fol. 1r – ex dono fratris Thome de Strouteby. M. R. James, “Bury St. Edmunds Manuscripts,” *English Historical Review* 41 (1926), p. 253, item 28 dates this to the 13th century. He also dates another manuscript donated by Strouteby to the abbey as 13th century (Montague Rhodes James, *A Descriptive Catalogue of the Manuscripts in the Library of Pembroke College, Cambridge* [Cambridge, University Press, 1905], p. 45, ms. 46). See now Jayne Ringrose, *Summary Catalogue of the Additional Medieval Manuscripts in Cambridge University Library Acquired Before 1940* (Woodbridge/Rochester, NY: Boydell Press, 2009), p. 275.

⁴⁰ Information from digital on-line copy; citation link: <http://tudigit.ulb.tu-darmstadt.de/show/Hs-1227>.

⁴¹ In ms Dγ the later capitula are ordered ... 15, 21, 16, 19, 20, 22, 18. Cap. 17 is missing. There are also 9 lines of extraneous material at the top of 157^v.

⁴² Zinner, *Verzeichnis*, entry 7022; Nan L. Hahn, *Medieval Mensuration: “Quadrans Vetus” and “Geometrie Due Sunt Partes Principales ...”*, *Transactions* 72 part 8 (Philadelphia: American Philosophical Society, 1982), p. 3.

⁴³ *Catalogue général des manuscrits des bibliothèques publiques des départements* (Paris, 1878), 6: 428.

Dublin, Trinity College Library, ms 403 (D.2.29/502)

ff. 57^r-70^r: *Compositio*⁴⁴

ff. 70^v-71^r: Star List 1

f. 71^v: Star List 2

ff. 72^r-78^r: *Practica*

15th cent., 2nd half⁴⁵

Dη

Edinburgh, Royal Observatory, Crawford Library, ms 3.12

ff. 4^{ra}-8^{va}: *Compositio*

ff. 8^{va}-10^{rb}: *Practica*

14th cent., beginning⁴⁶

Eα

Edinburgh, Royal Observatory, Crawford Library, ms 5.14

ff. 8^{ra}-8^{vb}: *Practica*, incomplete set; probably Johannes Hispalensis version⁴⁷

– ff. 7^{ra}-7^{vb}: Canons on astrolabe construction, not Pseudo-Masha'allah

13th cent., 2nd half⁴⁸

Eγ

Eger, Főegyházmegyei Könyvtár, ms U² VI 1

ff. 79^{ra}-92^{ra}: *Compositio*

ff. 92^{ra}-97^{vb}: *Practica*

15th cent.⁴⁹

Eβ

Einsiedeln, Stiftsbibliothek, ms 29 (878)

pp. 103-128: *Compositio*

p. 121: SL 3-B

⁴⁴ In ms Dη the later capitula are ordered ... 15, 19, 20, 16, 21, 17, 18. Cap. 22 is found between 10 and 11.

⁴⁵ Marvin L. Colker, *Trinity College Library Dublin. Descriptive Catalogue of the Mediaeval and Renaissance Latin Manuscripts* (Aldershot: Scholar's Press, 1991), 1: 826.

⁴⁶ N. R. Ker, *Medieval Manuscripts in British Libraries* (Oxford, 1977), 2: 563.

⁴⁷ See the comparative table in Kunitzsch, "Authenticity," p. 52.

⁴⁸ Ker, 2: 580.

⁴⁹ Paul Oskar Kristeller, *Iter Italicum*, vol. 4 (London/Leiden, 1989), p. 302.

pp. 121-122: SL 1-A
 pp. 122-123: SL 2
 pp. 128-136: *Practica*
 14th cent.⁵⁰
 Eð

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha,⁵¹ ms Amplon. F° 38
 f. 2^v: Star List 3-A
 mid-13th cent.⁵²
 Eε

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. F° 376
 ff. 82^{va}-91^v: *Compositio*
 ff. 89^v: Star List 3-B⁵³
 ff. 89^v-90^{ra}: Star List 1-A
 f. 90^{rb}: Star List 2
 ff. 92^{ra}-95^{va}: *Practica*
 14th cent.⁵⁴
 Eζ

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. F° 394
 ff. 60^{ra}-64^{vb}: *Compositio*
 ff. 64^{vb}-67^{rb}: *Practica*
 14th cent.⁵⁵
 Eη

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q° 349
 ff. 163^r-171^v: *Practica*, incomplete set, irregular order

⁵⁰ Gabriel Meier, *Catalogus codicum manu scriptorum qui in Bibliotheca Monasterii Einsidlensis O.S.B. servantur* (Einsiedeln, 1899), 1: 20-22. There are a variety of handwritings in this manuscript, some of which are quite early. The dating would apply to this section only.

⁵¹ *Olim*: Wissenschaftliche Allgemeinbibliothek.

⁵² Wilhelm Schum, *Beschreibendes Verzeichnis der Amplonianischen Handschriften-Sammlung zu Erfurt* (Berlin, 1887), p. 31.

⁵³ Kunitzsch (*Typen*, pp. 47, 53, and 70) gives the wrong folios, i.e., 89r-89v instead of 89v-90r.

⁵⁴ Schum, p. 262.

⁵⁵ Schum, pp. 276-277.

- 14th cent.⁵⁶
 Ek
- Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q° 351
 ff. 34^{ra}-36^{vb}: *Practica*, Cap. 1–
 14th cent.⁵⁷
 Eλ
- Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q° 355
 ff. 49^r-56^v: *Compositio*, Proemium – Cap. 16
 f. 56^v: Star List 3-B
 ff. 57^r-62^r: *Practica* – mostly complete, irregular order
 heavy marginal glosses
 14th cent.⁵⁸
 Eμ
- Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q° 363
 ff. 94^{ra}-95^{vb}: *Compositio*, Proemium – Cap. 16
 ff. 95^{vb}-97^{ra}: *Practica* of Ibn aṣṣ-Ṣaffār, translated by Johannes Hispalensis, cap. 14-cap. 40⁵⁹
 13-14th cent.⁶⁰
 Ev
- Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q° 367
 f. 99^v: Star List 1
 end of the 13, beginning of the 14th cent.⁶¹
 Eπ
- Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q° 369
 ff. 184^{va}-188^{ra}: *Compositio*, Proemium – Cap. 16
 ff. 188^{ra}-190^{vb}: *Practica*, Cap. 1–
 f. 190^{vb} (later hand): repeat of *Compositio*, Proemium.

⁵⁶ Schum, pp. 583-587.

⁵⁷ Schum, pp. 587-590.

⁵⁸ Schum, pp. 594-597.

⁵⁹ Published in José M.^a Millás Vallicrosa, *Las traducciones orientales en los manuscritos de la Biblioteca Catedral de Toledo* (Madrid, 1942), pp. 261-284.

⁶⁰ Schum, pp. 607-609.

⁶¹ Schum, pp. 614.

- f. 203^{va}: Star List 1-A
 f. 204^r: Star List 1
 AD 1325⁶²
 Eo
- Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q^o 382
 ff. 18^{va}-20^{vb}: *Practica* (complete), but following Johannes Hispalensis order⁶³
 AD 1322⁶⁴
 Eo
- Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q^o 385
 ff. 147^r-151^r: *Practica* (complete)
 14th cent.⁶⁵
 Eσ
- Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms Amplon. Q^o 386
 ff. 130^r-140^v, 142^v-145^r: *Compositio*
 f. 141^{r-v}: Star List 1
 f. 142^r: Star List 2
 ff. 145^v-150^v: *Practica* (complete)
 14th cent.⁶⁶
 Eτ
- Erlangen, Friedrich-Alexander-Universität Erlangen-Nürnberg, Universitätsbibliothek, ms. 665
 (*olim* Irmischer catalogue no. 877; *olim* Altdorf Universitätsbibliothek, ms. II [Am.] 13)
 ff. 9^{ra}-22^{ra}: *Compositio*
 ff. 22^{ra}-26^{va}: *Practica* (complete)
 f. 19^r: extraneous material⁶⁷

⁶² Schum, pp. 617-621.

⁶³ See the comparative table in Kunitzsch, "Authenticity," p. 52.

⁶⁴ Schum, pp. 640-641.

⁶⁵ Schum, pp. 641-644.

⁶⁶ Schum, pp. 645-647.

⁶⁷ The star list on f. 28^r is Kunitzsch (*Typen*), Typ IX.

15th cent.⁶⁸

Ev

El Escorial, Real Biblioteca del Monasterio de San Lorenzo, ms. O.II.10

ff. 69^r-71^v: *Compositio*: Proemium – Cap. 5 line 37 (“... Cumque reversa fuerit umbra”);
rest of text probably lost during [re]binding rather than being left unfinished

14th cent.⁶⁹

Eφ

Firenze, Biblioteca Medicea Laurenziana, ms. Plut. XVIII sin. cod. 3

ff. 68^v-82^{ra}: *Compositio*

ff. 82^{ra}-90^{ra}: *Practica*

14th cent.⁷⁰

Fζ

Firenze, Biblioteca Nazionale Centrale, ms. II.III.24

ff. 189^{ra}-195^{ra}: *Compositio*

195^{ra}-198^{rb}: *Practica*

14th cent.⁷¹

Fα

Firenze, Biblioteca Nazionale Centrale, ms. Conventi Soppressi J.II.10 (*olim* San Marco 200)

ff. 197^r-209^r (*olim* 189^r-201^r): *Compositio*

ff. 210^r-216^v (*olim* 202^r-208^v): *Practica* [different hand]

13th cent., end⁷²

Fβ

Firenze, Biblioteca Riccardiana, ms. 689 (*olim* L.II.29)

ff. 41^r-46^v: *Practica* (complete)

⁶⁸ Hans Fischer, *Katalog der Handschriften der Universitätsbibliothek Erlangen*, Neubearbeiten, 2: *Die Lateinischen Papierhandschriften der Universitätsbibliothek Erlangen* (Erlangen, 1936), p. 407.

⁶⁹ Guillermo Antolín, *Catálogo de los Códices Latinos de la Real Biblioteca del Escorial* (Madrid, 1913), 3: 209.

⁷⁰ Hahn, p. 197.

⁷¹ Hahn, p. 197.

⁷² Axel Anthon Björnbo, “Die mathematischen S. Marcohandschriften in Florenz,” *Bibliotheca Mathematica*, 3rd ser., 12 (1911-12), 194.

f. 46^v–: a different astrolabe construction text (inc.: “Accipe tabulam de quacumque ...”)⁷³
16th cent.⁷⁴

Fγ

Firenze, Biblioteca Riccardiana, ms. 868 [=L.II.1]

ff. 34ra-35vb: *Practica* [?]

15th cent.⁷⁵

Fε

Firenze, Biblioteca Riccardiana, ms. 885

ff. 104^r-107^r: *Compositio*, Proemium – Cap. 7 line 14 (“... sitque omnis quarta circuli”).

14th cent.⁷⁶

Fδ

Göttingen, Niedersächsische Staats- und Universitätsbibliothek, ms. Theol. 124

ff. 143^v-145^{rb}: a different astrolabe construction text, inc.: “Accipe rotulas ...”

ff. 145^{rb}-145^{vb}: *Compositio*, Cap. 14, 15, 20

ff. 145^{vb}, 146^{rb}-147^{vb}, 143^{rb}: *Practica*

ff. 145^{vb}-146^{rb}: other astrolabe material

14th cent.⁷⁷

Gα

Karlsruhe, Badische Landesbibliothek, ms. EM [= Ettenheim-Münster] 32

ff. 111^r-117^v: *Practica*

ff. 106^r-111^r contains a different astrolabe text, inc. “Pro confectione astrolabii accipe tabulam”⁷⁸

⁷³ Thorndike and Kibre, item 25-31.

⁷⁴ Kristeller, *Iter Italicum*, 1: 197.

⁷⁵ Kristeller, *Iter Italicum*, 1: 180.

⁷⁶ Francis S. Benjamin jr. and G. J. Toomer, *Campanus of Novara and Medieval Planetary Theory: Theorica planetarum* (Madison: University of Wisconsin Press, 1971), p. 90.

⁷⁷ *Verzeichnis der Handschriften im Preussischen Staate*, 1: Hannover, pt. 2: Göttingen (Berlin, 1893), vol. 2, p. 364.

⁷⁸ Thorndike and Kibre, item 1130-17.

15th cent. end⁷⁹

Kα

Kraków, Biblioteka Jagiellońska, ms 551 (*olim* DD.III.62)

ff. 30^{vb}-31^{vb}

Practica, 1-26

ff. 32^{ra}-34^{va}: *Practica* (not Pseudo-Masha'allah)

ff. 56^{ra}-57^{rb}: *Canones* (not Pseudo-Masha'allah)

AD 1388 (fol. 30^{vb})⁸⁰

Kγ

Kraków, Biblioteka Jagiellońska, ms 601 (*olim* DD.IV.5)

ff. 57^v-60^v: *Practica*

ca. 1474⁸¹

Kδ

Kraków, Biblioteka Jagiellońska, ms 715 (*olim* DD.III.11)

ff. 28^v-31^r (*olim* pp. 56-64): *Practica* (complete; but perhaps Johannes Hispalensis version)

ff. 31^r (*olim* p. 64): unknown astrolabe item

ff. 31^v-34^r (*olim* pp. 65-70): Another astrolabe text, inc.: "Astrolabium ita construitur. Recipe tabulas de auricalco ..." ⁸²

ca. 1360-1370 AD⁸³

Kε

Kraków, Biblioteka Jagiellońska, ms 1915 (*olim* BB.XXV.2)

ff. 53^v-57^v (*olim* pp. 106-114): *Practica* (complete; but perhaps Johannes Hispalensis version)

15th cent.⁸⁴

Kθ

⁷⁹ Karl Preisendanz, *Die Handschriften der Badischen Landesbibliothek in Karlsruhe*, 9: *Die Handschriften des Klosters Ettenheim-Münster*, 2nd ed. (Wiesbaden: Harrassowitz, 1973), pp. 16, 100-101.

⁸⁰ *Catalogus Codicum Manuscriptorum Medii Aevi Latinorum qui in Bibliotheca Jagellonica Cracoviae Asservantur*, vol. 3 (Wratislav, etc.: Ossolinianum, 1984), p. 333.

⁸¹ *Catalogus ... Jagellonica*, vol. 4 (1988), p. 176.

⁸² Thorndike and Kibre, item 155-8.

⁸³ *Catalogus ... Jagellonica*, vol. 5 (1993), p. 154.

⁸⁴ Notice with microfilm.

Kraków, Biblioteka Jagiellońska, ms 1970 (*olim* BB.XXIII.13)

pp. 1-12: *Practica*, Cap. 5 line 6 (“| quantitas diei et noctis ...”) –

pp. 12-13: unknown astrolabe item

pp. 13-24: another astrolabe text, inc.: “Astrolabium ita construitur. Recipe tabulas de auricalco ...”⁸⁵

14th cent.⁸⁶

Kι

Leyden, Bibliotheek der Rijksuniversiteit, ms. Scaligerani 64

f. 120v: Star List 3-A

[does not contain the Pseudo-Masha'allah text]

14th cent.⁸⁷

Lα

London, British Library, ms. Arundel 268

ff. 49^{ra}-56^{va}: *Compositio* (missing a folio between 50^v and 51^r, i.e., Cap. 5 line 12 – Cap. 7 line 59)

ff. 57^{va}-61^{rb}: *Practica* (complete)

13th/14th cent.⁸⁸

Lβ

London, British Library, ms. Egerton 844 (*olim* Cambridge, Trinity College, ms. 1216 / O.3.44)

ff. 58^{ra}-71^{ra}: *Compositio*

ff. 71^{ra}-77^{rb}: *Practica*

14th cent.⁸⁹

Lγ

London, British Library, ms. Egerton 2622

ff. 169^v-173^v: *Practica*, Prologue to Cap. 21 line 1: “... vel latitudine regionis|”

⁸⁵ Thorndike and Kibre, item 155-8.

⁸⁶ Notice with microfilm.

⁸⁷ *Bibliotheca Universitatis Leidensis. Codices manuscripti: 2. Codices Scaligerani*, ed. P. C. Molhuysen (Leiden, 1910), p. 25

⁸⁸ *Catalogue of Manuscripts in the British Museum. New Series 1, part 1. The Arundel Manuscripts* (London, 1834), pp. 79-80.

⁸⁹ James, *The Western Manuscripts in the Library of Trinity College, Cambridge*. 3: 226.

15th cent.⁹⁰

Lδ

London, British Library, ms. Harley 3647

ff. 63^{ra}-75^{rb}: *Compositio*

f. 72^v: Star List 1

f. 73^r: Star List 2

ff. 75^{va}-81^{ra}: *Practica*

13th cent.⁹¹

Lε

London, British Library, ms. Royal 12.C.ix

f. 30^v: Star List 1-A

ff. 38^{ra}-41^{rb}: *Practica*

ff. 41^{va}-49^v: *Compositio* (missing Cap. 17 and 19);⁹²

early 14th cent.⁹³

Lζ

London, British Library, ms. Royal 12.C.xvii,

ff. 95^{ra}-110^{ra}: *Compositio*

110^{ra}-118^{rb}: *Practica*

beginning of 14th cent.⁹⁴

Lη

London, British Library, ms. Sloane 513

ff. 15^v-19^v: *Practica*

15th cent.⁹⁵

Li

⁹⁰ *Catalogue of Additions to the Manuscripts in the British Museum in the years MDCCCLXXXII – MDCCCLXXXVII* (London, 1889), pp. 349-350.

⁹¹ *A Catalogue of the Harleian Manuscripts in the British Museum* (London, 1808), 3: 48.

⁹² In ms Lζ the later capitula are ordered ... 15, 16, 20, 21, 22, 18. Cap. 17 and 19 are missing.

⁹³ George F. Warner and Julius P. Gilson, *British Museum. Catalogue of Western Manuscripts in the Old Royal and King's Collections* (London, 1921), 2: 25-26.

⁹⁴ Warner and Gilson, 2: 31-32.

⁹⁵ Edward J. L. Scott, *Index to the Sloane Manuscripts in the British Museum* (London, 1904), p. 26

London, Middle Temple, ms. 75 (*olim* Anc. 5)

ff. 132^v: *Compositio*, Prologue lines 1-4

ff. 132^v-133^r and 136^r-140^r: *Practica*, Prologue and Cap. 1-28.

14th/15th cent. (ca. 1390).⁹⁶

Lκ

London, Wellcome Library, ms. 19

ff. 104^{va}-107^{va} (*olim* 94^{va}-97^{va})⁹⁷: *Practica*, but it appears to be the set of Johannes Hispalensis.

AD 1332⁹⁸

Lλ

Lüneburg, Ratsbücherei, ms. Misc. D.2^o.11

ff. 69^{va}-73^{va}: *Practica*

15th cent.⁹⁹

Lμ

Madrid, Biblioteca Nacional, ms. 10009 (*olim* Toledo, Biblioteca Capitular, ms. 98-20)

ff. 20^{rb}-23^{ra}: *Practica*, incomplete set, irregular order (type B)

ff. 17^{rb}-20^{rb}: a different astrolabe text, possibly translated by Johannes Hispanus.¹⁰⁰

13th cent.¹⁰¹

Mα

⁹⁶ Ker, 1 (1969): 158-162

⁹⁷ There are three sets of numbering on each folio: an old numbering ("*olim*") in the top right corner, cancelled; a new numbering in the top right corner (caused by the insertion of 10 folios early in the manuscript); and a repeat of the old numbering (not cancelled) at the bottom centre.

⁹⁸ Fol. 107^{va}. S. A. J. Moorat, *Catalogue of Western Manuscripts on Medicine and Science in the Wellcome Historical Medical Library* (London, 1962), 1: 13-14.

⁹⁹ Martin Wierschin, *Handschriften der Ratsbücherei Lüneburg. [1] Miscellanea und Historica* (Wiesbaden: Harrassowitz, 1969), pp. 21-27.

¹⁰⁰ Published in José M.^a Millás Vallicrosa, *Las traducciones orientales en los manuscritos de la Biblioteca Catedral de Toledo* (Madrid, 1942), pp. 313-321.

¹⁰¹ Millás Vallicrosa, pp. 166-180.

Manchester, University of Manchester, John Rylands Library, ms. 67¹⁰²

ff. 218^r-226^v: *Compositio*

ff. 226^v-231^r: *Practica*

AD 1474¹⁰³

Mδ

Mantova, Biblioteca Comunale Teresiana, ms. 125 (*olim* A IV 31)

ff. 13^{rb}-17^{vb}: *Compositio* (f. 16 missing; gap from Cap. 9 line 20 to Cap. 13 line 4)

ff. 18^{ra}-21^{vb}: *Practica*, Cap. 1–

15th cent.¹⁰⁴

Mγ

Melk, Benediktinerstift, ms. 601 (*olim* 51; *olim* B 16)

f. 17^v: *Compositio*, Cap. 22

ff. 9^r-17^r: Another astrolabe construction, inc.: “Cum ascensiones signorum vel cuiuslibet signi vel”¹⁰⁵

ff. 18^r-26^v: Astrolabe, *Practica*, possibly by Christinus de Prachatitz, Robert of Chester or Prodocimo de Beldomandi.

beginning of 15th cent.¹⁰⁶

Mζ

Milano, Biblioteca Pinacoteca Accademia Ambrosiana, ms. H.75.Sup.

ff. 34^{ra}-46^{va}: *Compositio*

ff. 43^v-44^r: Star List 1

f. 44^r: Star List 2

ff. 46^{va}-51^{vb}: *Practica*

¹⁰² Note: Manuscripts 66 and 67 form a pair, foliated continuously but bound in 2 volumes. M. R. James, *A Descriptive Catalogue of Latin Manuscripts in the John Rylands Library, Manchester* (Manchester, 1921), pp. 128-129.

¹⁰³ Ibid.

¹⁰⁴ Kristeller, *Iter Italicum*, 1: 272.

¹⁰⁵ Thorndike and Kibre, item 284-5.

¹⁰⁶ See Christine Glassner, *Inventar der Handschriften des Benediktinerstiftes Melk, Part 1, Von den Anfängen bis ca. 1400. Katalogband*, Österreichische Akademie der Wissenschaften, Philosophisch-historische Klasse, Denkschriften 285 (Wien: Österreichische Akademie der Wissenschaften, 2000), pp. 270-275.

AD 1284¹⁰⁷

Mη

Milano, Biblioteca Pinacoteca Accademia Ambrosiana, ms. H.109.Sup.

ff. 1^r-7^r: *Compositio*, Proemium – Cap. 16

f. 17^v: Star List 1-A – “Hec tabula apud¹⁰⁸ tractatum astrolabii Messahale”

15th cent.¹⁰⁹

Mθ

Milano, Biblioteca Pinacoteca Accademia Ambrosiana, ms. M.28.Sup.

ff. 92^v-97^r: *Practica*

14th cent.¹¹⁰

Mι

Milano, Biblioteca Pinacoteca Accademia Ambrosiana, ms. R.47.Sup.

ff. 126^r-132^v: *Compositio*, Proemium – Cap. 16

ff. 112^r-117^v: *Practica*; gloss continues onto f. 118^r

f. 119^v: Star List 3-B

13th cent.¹¹¹

Mκ

Montpellier, Bibliothèque Interuniversitaire, Section Médecine (*olim* Bibliothèque de la Faculté de Médecine), ms. H 323

ff. 74^r-90^r: *Compositio*¹¹²

f. 87^v: Star List 3-B

f. 88^v: Star List 2

ff. 90^v-98^v: *Practica* (complete; irregular order);

13th/14th cent.¹¹³

Mλ

¹⁰⁷ *Inventario Ceruti dei manoscritti della Bibliotheca Ambrosiana*, 3 (Trezzano sul Naviglio, 1977), p. 466.

¹⁰⁸ Ms: aput

¹⁰⁹ *Inventario Ceruti*, 3: 652.

¹¹⁰ *Inventario Ceruti*, 4 (1978): 92

¹¹¹ *Inventario Ceruti*, 4: 648.

¹¹² In ms Mλ the later capitula are ordered ... 15, 19, 22, 18, 17, star list, 21, 20, 16.

¹¹³ *Catalogue général des manuscrits des bibliothèques publiques des départements*, 1 (Paris, 1849), p. 418.

München, Bayerische Staatsbibliothek, Clm 353

ff. 41^{ra}-49^{ra}, 54^{ra-rb}: *Compositio*¹¹⁴

ff. 49^{ra}-52^{vb}: *Practica*

f. 53r: Star List 1-A,¹¹⁵ Star List 3-B

13th cent.¹¹⁶

Mv

München, Bayerische Staatsbibliothek, Clm 372

ff. 227^r-235^v: *Practica* complete; non-standard order

15th cent.¹¹⁷

Mμ

München, Bayerische Staatsbibliothek, Clm 572

ff. 1^r-19^r: *Compositio* (complete, with star list);

ff. 19r-27v: *Practica*

f. 28r: Star List 1

AD 1432¹¹⁸

Mo

München, Bayerische Staatsbibliothek, Clm 588¹¹⁹

ff. 137^{va}-141^{rb}: *Practica*, Cap. 1–

[ff. 137^{ra-va}: another astrolabe text, inc. “Quamvis artis astronomice iudicardi...”]¹²⁰

¹¹⁴ In ms Mv, *Compositio* Cap. 22 is found on f. 54^r, after the *Practica*.

¹¹⁵ Seven stars only.

¹¹⁶ Carolus Helm, et al., *Catalogus Codicum Latinorum Bibliothecae Regiae Monacensis*, 2nd ed., vol. 1, part 1 (Munich 1892), p. 93.

¹¹⁷ Carolus Helm, et al., *Catalogus Codicum*, 2nd ed., vol. 1, part 1 (1892), pp. 98-99.

¹¹⁸ Fol. 27v: Explicit astrolabium 1432 7^a die maii. And see Carolus Helm, et al., *Catalogus Codicum*, 2nd ed., vol. 1, part 1 (1892), p. 157.

¹¹⁹ The folios in ms Mπ are irregularly numbered. They are numbered regularly from 1 to the end, although there is an unnumbered folio between 29 and 30. However, there is a second set of numbers beginning on fol. 30 (“1”) which runs through to fol. 66 (“37”); then fol 67 has “39” running through to fol. 122 (“94”) where the second set of numbers stop.

As well there are two unnumbered folios between 158 and 159; two folios 196; and another unnumbered folio between 239 and 240.

¹²⁰ Thorndike and Kibre, item 1163-6.

14th cent.¹²¹

Mπ

München, Bayerische Staatsbibliothek, Clm 10661

ff. 159^r-161^r (*olim* ff. 83^r-85^r): *Compositio*, Cap. 17-22

15th/16th cent.¹²²

Mρ

München, Bayerische Staatsbibliothek, Clm 10662

ff. 154^r-157^r: *Compositio*, Cap. 17-18¹²³

AD 1436¹²⁴

Mσ

München, Bayerische Staatsbibliothek, Clm 10664

ff. 16^v-26^v: *Practica*

15th cent.¹²⁵

Mτ

München, Bayerische Staatsbibliothek, Clm 14583

ff. 410^r-418^r: *Compositio*

ff. 418^r-425^v: *Practica*

1445;¹²⁶ 1450¹²⁷

Mυ

München, Bayerische Staatsbibliothek, Clm 14684

ff. 82^v-92^r: *Compositio*

ff. 92^r-98^r: *Practica*

¹²¹ Carolus Helm, et al., *Catalogus Codicum*, 2nd ed., vol. 1, part 1 (1892), p. 159.

¹²² Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 1 (1874), p. 155.

¹²³ Ms Mσ contains two versions of Cap. 18.

¹²⁴ Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 1 (1874), p. 155.

¹²⁵ Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 1 (1874), p. 156.

¹²⁶ Fol. 410^r.

¹²⁷ Fol. 425^r. And see Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 2 (1876), p. 198.

14th cent.¹²⁸

Mφ

München, Bayerische Staatsbibliothek, Clm 19689

f. 66^r (olim 60^r): *Compositio*, Cap. 17

Fols. 38^r-65^v (olim 2^r-29^v): Johannes de Gmunden, astrolabe text.¹²⁹

Fols. 67^r- (olim 31^r-): Andreas Stiborius Boius, *Canones astrolabii*

16th cent.¹³⁰

Mχ

München, Bayerische Staatsbibliothek, Clm 19690

ff. 108^r-109^r: *Compositio*, Cap. 17-18

16th cent.¹³¹

Mψ

Napoli, Biblioteca Nazionale “Vittorio Emanuele III”, ms. VIII-C-36

ff. 29^{ra}-33^{va}: *Compositio*

ff. 33^{va}-36^{rb}: *Practica*

15th cent.¹³²

Nα

Napoli, Biblioteca Nazionale “Vittorio Emanuele III”, ms. VIII-C-43

ff. 43^r-52^r: *Practica*

14th cent.¹³³

Nβ

Napoli, Biblioteca Nazionale “Vittorio Emanuele III”, ms. VIII-G-86

ff. 120^r-126^r: *Practica*

¹²⁸ Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 2 (1876), p. 217.

¹²⁹ Thorndike and Kibre, entry 1294-2.

¹³⁰ Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 3 (1878), p. 269.

¹³¹ Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 3 (1878), p. 269.

¹³² Kristeller, *Iter Italicum*, 6: 104.

¹³³ Kristeller, *Iter Italicum*, 6: 104.

AD 1481¹³⁴

Nγ

New Haven, Yale University, Cushing/Whitney Medical Library – Medical Historical Library, ms.

25 (*olim* Salzburg, Stiftsbibliothek Sankt Peter, Incunabula 800¹³⁵)

ff. 109^r-114^v: *Practica* (complete); prologue may be different

ff. 108^r-109^r: a different composition text, missing its beginning.

15th cent.¹³⁶

Nε

Ottobeuren, Bibliothek der Benediktinerabtei, ms. O. 86 (*olim* II 319 / F 319)

ff. 143^v-150^v: *Practica*; non-standard order

15th cent. (ca. 1466)¹³⁷

Oβ

Oxford, Bodleian Library, ms. Ashmole 340

ff. 29^r-38^r: *Practica*

late 15th cent.¹³⁸

Oγ

Oxford, Bodleian Library, ms. Ashmole 1522

ff. 80^{ra}-95^{ra}: *Compositio*

ff. 95^{ra}-101^{vb}: *Practica*

14th cent., first half¹³⁹

Oζ

¹³⁴ Cesare Cenci, *Manoscritti Francescani della Biblioteca Nazionale di Napoli* (Grottaferrata: Collegii S. Bonaventurae ad Clara Aquas, 1971), 2: 862.

¹³⁵ Folios 1-131 contain manuscript material and folios 132+ contain printed material, hence its classification as an incunabula.

¹³⁶ Fol. 61^v: AD 1433. See C. U. Faye and W. H. Bond, *Supplement to the Census of Medieval and Renaissance Manuscripts in the United States and Canada* (New York: Bibliographic Society of America, 1962), pp. 58-59, no. 25: "ca. 1450."

¹³⁷ Hermann Hauke, *Die mittelalterlichen Handschriften in der Abtei Ottobeuren* (Wiesbaden, 1974), pp. 84-86.

¹³⁸ William Henry Black, *A Descriptive, Analytical, and Critical Catalogue of the Manuscripts Bequeathed unto the University of Oxford by Elias Ashmole ...* (Oxford, 1845), col. 233.

¹³⁹ Black, col. 1425.

Oxford, Bodleian Library, ms. Ashmole 1796

ff. 40^v-48^v: *Compositio*, Proemium – Cap. 16

ff. 48^v-55^v: *Practica* (non-standard order)

end of 14th cent./beginning of 15th cent.¹⁴⁰

Oη

Oxford, Bodleian Library, ms. Bodley 430

ff. 42^r-45^v: *Compositio*, Proemium – Cap. 16

ff. 45^v-47^r: additional astrolabe material not yet identified.¹⁴¹

13th cent.¹⁴²

Oα

Oxford, Bodleian Library, ms. Bod. 464

ff. 134^r-139^v: *Practica*

ca. 1318¹⁴³

Oι

Oxford, Bodleian Library, ms. Canon. Misc. 61

f. 1^r: Star List 3-B

ff. 1^v-8^v: *Compositio*, Proemium – Cap. 16

15th cent.¹⁴⁴

Oκ

Oxford, Bodleian Library, ms. Digby 28

ff. 212^v-215^v: *Compositio*, Proemium – Cap. 7 line 9 (“... et ista erunt diametra”) [manuscript ends]

beginning of the 14th cent.¹⁴⁵

Oμ

¹⁴⁰ Black, col. 1505.

¹⁴¹ This manuscript contains a large number of marginal glosses and insertions. Only when the material forms part of the normal text is it transcribed. The additional (and unique?) glosses have not been noted.

¹⁴² Falconer Madan, et al., *A Summary Catalogue of Western Manuscripts in the Bodleian Library at Oxford* (Oxford, 1922), vol. 2, part 1, p. 325.

¹⁴³ Madan, et al., *Summary Catalogue*, vol. 2, part 1, p. 375.

¹⁴⁴ Henry Coxe, *Catalogi Codicum Manuscriptorum Bibliothecae Bodleianae. Part 3: Codices ... Canonicianos* (Oxford, 1854), col. 473.

¹⁴⁵ William Macray, *Catalogi Codicum Manuscriptorum Bibliothecae Bodleianae. Part 9: Codices ... Kenelm Digby* (Oxford, 1883), col. 23.

Oxford, Bodleian Library, ms. Digby 38

ff. 73^r-76^v: *Practica*, Proemium to Cap. 38 [end of a section in the ms]

14th cent.¹⁴⁶

Ov

Oxford, Bodleian Library, ms. Digby 207

ff. 16^r-22^r: *Compositio*

ff. 22^r-24^v: *Practica*

beginning of the 14th cent.¹⁴⁷

Oξ

Oxford, Bodleian Library, ms. Digby 215

ff. 44^{va}-46^{ra}: *Compositio*, Proemium – Cap. 7 li ne 14 (“... sitque omnis quarta circuli”).

15th cent.¹⁴⁸

Oo

Oxford, Bodleian Library, ms. Savile 16

ff. 49^r-50^v: *Compositio*, Proemium – Cap. 10 line 6, “... abscindant se super E, et”

13th cent.¹⁴⁹

Oπ

Oxford, Bodleian Library, ms. Savile 17

ff. 11^v-21^v: *Practica*

f. 11^{r-v}: chapter list

15th cent., first half¹⁵⁰

Oq

Oxford, Bodleian Library, ms. Savile 21

ff. 104^r-109^v: *Compositio*, Proemium – Cap. 16

ff. 109^v-111^r: other astrolabe material

ff. 111^r-115^r: *Practica*, incomplete set, irregular order (type B)

ff. 116^v-117^r: astrolabe diagrams

¹⁴⁶ Macray, *Catalogi Codicum Part 9: Digby*, col. 34.

¹⁴⁷ Macray, *Catalogi Codicum Part 9: Digby*, col. 224.

¹⁴⁸ Macray, *Catalogi Codicum Part 9: Digby*, col. 228.

¹⁴⁹ Madan, et al., *Summary Catalogue* (Oxford, 1937), vol. 2, part 2, p. 1103.

¹⁵⁰ Madan, et al., *Summary Catalogue*, vol. 2, part 2, p. 1104.

13th cent.¹⁵¹

Oσ

Oxford, Bodleian Library, ms. Selden Supra 78

ff. 51^r-63^v: *Compositio*

ff. 64^r-70^r: *Practica*

early 14th cent.¹⁵²

Oτ

Oxford, Bodleian Library, ms. Tanner 192

ff. 76^{va}-88^{vb}: *Compositio*

ff. 88^{vb}-95^{vb}: *Practica*

14th cent.¹⁵³

Oυ

Oxford, Magdalene College, ms. 182

ff. 103^{ra}-104^{vb}: *Compositio*, Cap. 13 line 10 (“iunges H cum M ...”) – Cap. 16; Cap. 20-21

ff. 105^{ra}-109^{rb}: *Practica*, Cap. 1–

15th cent.¹⁵⁴

Oφ

Oxford, Merton College, ms. 259

ff. 90^v-94^v: *Practica* (not standard)

ff. 89^v-90^v: other astrolabe material¹⁵⁵:

13th cent.¹⁵⁶

Oχ

Oxford, St. John’s College, ms. 188

ff. 97^{ra}-101^v(?) Unidentified *Practica* (not Pseudo-Masha’allah)

¹⁵¹ Madan, et al., *Summary Catalogue*, vol. 2, part 2, p. 1106.

¹⁵² Madan, et al., *Summary Catalogue*, vol. 2, part 1, p. 645.

¹⁵³ Alfred Hackman, *Catalogi Codicum Manuscriptorum Bibliothecae Bodleianae. Part 9: Codices ... Thomae Tanneri* (Oxford, 1860), col. 630.

¹⁵⁴ Henry Coxe, *Catalogus Codicum MSS qui in Collegiis Aulisque Oxoniensibus hodie adservantur* (Oxford, 1852), 2: “Collegii B. Mariae Magdalенаe,” p. 82; see also draft catalogue for more details.

¹⁵⁵ Fol. 89v-90v contains Johannes Hispalensis, *De constructione astrolabii*, inc. “Astrologie speculationis exercitium habere volentiubs” (Thorndike and Kibre, item 156-4/9).

¹⁵⁶ Coxe, *Catalogus ... Collegiis*, 1: “Collegii Mertonensis,” p. 102.

f. 98^v: Star List 3-B
 13th cent.¹⁵⁷
 Oψ

Paris, Bibliothèque nationale de France, ms. fr. 12481
 ff. 78^v-83^r: *Practica*
 14th cent.¹⁵⁸
 Pβ

Paris, Bibliothèque nationale de France, ms. lat. 7194
 ff. 46^{ra}-62^{va}: *Compositio*
 ff. 57^{va}-62^{va}: *Practica*
 14th cent.¹⁵⁹
 Pγ

Paris, Bibliothèque nationale de France, ms. lat. 7195
 ff. 44^{ra}-54^{rb}: *Compositio*
 f. 54^{r-v}: Star List 1
 f. 55^r: Star List 2
 ff. 55^{va}-61^{ra}: *Practica*
 14th cent.¹⁶⁰
 Pδ

Paris, Bibliothèque nationale de France, ms. lat. 7196
 ff. 35^{va}-35^{vb}: *Practica*: Prologue to Cap. 3 line 3: "... ex parte orientis si altitudo sit a |" (end of folio / end of ms)
 14th cent.¹⁶¹
 Pε

Paris, Bibliothèque nationale de France, ms. lat. 7198
 ff. 8^{ra}-10^{va}: *Practica*

¹⁵⁷ Coxe, *Catalogus ... Collegiis*, 2: "Collegii S. Johannis Baptistae," p. 63.

¹⁵⁸ Henri Dumont and C. Couderc, *Bibliothèque Nationale. Catalogue général des manuscrits français. Ancien supplément français II, Nos. 9561-13090 du fonds français* (Paris, 1896), p. 544.

¹⁵⁹ Hahn, p. 197.

¹⁶⁰ Hahn, p. 197.

¹⁶¹ Lynn Thorndike, "Notes on some Astronomical, Astrological and Mathematical Manuscripts of the Bibliothèque Nationale, Paris," *Journal of the Warburg and Courtauld Institutes* 20 (1957), p. 112.

late 13th cent.¹⁶²

Pζ

Paris, Bibliothèque nationale de France, ms. lat. 7280

ff. 73^r-78^{ra}: *Compositio*

ff. 78^{ra}-81^{rb}: *Practica*

ff. 81^v-82^r: Star List 1

f. 82^r: Star List 2

14-15th cent.¹⁶³

Pθ

Paris, Bibliothèque nationale de France, ms. lat. 7292

ff. 296^{vb}-300^{va}: *Practica*

15th cent.¹⁶⁴

Pι

Paris, Bibliothèque nationale de France, ms. lat. 7294

ff. 30^r-30^v, 4^r-7^v: *Practica*; begins “Scribitur primo Posteriorum: In omni scientia”

15th cent.¹⁶⁵

Pκ

Paris, Bibliothèque nationale de France, ms. lat. 7295A

ff. 49^r-62^r: *Compositio*

15th cent.¹⁶⁶

Pλ

Paris, Bibliothèque nationale de France, ms. lat. 7298

ff. 61^{va}-70^{vb}: *Compositio*

ff. 70^{vb}-75^{va}: *Practica*

¹⁶² Fritz S. Pedersen, *The Toledan Tables*, Part 3, *Historisk-filosofiske Skrifter* 24:3 (Copenhagen: Det Kongelige Videnskabernes Selskab, 2002), p. 795.

¹⁶³ Francis S. Benjamin, Jr., and G. J. Toomer, eds., *Campanus of Novara and Medieval Planetary Theory. Theorica planetarum* (Madison: University of Wisconsin Press, 1971), pp. 117-119.

¹⁶⁴ Charlesw Samaran and Robert Marichal, *Catalogue des manuscrits en écriture latine portant des indications de date, de lieu ou de copiste* (Paris, 1962), 2: 514.

¹⁶⁵ Hahn, p. 198.

¹⁶⁶ Benjamin and Toomer, pp. 83-85.

14th cent.¹⁶⁷

Pμ

Paris, Bibliothèque nationale de France, ms. lat. 7336

ff. 301^r-320^{ra}: *Compositio*

320^{rb}-326^{v168}: *Practica*

15th cent.¹⁶⁹

Pν

Paris, Bibliothèque nationale de France, ms. lat. 7378A

ff. 86^{ra}-89^{rb}: *Practica*, Cap. 1–

14th cent.¹⁷⁰

Pξ

Paris, Bibliothèque nationale de France, ms. lat. 7413(1)

ff. 1^r-13^r: *Compositio*

f. 10^{va}: Star List 3-B

ff. 10^{vb}-11^r: Star List 1-A

f. 11^r: Star List 2

ff. 13^v-18^v: *Practica*

late 13th cent.¹⁷¹

Pο

Paris, Bibliothèque nationale de France, ms. lat. 7413(2)

f. 75^{vb}: *Compositio*, Proemium lines 1 to 16 (“...in septimo climate”)

found in last column on last folio verso of ms; crossed out by several vertical lines

f. 36^r: unidentified star list

f. 36^v: Star Lists 3-A and 3-B (conflated)

13th cent.¹⁷²

Pπ

¹⁶⁷ Benjamin and Toomer, pp. 86-89.

¹⁶⁸ Fol. 326v is also numbered “327”, and what would normally be 327v is numbered “328”. After this, the folio numbering is normal.

¹⁶⁹ Hahn, p. 198.

¹⁷⁰ Petrus Peregrinus de Maricourt, *Opera*, ed. Loris Sturlese and Ron B. Thomson (Pisa: Scuola Normale Superiore, 1995), p. 26.

¹⁷¹ Léopold Delisle, *Catalogue des manuscrits des fonds Libri et Barrois* (Paris, 1888), p. 223.

¹⁷² Delisle, *Catalogue ... Barrois*, p. 225.

Paris, Bibliothèque nationale de France, ms. lat. 7414¹⁷³

ff. 9^r/1^r-35^v/27^v: *Compositio*

ff. 36^r/28^r-[48^v]/40^v: *Practica*

AD 1512¹⁷⁴

Pq

Paris, Bibliothèque nationale de France, ms. lat. 7416¹⁷⁵

ff. 1^r-7^v: *Practica*

ca AD 1460¹⁷⁶

Pσ

Paris, Bibliothèque nationale de France, ms. lat. 7416B

ff. 75^{va}-79^{ra}: *Practica* (1-47)

ff. 79^{ra}-86^{rb}: *Compositio*

f. 86^{ra}: Star List 3-B

f. 86^{rb}: Star List 2

13th-14th cent.¹⁷⁷

Pτ

Paris, Bibliothèque nationale de France, ms. lat. 7421

ff. 62^r-79^v (*olim* 61^r-78^v): *Compositio*

ff. 79^v-80^r (*olim* 78^v-79^r): Star List 1

ff. 80^v (*olim* 79^v): Star List 2

ff. 81^r-89^v (*olim* 80^r-88^v): *Practica*

14th cent.¹⁷⁸

Pυ

¹⁷³ The folios in ms Pq are irregularly numbered. The manuscript begins with “1”, “2”, “3”, etc. but on fol. 9r, a second number system of “1”, “2”, “3”, etc. begins. The first system ends at fol. 39 (where only “3” appears), which is also fol. 31 of the second system; the second system then continues through to the end of the manuscript.

¹⁷⁴ Fol. 40v.

¹⁷⁵ Sometimes designated “7416(1)” or “7416A”.

¹⁷⁶ Emmanuel Poule, *Les Instruments de la théorie des planètes selon Ptolémée: Équatoires et horlogerie planétaire du xiii^e au xv^e siècle* (Geneva: Droz / Paris: Champin, 1980), 2: 812-813.

¹⁷⁷ Benjamin and Toomer, p. 16 n. 58.

¹⁷⁸ Benjamin and Toomer, p. 16 n. 58.

Paris, Bibliothèque nationale de France, ms. lat. 10266

ff. 126^r-138^r: *Compositio*, Proemium – Cap. 16

ff. 139^r-147^r: *Practica*, Cap. 1– ; slightly different order.

f. 29^{r-v}: a version of the introduction to the *Practica* with a different set of uses

15th cent.¹⁷⁹

Pφ

Paris, Bibliothèque nationale de France, ms. lat. 16649

ff. 181^v-189^v: *Practica*, different introduction, cc. 1-47; inc: “Scribitur primo Posteriorum ...”

ff. 171^r-175^v: a different astrolabe text, inc.: “Astrolabium ita componitur seu constitur.

Accipe tabulas de auricalco ...”¹⁸⁰

16th cent.¹⁸¹

Pχ

Paris, Bibliothèque nationale de France, ms. lat. 16652

ff. 2^r-6^r: *Compositio*, Cap. 4 line 28 (“certissime, ac propter hoc sit aliquem ...”) – Cap. 16

[the first folio of the text seems to be missing]

13th cent.¹⁸²

Pψ

Paris, Bibliothèque nationale de France, ms. n.a.l. 595

ff. 27^r-27^v: *Practica*, Prologue

ff. 28^r-39^r: different practica text

14-15th cent.¹⁸³

Pω

Paris, Bibliothèque nationale de France, ms. n.a.l. 693

ff. 9^r-13^v: *Compositio*, Proemium – Cap. 16

f. 13^v: Star List 3-B

ff. 13^v-14^r: *Practica*, Cap. 3 and Cap. 37

ff. 14^r-15^r: some other unidentified astrolabe material

¹⁷⁹ Léopold Delisle, *Inventaire des manuscrits latins conservés à la Bibliothèque nationale sous les numéros 8823-18613* (Paris, 1863-1871), part 1, p. 67.

¹⁸⁰ This version is not in Thorndike and Kibre; see column 155.

¹⁸¹ Delisle, *Inventaire ... 8823-18613*, part 4, p. 72.

¹⁸² Delisle, *Inventaire ... 8823-18613*, part 4, p. 72.

¹⁸³ Henri Omont, “Nouvelles acquisitions des manuscrits de la Bibliothèque nationale pendant les années 1894-1895,” *Bibliothèque de l’École des Chartes*, 57 (1896), p. 171.

13-14th cent.¹⁸⁴

Qα

Paris, Bibliothèque nationale de France, ms. n.a.l. 1893

ff. 48^{va}-60^{rb}: *Compositio*

57^v-58^v: Star List 1

60^{va}-65^{rb}: *Practica*

14th cent.¹⁸⁵

Qβ

Paris, Bibliothèque Sainte-Geneviève, ms. 1043

ff. 65^{ra}-76^{rb}: *Compositio*

ff. 76^{rb}-80^{rb}: *Practica*

13th cent.¹⁸⁶

Pα

Paris, Bibliothèque de la Sorbonne, ms. 595

ff. 68^{ra}-82^{ra}: *Compositio*

ff. 82^{ra}-88^{ra}: *Practica*

14th cent.¹⁸⁷

Qγ

Parma, Biblioteca Palatina, ms. 984 (*olim* HH.III.17)

ff. 115^r-130^v: *Compositio*

f. 125^v: Star List 1

f. 126^r: Star List 2

ff. 126^v-130^v: *Practica*

15th cent.¹⁸⁸

Qδ

Pommersfelden, Gräflich Schönbornsche Schlossbibliothek ms. 66 (2640)

ff. 109^{rb}-113^v: *Practica*

ff. 106^r-108^r: John of Seville, *De constructione astrolabii*, inc.: "Astrologice speculationis

¹⁸⁴ Lynn Thorndike, "Notes on Some Astronomical, Astrological, and Mathematical Manuscripts of the Bibliothèque Nationale, Paris," *Journal of the Warburg and Courtauld Institutes*, 20 (1957), pp. 160-161

¹⁸⁵ Hahn, p. 197.

¹⁸⁶ Hahn, p. 196.

¹⁸⁷ Hahn, p. 198.

¹⁸⁸ Benjamin and Toomer, pp.81-83.

- exercitium habere volentibus ...”¹⁸⁹
 early 14th cent. (ca. AD 1306)¹⁹⁰
 Qε
- Praha, Knihovna Metropolitní Kapituli,¹⁹¹ ms. L.29¹⁹²
 ff. 63^{vb}-65^{vb}: *Practica*, Cap. 1 – (irregular order)
 AD 1374-76¹⁹³
 Qζ
- Praha, Národní knihovna České Republiky, ms. V.G.18¹⁹⁴
 ff. 6^r-11^r: *Practica*, Cap. 1–; non standard order
 ff. 1^r-6^r: Astrolabe treatise, inc.: “Astrolabium sic construitur. Accipe ...”¹⁹⁵
 end of 14th cent.¹⁹⁶
 Qη
- Praha, Národní knihovna České Republiky, ms. X.A.23¹⁹⁷
 ff. 63^r-68^r: *Practica* (complete)
 f. 62^v: List of chapter rubrics.
 end of 14th cent.¹⁹⁸
 Qθ

¹⁸⁹ Thorndike and Kibre, entry 156-9.

¹⁹⁰ Dated “1306,” bottom margin of f. 84v. See Charles Burnett, “Latin Alphanumerical Notation, and Annotation in Italian in the Twelfth Century: Ms London, British Library, Harley 5402,” in *Sic Itur ad Astra. Festschrift für den Arabisten Paul Kunitzsch zum 70. Geburtstag*, ed. Menso Folkerts and Richard Lorsch (Wiesbaden: Harrassowitz, 2000), p. 82.

¹⁹¹ Now housed in the Prague Castle Archives.

¹⁹² Catalogue entry 1272.

¹⁹³ Ant. Podlaha, *Soupis Rukopisů Knihovny Metropolitní Kapitoly Pražské* (Prague, 1922), 2: 217.

¹⁹⁴ *Olim* Y.III.4 no. 56; catalogue entry 970.

¹⁹⁵ Thorndike and Kibre, entry 155-7.

¹⁹⁶ Josef Truhlář, *Catalogus codicum manu scriptorum Latinorum ...* (Prague, 1906), 1: 404.

¹⁹⁷ *Olim* Y.II.3 n. 23; catalogue entry 1826.

¹⁹⁸ Truhlář, 2: 40.

Praha, Národní knihovna České republiky, ms. XIII.F.24¹⁹⁹

ff. 90^{ra}-91^{va}: *Practica*, Proemium – Cap. 22 line 3 (“... ut dictum est prius|”)

ff. 82^{ra}-90/1^{va}: Astrolabe treatise by John of Sacrobosco, inc.: “Astrolabium speculationibus exercitium ...”²⁰⁰

14th cent.²⁰¹

Qt

Princeton, Princeton University Library, ms. Garrett 99

ff. 180^r-192^r: *Compositio*

ff. 192^r-198^r: *Practica*

late 13th cent.²⁰²

Qλ

Private Collection

ff. 132-: *Compositio*

ff. – 157: *Practica*

(Purchased from H. P. Kraus, New York, 1980)

late 13th cent.²⁰³

Qμ

Ravenna, Biblioteca Classense, ms. 269

ff. 1^{ra}-16^v: *Compositio*, Proemium – Cap. 16; Cap. 19 – Cap. 22

f. 12^v: Star List 3-B

f. 13^r: Star List 2

ff. 17^{ra}-24^{va}: *Practica*

14th cent.²⁰⁴

Rα

¹⁹⁹ Catalogue entry 2362.

²⁰⁰ Thorndike and Kibre, entry 155-9a (from the later addenda). There are two folios 90 in the manuscript: fol. 90/1 followed by fol. 90.

²⁰¹ Truhlář, 2: 255.

²⁰² Typescript catalogue. Note on f. 162r dated AD 1297.

²⁰³ H. P. Kraus, *Science. Manuscripts Autographs Documents*, Catalogue 155 (New York, 1980), item 11, pp. 11-12.

²⁰⁴ Mazzatinti, *Inventari*, vol. 4, pp. 202-203

Rovigo, Biblioteca dell'Accademia dei Concordi, ms. Silvestriano 88 (*olim* Fondo Concordi, ms. 13; *olim* 6,4)²⁰⁵

ff. 70^r-79^v: *Compositio*, Proemium – Cap. 13 line 19 (“... pervenias ad punctum”)
15th cent., last quarter²⁰⁶
Rβ

Saint-Omer, Bibliothèque municipale, ms. 374

ff. 137^v-139^v: *Practica*
15th cent.²⁰⁷
Sα

Salamanca, Universidad de Salamanca, Biblioteca, ms. 2353

ff. 4^{vb}-6^{vb}: *Practica*
ff. 6^{vb}-12^{ra}: *Compositio*, Proemium – Cap. 16; Cap. 19 – Cap. 22
f. 10^{va}: Star List 3-B
f. 10^{vb}: Star List 2
fol. 12^{ra}: Another astrolabe text, inc. “Astrolabium ita construitur. Accipe rotulas ...”²⁰⁸
14th cent.²⁰⁹
Sβ

Salamanca, Universidad de Salamanca, Biblioteca, ms. 2621

f. 10^{ra}: variant on Star List 1 (not collated)²¹⁰
f. 10^{rb}: Star List of Jean Fusoris²¹¹

²⁰⁵ An extra “6” (i.e., 6,4,6) was added to this shelfmark, current between 1865 and 1893. The manuscript was also indexed on a card numbered “13” and it was sometimes erroneously referred to as “Concordi 13”. In the late 1920s or the early 1930s the current shelfmark came into use.

²⁰⁶ Nicoletta Giovè Marchioli and Leonardo Granata, *I manoscritti medievali delle province di Belluno e Rovigo* (Venice: Regione del Veneto; Tavarnuzze, Impruneta: SISMEL Edizioni del Galluzzo, 2010), p. 71.

²⁰⁷ *Catalogue général des manuscrits des bibliothèques publiques des départements* (Paris, 1861), 3: 182.

²⁰⁸ Thorndike and Kibre, entry 155-8.

²⁰⁹ Guy Beaujouan, *Manuscrits scientifiques médiévaux de l’université de Salamanca et de ses “colegios mayores”* (Bordeaux, 1962), p. 148; *Catálogo de Manuscritos de la Biblioteca Universitaria de Salamanca* (Salamanca: Ediciones Universidad de Salamanca, 2002), 2: 733.

²¹⁰ Kunitzsch, *Typen*, p. 54: VIIIg.

²¹¹ *Ibid.*, p. 5 note 8.

f. 115^v: Star List – Kunitzsch, Typ IX²¹²

f. 116^r: Star List 2

15th cent.²¹³

Sγ

Salamanca, Universidad de Salamanca, Biblioteca General, ms. 2662

ff. 67^{ra}-78^{vb}: *Compositio*

ff. 78^{vb}-84^{vb}: *Practica*

14th cent., end²¹⁴

Sδ

Sankt Gallen, Kantonsbibliothek Vadiana, ms. 412

ff. 93v-95r: Star List 1

f. 95v: Star List of Jean Fusoris²¹⁵

15th cent.²¹⁶

Sε

Sankt-Peterburg, Rossijskaja Nacionalnaja Biblioteka, ms. Lat O.v.IX n°. 2

ff. 6^v-18^r: *Compositio*, Proemium – Cap. 16

ff. 18^r-26^r: *Practica*

13th century²¹⁷

Sλ

Schlägl/Aigen-im-Mühlkreis, Bibliothek des Praemonstratenserstiftes, ms. Plagens [824] 236²¹⁸

ff. 158^r-172^r: *Practica*

²¹² Ibid, p. 59: IXg.

²¹³ *Catálogo ... Salamanca*, 2: 979.

²¹⁴ Beaujouan, *Salamanque*, p. 178; *Catálogo ... Salamanca*, 2: 1055.

²¹⁵ Kunitzsch, *Typen*, p. 5 note 8.

²¹⁶ Ibid., p. 53: VIIIi.

²¹⁷ Olga Bleskina, *Catalogus codicum manuscritorum latinorum, qui in Bibliotheca Publica Petropolitana asservantur ...* (St. Petersburg, 2011), pp. 177-178. The catalogue divides the text up into 10 different works; these are actually different chapters of the *Compositio*.

²¹⁸ Catalogue entry: 126.

ca. AD 1466²¹⁹

Sn

Sevilla, Biblioteca Capitulare y Colombina, ms 7-6-2 (*olim* BB-50-15)

ff. 121^r-131^r: *Compositio*

ff. 131^v-140^v: *Practica*

13th-14th centuries²²⁰

S0

Sevilla, Biblioteca Capitulare y Colombina, ms 7-7-2 (*olim* Z-137-40)

ff. 43^{ra}-49^{rb}: *Compositio*, Proemium – Cap 16

ff. 49^{rb}-51^{rb}: other astrolabe material

ff. 51^{rb}-55^r: *Practica*

14th-15th centuries²²¹

St

Stams, Stiftsbibliothek, ms. 13

ff. 78^{ra}-93^{ra}: *Compositio*

ff. 93^{ra}-101^{rb}: *Practica*

15th cent.²²²

Sκ

Toruń, Uniwersytetu Mikołaja Kopernica, Biblioteka Główna, ms. 74 (*olim* Königsberg, Staats- und Universitätsbibliothek, ms. Folio 1735)

ff. 200ra-204vb: *Canones de astrolabio conficiende* = *Practica* (type C)

15th cent.²²³

Tβ

Trier, Stadtbibliothek, ms. 1074/1271 (8°)

ff. 49^r-70^{vr} (*olim* 50^r-71^r): *Compositio*

f. 65^r (*olim* 66^r): Star List 1

²¹⁹ Godefreidus Vielhaber and Gerlacus Indra, *Catalogus codicum Plagensium (Cpl.) manuscriptorum* (Linz, 1918), p. 224.

²²⁰ José Francisco Sáez Guillén et al., *Catálogo de manuscritos de la Biblioteca Colombina de Sevilla* (Seville: Cabildo de la S.M. y P.I. Catedral de Sevilla, Institución Colombina, 2002), 1: 628.

²²¹ *Ibid.*, 1: 680.

²²² *A Checklist of Manuscripts from Stams Zisterzienser Stift ...* (Collegeville, MN: Monastic Manuscript Microfilm, St. John's University, circa 1974), p. 3

²²³ Zinner, *Verzeichnis*, entry 7059.

f. 65^v (*olim* 66^v): Star List 2
 ff. 70^v-81^v (*olim* 71^v-82^v): *Practica*
 15th cent.²²⁴
 Tδ

Uppsala, Universitetsbibliotek, ms. C 653

ff. 61^r-64^v: *Compositio*, Proemium – Cap. 9 line 3 (“... cuius rei exemplar”)
 ff. 214^{ra}-227^r: a different astrolabe text, inc. “Inquirentibus compositionem astrolabii modumque compositionis ...”²²⁵
 14th cent. (1388)²²⁶
 Uα

Vatican, Biblioteca Apostolica Vaticana, ms. Barb. lat. 156

ff. 198^r-206^r: *Compositio*, Proemium – Cap 16
 ff. 206^r-208^v: some other astrolabe material
 ff. 208^v-214^r: *Practica* (different ordering)
 15th cent.²²⁷
 Vα

Vatican, Biblioteca Apostolica Vaticana, ms. Barb. lat. 276

ff. 40^r-51^v: *Compositio*, Proemium – Cap. 7; fols. 91^r-109^r: Cap. 8 – 22²²⁸
 ff. 57^r-71^v: *Practica*
 ff. 51^r-56^v: a different astrolabe text, inc.: “Astrologice speculationis exercitium habere volentibus ...”²²⁹
 15th cent. (1473)²³⁰
 Vβ

²²⁴ Adolf Becker, *Beschreibendes Verzeichnis der Handschriften der Stadtbibliothek zu Trier, 7: Die deutschen Handschriften* (Trier, 1911), p. 141.

²²⁵ Not in Thorndike and Kibre.

²²⁶ Margarete Andersson-Schmitt, et al., *Mittelalterliche Handschriften der Universitätsbibliothek Uppsala. Katalog über die C-Sammlung* (Stockholm, 1993), 6: 214. On fol. 64^v, where our text ends, there is a “colophon” which reads “Pomponius Valerius scribus 1568” – but this is in a much later hand.

²²⁷ Theodore Silverstein, *Medieval Latin Scientific Writings in the Barbarini Collection: a Provisional Catalogue* (Chicago: University of Chicago Press, 1957), p. 34.

²²⁸ In ms Vβ the later capitula are ordered ... 16, 19, 20, 21, 17, 18, 22.

²²⁹ Thorndike and Kibre, entry 156-4/9.

²³⁰ Silverstein, p. 76; fol. 71^v = “1473”.

Vatican, Biblioteca Apostolica Vaticana, ms. Barb. lat. 303

ff. 79^{vb}-81^{rb}: *Practica*

13th cent. (?)²³¹

Vγ

Vatican, Biblioteca Apostolica Vaticana, ms. Borg. 312

ff. 15^{ra}-18^{ra}: *Compositio*, Proemium – Cap. 16

14th cent.²³²

Vε

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1353

ff. 72^r–

Practica (Ps.-Masha'allah?)

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1373

ff. 12^r-18^r: *Practica*

ff. 6^v-11^v: another astrolabe text

15th cent. (first quarter)²³³

Vη

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1376

ff. 331^v-334^v: astrolabe diagrams

ff. 335^r-339^{va}: *Compositio*

ff. 339^{vb}-342^{vb}: *Practica*

AD 1447²³⁴

Vι

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1381

ff. 137^r-146^v: *Compositio*, Proemium – Cap. 16

f. 147^r: Star List 3-B

f. 136^v: an incomplete and unidentified star list

14th cent. end²³⁵

Vκ

²³¹ Silverstein, p. 86

²³² Anneliese Maier, *Codices Burghesiani Bibliothecae Vaticanae* (Vatican City, 1952), p. 354.

²³³ Ludwig Schuba, *Die Quadriviums-Handschriften der Codices Palatini Latini in der Vatikanischen Bibliothek* (Wiesbaden: Reichert, 1992), p. 82.

²³⁴ Fol. 342vb. See Schuba, p. 94.

²³⁵ Schuba, p. 115.

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1391
 ff. 195^v-198^v: *Compositio*, Cap. 17 and Cap. 18
 ca. AD 1500²³⁶
 Vθ

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1414
 ff. 179^{va}-183^{va}: *Practica*, incomplete
 ff. 183^{va}-189^{vb}: *Compositio*, Proemium – Cap. 16
 13-14th cent.²³⁷
 Vν

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1416
 ff. 214^r-221^v: *Practica*, Cap. 1–
 15th cent (2nd third)²³⁸
 Vξ

Vatican, Biblioteca Apostolica Vaticana, ms. Reg. lat. 1195
 ff. 34^r-51^v: *Practica*
 [date]
 Vλ

Vatican, Biblioteca Apostolica Vaticana, ms. Rossiano 732 (*olim X,112*)
 ff. 47^v-60^r: *Compositio*
 f. 61^r: Star List 1
 f. 61^v: Star List 2
 ff. 62^r-66^v: *Practica*
 15th cent.²³⁹
 Vπ

Vatican, Biblioteca Apostolica Vaticana, ms. Urb. lat. 1399
 ff. 27^{ra}-29^{rb}: *Practica*
 14th cent.²⁴⁰
 Vρ

²³⁶ Schuba, p. 153.

²³⁷ Lynn Thorndike, "Notes upon some Medieval Latin Astronomical, Astrological and Mathematical Manuscripts at the Vatican," *Isis* 49 (1958), p. 39; Schuba, p. 195.

²³⁸ Benjamin and Toomer, p. 72; Schuba, p. 201.

²³⁹ Benjamin and Toomer, p. 90.

²⁴⁰ Cosimus Stornajolo, *Codices Urbinate Latini*, 3: *Codices 1001-1779* (Rome, 1921), p. 306.

Vatican, Biblioteca Apostolica Vaticana, ms. Urb. lat. 1408

ff. 7^r-13^r: *Compositio*, Proemium – Cap. 16

ff. 13^v-20^r: *Practica*

14th cent.²⁴¹

Vσ

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 1108

ff. 162^v-164^r: *Practica*, Proemium – Cap. 24

14-15th cent.²⁴²

Vτ

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 3099

ff. 28^{ra}-33^{va}: *Compositio*, Proemium – Cap. 16

ff. 33^{va}-35^{ra}: unidentified astrolabe material

35^{rb}-38^{va}: *Practica*, irregular order (type B)

AD 1472²⁴³

Vυ

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 3127

ff. 13^r-18^r: *Practica*, irregular order

ff. 18^r-23^{vr}: Profatius Judaeus, *Compositio novi quadrantis*, inc.: “Compositurus novum quadrantem accipe tabulam planum ...”²⁴⁴

14th and 15th cent.²⁴⁵

Vφ

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 3133

ff. 58^r-62^v: *Compositio*, Proemium – Cap. 16, Cap. 20 and 21

²⁴¹ Stornajolo, p. 312.

²⁴² Augustus Pelzer, *Codices Vaticani Latini*, 2.1: *Codices 679-1134* (Vatican City, 1931), pp. 719-725.

²⁴³ Jeannine Fohlen, “Colophons et souscriptions de copistes dans les manuscrits classiques latins de la Bibliothèque Vaticane (XIV^e et XV^e s.)”, in *Roma, magistra mundi. Itineraria culturae medievalis*, ed. Jacqueline Hamesse, Textes et Études du Moyen Âge 10.1 (Louvain-le-Neuve: Fédération Internationale des Instituts d’Études Médiévales, 1998), I: 264.

²⁴⁴ Thorndike and Kibre, entry 241-8.

²⁴⁵ Hahn, p. 198.

14th cent.²⁴⁶

Vχ

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 4037

ff. 168^r-180^v: *Compositio*

ff. 181^v-186^r: *Practica*

15th cent.²⁴⁷

Vψ

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 4085

ff. 85^r-93^v: *Practica*

14th cent.²⁴⁸

Vω

Venezia, Biblioteca Nazionale Marciana, ms. VIII.33 (*olim* XI,106) (= 2499)

Copy A: ff. 92^{ra}-97^{va}: *Compositio*, Proemium – Cap. 19 line 6 (“... diametrum RS divisum|”)

f. 97^{r-v}: Star List 3-B

ff. 98^{va}-99^{va}: *Practica*, Proemium – Cap. 19 line 12 (“... occidentalem et cetera|”)

15th cent.²⁴⁹

Xα

Copy B: ff. 100^r-111^r: *Compositio*

ff. 111^r-115^v: *Practica*

Xβ

Venezia, Biblioteca Nazionale Marciana, ms. VIII.77 (*olim* XI, 79) (=3223)

ff. 18^r-19^v: *Practica*, Prologue – Cap. 12 line 2; Cap 28 – (incomplete), partly illegible

14th cent.²⁵⁰

Xγ

Venezia, Biblioteca Nazionale Marciana, fondo antico 343 (= Z[anetti] 343) (=1877)

ff. 2^v-6^r: *Practica*

²⁴⁶ C. Philippe E. Northaft, “Ptolemaic Orbs in Twelfth-Century England,” *Mediterranea. International journal for the transfer of knowledge* 3 (2018), p. 175.

²⁴⁷ Daniel Tangri, “Demosthenes in the Renaissance: A Case Study on the Origins and Development of Scholarship on Athedean Oratory,” *Viator*, 37 (2006), 558 note.

²⁴⁸ Thorndike and Kibre, entry 869-5.

²⁴⁹ Kristeller, *Iter Italicum*, 2: 228.

²⁵⁰ Giuseppe Valentinelli, *Bibliotheca Manuscripta ad S. Marci Venetiarum*, 6 vols. (Venice, 1868-1873), 4: 257.

14th cent.²⁵¹

Xδ

Washington, Library of Congress, Rare Book and Special Collections, ms. 95
 ff. 75^r-76^r: *Practica*, Prologue – Cap. 5, line 6 (“... continebunt 360 gradus!”)
 AD 1456²⁵²
 Wθ

Wien, Österreichische Nationalbibliothek, ms. Palatinus 2323 (*olim* Rec. 1678)
 ff. 80^v-81^r: Star List 1
 f. 83^v: Star List 2
 14th cent.²⁵³
 Wδ

Wien, Österreichische Nationalbibliothek, ms. Palatinus 2367 (*olim* Univ. 930)
 ff. 77^r-87^r: *Compositio*
 ff. 87^r-92^{vb}: *Practica*
 f. 194^r: Star List 1
 f. 196^r: Star List 2
 15th cent.²⁵⁴
 Wα

Wien, Österreichische Nationalbibliothek, ms. Palatinus 2386 (*olim* Philos. 271)
 ff. 1^r-4^{rb}: *Compositio*
 ff. 4^{rb}-6^{rb}: *Practica*
 14th cent.²⁵⁵
 Wβ

Wien, Österreichische Nationalbibliothek, ms. Palatinus 3105 (*olim* Univ. 933)
 ff. 73^{va}-76^{rb}: *Practica*

²⁵¹ Joseph Valentinelli, *Bibliotheca Manuscripta ad S. Marci Venetiarum* (Venice, 1871), 4: 275.

²⁵² Seymour de Ricci, and W. J. Wilson, *Census of Medieval and Renaissance Manuscripts in the United States and Canada* (New York, 1935), 1: 235-236.

²⁵³ *Tabulae codicum manu scriptorum praeter Grecos et orientales in Bibliotheca Palatina Vindobonensi asservatorum*, 2 (1868), p. 57.

²⁵⁴ *Tabulae codicum*, 2 (1868), p. 63.

²⁵⁵ *Tabulae codicum*, 2 (1868), p. 66.

15th cent.²⁵⁶

Wγ

Wien, Österreichische Nationalbibliothek, ms. Palatinus 5145 (*olim* Univ. 362)

ff. 5^{va}-10^v: *Practica*

15th cent.²⁵⁷

Wλ

Wien, Österreichische Nationalbibliothek, ms. Palatinus 5277 (*olim* Philos 68)

ff. 110^v-116^v: *Compositio*

f. 110^v: Cap. 17

f. 111^v: Cap. 18 (alternate version)

f. 113^r-115^r: Cap. 18

f. 115^v: Cap 17 (repeated)

f. 116^{r-v}: Cap. 18 (repeated)

16th cent.²⁵⁸

Wε [and Wε₂]

Wien, Österreichische Nationalbibliothek, ms. Palatinus 5337 (*olim* Medicus 78)

ff. 116^{vb}-120^{rb}: *Practica* (Cap. 2- end)

14-15th cent.²⁵⁹

Wζ

Wien, Österreichische Nationalbibliothek, ms. Palatinus 5412 (*olim* Rec. 1676)

f. 159^r: Star List 2

15th cent.²⁶⁰

Wη

Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 76.1 Aug. 2^o

ff. 2^{ra}-13^{vb}: *Compositio*, Prologue – Cap. 18

ff. 14^{ra}-22^{vb}: *Practica*

²⁵⁶ *Tabulae codicum*, 2 (1868), p. 197.

²⁵⁷ *Tabulae codicum*, 4 (1870), p. 39; David Juste, “MS Vienna, Österreichische Nationalbibliothek, 5145” (update: 05.02.2018), *Ptolemaeus Arabus et Latinus. Manuscripts*, URL = <http://ptolemaeus.badw.de/ms/529>.

²⁵⁸ *Tabulae codicum*, 4 (1870), pp. 82-85.

²⁵⁹ *Tabulae codicum*, 4 (1870), p. 104.

²⁶⁰ *Tabulae codicum*, 4 (1870), p. 118.

14 th cent.²⁶¹

Wt

Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 81.26 Aug. 2^o

f. 139^r: 2 star lists; see Part III: Lists of Stars – Appendix II.

ff. 139^v-140^r: *Compositio*, Cap. 5 only.

ff. 132^r-139^r: another astrolabe text, inc. “Fiat una tabula de cupro sive latone ...”²⁶²

f. 140^v: unidentified text: “Compositio instrumenti pro mediis locis planetarum reperiendis.”

A.D. 1461²⁶³

Wκ

Wrocław, Biblioteka Uniwersytecka, ms. IV F 19

ff. 218^v-220^r: *Practica*

15th cent. (1482)²⁶⁴

Wμ

Zurich, Zentralbibliothek, ms. C 364

ff. 2^r-4^v: Astrolabe text, inc.: “Astrolabium ita construitur. Accipe rotulas ...”²⁶⁵

ff. 5^r-8^v: *Practica*, Cap. 1–

16th cent.²⁶⁶

Zα

²⁶¹ Otto von Heinemann, *Die Handschriften der Herzoglichen Bibliothek zu Wolfenbüttel*, II *Die Augusteischen Handschriften* (1900), 3: 391 (catalogue entry 2725); reprinted as *Kataloge der Herzog-August-Bibliothek Wolfenbüttel. Die Augusteischen Handschriften* (Frankfurt am Main, 1966), vol. 6.

²⁶² Thorndike and Kibre, entry 557-5; Zinner, *Verzeichnis*, entry 899.

²⁶³ Otto von Heinemann, *Die Handschriften der Herzoglichen Bibliothek zu Wolfenbüttel*, II *Die Augusteischen Handschriften* (1900), 4: 37-38 (catalogue entry 2816); reprinted as *Kataloge der Herzog-August-Bibliothek Wolfenbüttel. Die Augusteischen Handschriften* (Frankfurt am Main, 1966), vol. 7. Zinner (*Verzeichnis*, entries 899 and 7056) says A.D. 1461.

²⁶⁴ “Katalog rękopisów dawnej Biblioteki Uniwersyteckiej we Wrocławiu” [unpublished catalogue in manuscript form], vol. 8 (ca. 1920-1944), p. 57

²⁶⁵ Thorndike and Kibre, entry 155-8.

²⁶⁶ Leo Cunibert Mohlberg, *Katalog der Handschriften der zentralbibliothek Zurich*, 1 *Mittelalterliche Handschriften* (Zurich, 1951), p. 85, entry 216.

E. The Manuscripts of Each Section

Note: 0-0] means that the text ends in the last named capitulum;
]0-0 means that the text begins in the first named capitulum.

	<i>Compositio</i>				<i>Star Lists</i>	<i>Practica</i>	
	Pro.	I	II			III	Pro.	{1-22}
Aα	P	1-6	7-16	17-18	SL 1; SL 2		
Bα	P	1-6	7-16			P	1-
Bγ	P	1-6	7-16	17-22		P	1-
Bδ				]20-22		P	1-
Bε	P	1-6	7-16	17-22		P	1-
Bε ₁						P	
Bζ	P	1-6	7-16			P	1-10, 13-
Bη	P	1-6	7-16			P	1-10, 13-18, 20-
Bθ		]2-6	7-16	17-22	SL 1; SL 2	P	1-
Bι	P	1-6	7-16		SL 3-B	P	1-10, 13-
Bκ	P	1-6	7-18	18, 20-22 ²⁶⁷		P	1-10, 13-22 ²⁶⁸
Cα							1-10, 13-18, 20-
Cβ	P	1-6	7-16				
Cγ						P	1- ²⁶⁹
Cδ	P	1-6	7-16		SL 3-A	P	1-10, 13-18, 20-
Cε	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Cζ		]1-6	7-16		SL 1-A	P	1-10, 3-18, 20-
Cη	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Cθ	P	1-6	7-16				
Cι	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Dβ	P	1-3[
Dγ	P	1-6	7-16	18-22 ²⁷⁰	SL 2; SL 3-B	P	1-10, 13-
Dδ						P	1-

²⁶⁷ Bκ: ordered ... 16, 20, 21, 22, 18.

²⁶⁸ Bκ: ordered ... 7, 19, 8, 9, 10, 13 ... 18, 20

²⁶⁹ Cγ: ordered ... 10, 13, 11, 12, 14

²⁷⁰ Dγ: ordered ... 15, 21, 16, 19, 20, 22, 18.

Dη	P	1-6	7-16	17-22 ²⁷¹	SL 1; SL 2	P	1-13, 15- ²⁷²
Eα	P	1-6	7-16	17-22		P	1-
Eβ	P	1-6	7-16	17-22		P	1-
Eγ						P	1-10, 13-18, 20-
Eδ	P	1-6	7-16	17-22	SL 1-A; SL 2; SL 3-B	P	1-
Eε					SL 3A		
Eζ	P	1-6	7-16	17-22	SL 1-A; SL 2; SL 3-B	P	1-
Eη	P	1-6	7-16	17-22		P	1-
Eκ						P	1-
Eλ							1- ²⁷³
Eμ	P	1-6	7-16		SL 3-B	P	1-10, 13-
Eν	P	1-6	7-16				
Eο	P	1-6	7-16		SL 1; SL 1-A		1-
Eπ					SL 1		
Eρ						P	1-11, 13-32, 33- ²⁷⁴
Eτ	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Eυ	P	1-6	7-16	17-22		P	1-
Eφ	P	1-5[
Fα	P	1-6	7-16	17-22		P	1-
Fβ	P	1-6	7-16	17-22		P	1-
Fδ	P	1-6	7[
Fζ	P	1-6	7-16	17-22		P	1-
Gα			]14-15[	]20[		P	1-11, 13- ²⁷⁵
Kα						P	1- ²⁷⁶
Kδ						P	1-

²⁷¹ Dη: ordered ... 10, 22, 11 ... 15, 19, 20, 16, 21, 17, 18.

²⁷² Dη: ordered ... 6, 8, 7, 9, 10, 13

²⁷³ Eλ: ordered ... 9, 11, 12, 10, 13

²⁷⁴ Eρ: ordered ... 10, 13 ... 16, 11, 17 ... 22, 24 ... 26, 23, 27....

²⁷⁵ Gα: ordered ... 8, 11, 9, 10, 13

²⁷⁶ Kα: ordered ... 15, [additional material], 16 (l. 5), 17, 16 (ll. 1-4), 18

Kε						P	1-
Kθ						P	1-
Kι							]5-
Lα					SL 3-A		
Lβ	P	1-5[	]7-16	17-22		P	1-
Lγ	P	1-6	7-16	17-22		P	1-
Lδ						P	1-21[
Lε	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Lζ	P	1-6	7-16	18, 20-22 ²⁷⁷	SL 1-A	P	1-10, 12-18, 20-
Lη	P	1-6	7-16	17-22		P	1-
Lκ	P[					P	1- ²⁷⁸
Lλ						P	1-
Lμ						P	1-
Mα						P	1-10, 12-18, 20-
Mγ	P	1-6	7-9[]13-16				1-10, 12-
Mδ	P	1-6	7-16	17-22		P	1-
Mζ				22			
Mη	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Mι						P	1-
Mθ	P	1-6	7-16		SL 1-A		
Mκ	P	1-6	7-16		SL 3-B		
Mλ	P	1-6	7-16	17-22 ²⁷⁹	SL 2; SL 3-B	P	1- ²⁸⁰
Mν	P	1-6	7-16	17-22 ²⁸¹	SL 1-A; SL 3-B	P	1-
Mο	P	1-6	7-16	17-22	SL 1	P	1-
Mπ							1-
Mρ				17-22			
Mσ				17-18			
Mτ						P	1-
Mυ	P	1-6	7-16	17-22		P	1-

²⁷⁷ Lζ: ordered ... 16, 20, 21, 22, 18

²⁷⁸ Lκ: ordered ... 3, 21, 22, 4 ... 20, 23

²⁷⁹ Mλ: ordered ... 15, 22, 18, 17, star table, 21, 29, 16

²⁸⁰ Mλ: ordered ... 10, 13 ... 15, 11, 12, 16

²⁸¹ Mν: Cap. 22 follows the *Practica* text.

Mφ	P	1-6	7-16	17-22		P	1-
Mχ				17			
Mψ				17-18			
Nα	P	1-6	7-16	17-22		P	1-
Nγ						P	1-
Oα	P	1-6	7-16				
Oβ						P	1-11, 13- ²⁸²
Oγ						P	1-
Oζ	P	1-6	7-16	17-22		P	1-
Oη	P	1-6	7-16			P	1-11, 13-18, 20, 23- ²⁸³
Oι						P	1-
Oκ	P	1-6	7-16		SL 3-B		
Oμ	P	1-6	7[
Oν						P	1- ²⁸⁴
Oξ	P	1-6	7-16	17-22		P	1-
Oο	P	1-6	7[
Oπ	P	1-6	7-10[
Oρ						P	
Oσ	P	1-6	7-16			P	1-10, 12-18, 20-
Oτ	P	1-6	7-16	17-22		P	1-
Oυ	P	1-6	7-16	17-22		P	1-
Oφ			]13-16	20-21			1-
Oχ						P	1-10, 12-18, 20-
Oψ					SL 3-B		
Pα	P	1-6	7-16	17-22		P	1-
Pβ						P	1-
Pγ	P	1-6	7-16	17-22		P	1-
Pδ	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Pε						P	1-3[
Pζ						P	1-10, 13-18, 20-
Pθ	P	1-6	7-16	17-22	SL 1; SL 2	P	1-

²⁸² Oβ: ordered ... 10, 13, 15, 14, 16, 11, 17

²⁸³ Oη: ordered ... 11, 13, 14, 16, 15, 17, 18, 20, 23

²⁸⁴ Oν: ordered ... 7, 11, 12, 8, 9, 10, 13

P ι						P	1-11, 13- ²⁸⁵
P λ	P	1-6	7-16	17-22			
P μ	P	1-6	7-16	17-22		P	1-
P ν	P	1-6	7-16	17-22		P	1-
P \omicron	P	1-6	7-16	17-22	SL 1-A; SL 2; SL 3-B	P	1-
P ξ							1-
P π	P[				SL 3-A/3-B		
P ρ	P	1-6	7-16	17-22		P	1-
P σ						P	1-
P τ	P	1-6	7-16	17-22	SL 2; SL 3-B	P	1-
P υ	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
P ϕ	P	1-6	7-16				1-
P ψ		]4-6	7-16				
P ω						P	
Q α	P	1-6	7-16		SL 3-B		3, 37
Q β	P	1-6	7-16	17-22	SL 1	P	1-
Q γ	P	1-6	7-16	17-22		P	1-
Q δ	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Q ϵ						P	1-
Q ζ							1-
Q η							1-11, 13, 15- ²⁸⁶
Q θ						P ²⁸⁷	1-
Q ι						P	1-10, 13-18, 20-22[
Q λ	P	1-6	7-16	17-22		P	1-
R α	P	1-6	7-16	17-22	SL 2; SL 3-B	P	1-10, 13-
R β	P	1-6	7-13[
S α						P	1-
S β	P	1-6	7-16	19-22	SL 2; SL 3-B	P	1-10, 13-18, 20-
S γ					SL 2		
S δ	P	1-6	7-16	17-22		P	1-
S ϵ					SL 1		
S η						P	1-

²⁸⁵ P ι : ordered ... 10, 13-16, 11, 17

²⁸⁶ Q η : ordered ... 10, 13, 15, 16, 11, 17

²⁸⁷ Preceded by a list of chapter rubrics.

Sθ	P	1-6	7-16			P	1-10, 13-18, 20-
Sι	P	1-6	7-16			P	1-10, 13-18, 20-
Sκ	P	1-6	7-16	17-22		P	1-
Sλ	P	1-6	7-16			P	1-10, 13-18, 20-
Tδ	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Uα	P	1-6	7-9[
Vα	P	1-6	7-16			P	1-10, 13-18, 20-
Vβ	P	1-6	7-16	17-22 ²⁸⁸		P	1-
Vγ						P	1-10, 13-18, 20-
Vε	P	1-6	7-16				
Vθ				17-18			
Vι	P	1-6	7-16	17-22		P	1-
Vκ	P	1-6	7-16		SL 3-B		
Vν	P	1-6	7-16			P	1-
Vξ							1-
Vπ	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Vρ						P	1-10, 13-
Vσ	P	1-6	7-16				
Vτ						P	1-24 ²⁸⁹
Vυ	P	1-6	7-16			P	1-10, 13-18, 20-
Vχ	P	1-6	7-16	20-21			
Vφ						P	1- ²⁹⁰
Vψ	P	1-6	7-16	17-22		P	1-
Wα	P	1-6	7-16	17-22	SL 1; SL 2	P	1-
Wβ	P	1-6	7-16	17-22		P	1-
Wδ					SL 1; SL 2		
Wε				17-18			
Wη					SL 2		
Wθ						P	1-5[
Wι	P	1-6	7-16	17-18		P	1- ²⁹¹
Wκ		5					

²⁸⁸ Vβ: ordered ... 16, 19, 20, 21, 17, 18, 22.

²⁸⁹ Vτ: ordered ...9, 11, 10, 13 12, 14

²⁹⁰ Vφ: ordered ... 10, 13 ... 16, 11, 12(*marg.*), 17

²⁹¹ Wι: ordered ... 10, 13-22, unknown material (f. 17vb-18vb), 11, 12, 29

Wλ						P	1-
Wμ						P	1-
Xα	P	1-6	7-16	17-19[	SL 3-B	P	1-19[
Xβ	P	1-6	7-16	17-22			
Xγ						P	1-12[, 28-
Xδ						P	1-
Zα							1-

F. The Text

A full analysis of the text must wait until the entire treatise has been collated. However, on the basis of the prologue and the first six chapters some comments are possible.

First, the text is surprisingly consistent. Variants result mainly from homoioteleutons, or from later interlinear explanatory insertions (“scilicet...”) which are sometimes incorporated as text in derivative manuscripts. There are a few places where words are replaced by other words of the same meaning (*Post hoc / Postea / Deinde; aut / vel*). Some variants are obvious spelling errors, while others are mis-readings by the scribe of his exemplar. Rarely does the text deviate significantly.

The lettering given in the text and the diagrams is a different matter. It varies from manuscript to manuscript although for the most part, whatever variation there may be, the lettering of the text and of the diagram in a particular ms generally agree. (Variations increase when there is no diagram.)

The main problem is with some of the later letters in the alphabet – some scribes repeat letters or use symbols that are not immediately recognizable as letters. And it is not just a failure to “understand” the geometry of the text – since there is no meaning to the letters being copied per se – that is, they do not form part of a recognizable “word” which would act as a check – the copyist needed to decipher the letters as written in his exemplar.

- *x* can morph into *t*.
- *v* (by extending the left side upwards) can curve over into a *6* which then becomes *G* and later a *g*; or the *v* could become a *b*. *v* can also be confused with *N*, and vice versa.
- *c* can become *t* and vice versa.
- *r* can lose its horizontal stroke and become *l*.
- *s* is problematical since it is sometimes written as *ʃ* (which can be read as *l*) and sometimes like *8* which in turn can become *g*. (Sometimes the two forms of *s* appear in the same diagram, e.g., ms Ok.)

I have not taken much note of word order (unless a variation is significant), given the number of manuscripts which needed to be collated. As long as all the words are there, with the correct grammatical endings, nothing is noted.

Also, where pairs of words have identical meaning (*aut / vel* or *meridianlis / meridianus*) the

variation is not always noted, unless such information might in some way be useful, e.g., for creating stemma.

As for the division of the text into capitula (especially in the *Practica* section), I have followed the traditional divisions of Skeat, and as printed by Gunther, for ease of reference especially vis-à-vis past scholarship. It is noted where some capitula are sometimes divided into two, or where pairs of capitula are combined into one in some manuscripts.

By the same token the numbering of the capitula (again, especially in the *Practica* section) is somewhat artificial. Scarcely any manuscript numbers the items and when it does happen it seldom matches our modern numbering. The ordering of the capitula, or “mis-ordering” in terms of the text as presented here, is noted in the previous section of the introduction where the text or parts of the text which appear in each manuscript is noted.

In some cases the idea of the text is presented in two different but equally valid ways. The choice I have made for the main text could be seen as arbitrary; the second version, of course, appears among the variants. The same can be said about certain explanatory words which are added in some manuscripts, e.g., the addition of *astrolabii* to *in dorso*; these words may or may not have been included in the main text.

G. Arabic Astrolabe Terms²⁹²

There are particular problems when dealing with the Latin transcriptions or transliterations of Arabic terms for parts of the astrolabe. The variants are manifold, almost endless, and it is impossible to decide on any one “correct” form. Scribes often had trouble reading the Latin of their exemplars, and the Arabic terms were so foreign to them that any number of variations could occur. Some of the terms had entered Latin up to 200 years before the Pseudo-Masha’allah text was compiled, so there was ample time for variations to develop, and ample time afterwards to create even more, while the text was being copied and recopied. (A few words, such as “almucantharat” did become standardized in Latin, and those forms are used here.)

Given the large number of variants for each Arabic word, it is impossible to “scientifically” choose one. Even the variations which sound most like the Arabic original cannot be trusted, since they seem to appear randomly, and often vary from instance to instance even in the same manuscript. In this text, therefore, I have somewhat arbitrarily chosen one reading and to list all the other variants in the apparatus criticus. This choice is not to suggest that it is in any way the definitive Latin version, merely that at some time, some where, it was one of the variants used.

²⁹² Given the different systems for transliterating Arabic letters, I have used the one found in Hans Wehr, *A Dictionary of Modern Written Arabic*, ed. J. Milton Cowan (Wiesbaden: Otto Harrassowitz, 1961).

I add here an “index” of Arabic astrolabe terms,²⁹³ using modern transliteration. The first instance of each in the text provides more information about the part of the astrolabe being discussed, and its Latin and English versions.

C = *Compositio*; P = *Practica*

E.g., C 1-5 = *Compositio*, Cap. 1, line 5

al-ʿankabūt (*alhantabuz*): C 11-14, C 11-fig.; C 12-5; P Proem-15, P Proem-19; P 3-18; P 14-1(var.)

al-faras: C 6-1, C 6-7, C 6-fig.; P Proem-21

al-ḥabs (*alhabor*): C 1-fig.; P Proem-3

al-ḥalqa (*alhantica*, *alhelka*): C 1-fig.; C 2-fig.; P Proem-3

al-ʿiḍāda: C 4 passim; C 5 passim; P 11 passim; P 12 passim

al-ʿitāqua: C 4-27; C 12-15; C 13-5; C 16-5

al-miḥwar: P Proem-19

al-mismār (*almiznir*, *almizananar*): C 6-fig.

al-muqaṭṭarāt: C Proem-5, C Proem-8; C 5 BIS-4; C 12-3, C 12-fig.; C 13 passim; P Proem-7, P Proem-10, P Proem-11; P 3 passim; P 4-5, P 4-6; P 5-3; P 8-3, P 8-4; P 10-3; P 14-2(var.), P 14-3(var.); P 16-4(var.); P 17-3; P 20-3(var.)

al-murī: C 1-5; C 11-9, C 11-11, C 11-fig.(var.); P Proem-18

al-murī al-ʿiḍāda: P 3-12; P 7-1, P 7-3; P 8-3, P 8-5, P 8-8, P 8-9

al-quṭb: C 6-1, C 6-4. C 6-fig.

as-sumūt: C 12-4; C 14 passim; C 15 passim; C 16-2; C 19 passim; C 20 passim; P Proem-10; P 17 passim; P 18 passim; P 19-4

Unidentified Arabic-based terms:

asuji: C 1-fig.

atena, *antena*, *anthena*: C 1-fig.; C-2 fig.

I have found the following particularly useful in researching Arabic astrolabe terms:

William H. Morley, *Description of a planispheric astrolabe, constructed for Shāh Sultān Husain Safawī, King of Persia ...* (London, 1856), reprinted in Robert T. Gunther, *The Astrolabes of the World* (Oxford, 1932; rept. London, 1976), 1: i-iv, 1-50, plus 21 plates.

Paul Kunitzsch, *Glossar der arabischen Fachausdrücke in der mittelalterlichen europäischen Astrolabliteratur*, Nachrichten der Akademie der Wissenschaften in Göttingen, I. Philologisch-Historische Klasse, 1982, no. 11 (Göttingen, 1983), pp. 455-571.

²⁹³ For the Arabic names of the stars found in this treatise, see Lists of Stars – Appendix I: Catalogue of Stars.

H. The Lists of Stars

The editing of the lists of stars appended to the text (the *Constructio*) raised a number of problems. While there are two main lists (SL 1 and SL 2) associated with the text, there are several others which also circulated with it. Some of these are variants on the main lists; others are simply quite different lists – with a different selection of stars, and different co-ordinates. And sometimes these lists are found in manuscripts which do not even contain the text, or are separated from the text in their manuscripts by a few or by many folios.

Paul Kunitzsch surveyed medieval star lists in 1966²⁹⁴ and noted those associated with Pseudo-Masha'allah (Types VIII, VII and XI) but this was not a critical edition. At his suggestion, I have examined the original manuscripts, reworked his material, and added manuscripts of which he was unaware. His Type VIII is my Tabula 1/SL 1 (the shorter version of which is Tabula 1-A); his Type VII is my Tabula 2/SL 2; and his Type XI is my Tabula 3, broken down into Tabula 3-A and 3-B (SL 3-A, SL 3-B). Other lists associated with the text – otherwise known or unknown – have not been edited. However, Appendix II to the Lists of Stars does try record what other star lists I have found in some mss with Pseudo-Masha'allah.

There are some obvious problems with editing star lists. First, copying errors abound, especially with numbers. As well, the transliteration of Arabic star names can be very confusing. Whether this results from different transliteration efforts, or attempts to rewrite a given pronunciation in another fashion, or simply copying errors by scribes who had no idea of what a “correct” form might be (or who could not decipher their exemplar) cannot be determined. As for the numbers, confusion between “0”, “6”, and “9” (and sometimes “5”) is common; the medieval “7” and “4” can also be confused. And scribes were not always careful to fully distinguish between “2” and “3”, and even at times between these and “1”! Close examination is required in reading the manuscripts, to determine what was originally written.

Of course, the co-ordinates themselves are not established: there is no “original” version, and an early error in copying can lead to a large number of (erroneous) copies. So to say that one reading is preferred to another is fruitless. In some ways my star lists are arbitrary, which is why examining the apparatus criticus is crucial in working with these lists.

Although there is really no such thing as an “original” base list, I have tried to standardize the entries so that the reader can more easily identify the star name and the position. For SL 3-A I have preferred ms Oψ and for SL 3-B mss Mλ and Po. I acknowledge that this is completely arbitrary, by then for most of these entries the names are transliterated Arabic star names, with no real “standard” spelling in Latin. And for this reason I have entered in the apparatus criticus, and recorded in Appendix I to the star lists, all the versions of the star names that I could decipher in the manuscripts, even when the “correct” version was obvious. For example, I record “Algetonar” which should be “Algetenar” and “Rygel” which should be “Rigil”. I feel that the various ways of

²⁹⁴ Paul Kunitzsch, *Typen von Sternverzeichnissen in astronomischen Handschriften des zehnten bis vierzehnten Jahrhunderts* (Wiesbaden: Otto Harrassowitz, 1966).

spelling a star's name might be of interest to other scholars working in this field.

Because there is a great deal of other material which should be noted about the entries in the star lists, as well as for the stars included in rete diagrams (Cap. 11) and occasionally in the text, I have gathered this background and explanatory material in Appendix I to the star lists, organized by the star's Bayer designation, with its own index of star name variants to aid the reader in finding the appropriate material.

Technical points for the Lists of Stars:

At the beginning of each List or Tabula, I have noted the manuscripts which have been collated. For the precise folios, consult this Introduction (section D).

I also point out which manuscripts have the Pseudo-Masha'allah text associated with the star list, and which do not.

For SL1 and SL 2, I have included an English translation, using common modern star names. For SL 1-A, SL 3-A, and SL 3-B I did not feel it was necessary to produce a facing English translation; comparison with SL 1 and SL 2, or an examination of Appendix I to the List of Stars should answer any questions about the meaning of the Latin.

I. Editorial Principles

This project eventually aspires to the collation of all copies of the text in manuscript form. (No attempt will be made to collate printed editions with this text.) In the editorial process, the most reasonable reading (especially in terms of the mathematics) has been chosen.

Trivial variants have been suppressed (obvious spelling errors, minor changes in word order, words or phrases with the same meaning, e.g., *cumque/et cum*). In some cases a variant of this kind is given without sigla and simply noted by *many* (many manuscripts) or *some* (some manuscripts). I have erred on the side of inclusion rather than exclusion, especially for technical terms and names, so that the reader has an idea of the range of spellings for such words as "Ptolemy."

I have standardized certain orthographic variations of medieval Latin, for instance the interchange of "c" and "t" (*spacium, spatium; tocius, totius*), or "i" and "y" (*limbus, lymbus; diameter, dyiameter*) or "c" and "ch" (*arcus, archus*). Similarly such common substitutions as *capud* for *caput* and *emisperium* for *hemisperium* are generally not noted.

With the transcribed arabic words in the texts, as noted above, a special problem arises. While I have chosen to use the spelling found in one manuscript, I have also striven to include all renderings in the apparatus for those interested in these matters of language. I have also tried to preserve the non-normal abbreviations or script, e.g., maintaining the "ʒ" ending for some variants even though this is often a terminal form of "m" – but not necessarily and therefore the effort to record it.

The lemma, the variant and the sigla are given in roman type; editorial comments, e.g., *om.* or *add.*, are given in italic.

The apparatus criticus is keyed to line number. Where a variant involves two or more lines, they are listed separately after all the variants for the first line. Since the plan is to publish this text on line, no extraordinary attempt has been made to save space.

The apparatus is negative, that is, only variants (and their manuscripts) are listed, except in the few cases mentioned above where variants of arabic astrolabe terms and names of authorities are recorded for every manuscript for the benefit of those studying such matters.

The diagrams are those found in the manuscripts, redrawn by the editor. They are numbered according to the capitulum with which they are associated; thus, there are gaps in the numbering when a capitulum does not have a diagram, e.g., *Compositio*, capitulum 3. The apparatus lists those manuscripts with the labeling, as well as those which either omit the labeling or have variant labels. In some cases where the diagram or labeling is significantly different, a second version of the diagram is given.

A few footnotes have been created where my comments might prove useful to the reader either for understanding the text or my editorial choices.

The apparatus follows the most modern style, in which the codes are given in English rather than Latin. Codes and abbreviations are:

<i>add.</i>	added
<i>and elsewhere</i>	and elsewhere (i.e., the same variant is found elsewhere for the same lemma)
<i>before</i>	variant appears before lemma
<i>canc.</i>	cancelled
<i>corr. to / from</i>	corrected to / from
<i>del.</i>	deleted
<i>diff. hand</i>	written in a different hand
<i>exp.</i>	expunged
<i>illeg.</i>	illegible
<i>interlin.</i>	interlined
<i>lac.</i>	lacuna, space
<i>later hand</i>	written by a later hand
<i>many</i>	many mss have this variant
<i>marg.</i>	in margin
<i>om.</i>	omitted
<i>rep.</i>	repeated
<i>rubric</i>	rubric, heading
<i>some</i>	some mss have this variant
<i>superscr.</i>	superscript

<i>twice</i>	word written twice
!	<i>sic</i> , manuscript so reads
?	dubious reading

J. Acknowledgements

Finally I would like to thank the following who have helped significantly with this project:

Dr. José Chábas, Barcelona [= J.C.]

Prof. Menso Folkerts, München

Prof. Folkerts has also helped by lending me a number of microfilms of the text.

Dr. Nan L. Hahn, Dunellen, NJ

Dr. David Juste, München

Dr. Juste has also helped by sharing with me a number of microfilms of the text.

Prof. David A. King, Frankfurt am Main

Prof. Paul Kunitzsch, München [= P.K.]

Mrs. Michela Marangoni, Rovigo

The heirs of Prof. Michael Masi

Prof. C. J. McDonough, Toronto [= C.J.McD.]

Prof. Julio Samsó, Barcelona [= J.S.]

Prof. Emmanuel Poulle, Paris

A number of other scholars – members of the International Astrolabe Society – contributed manuscript references in response to my initial circular letter.

The purchase of microfilms and the payment of other expenses has been made possible by research grants from:

the British Society for the History of Science

the Canadian Copyright Licensing Agency (now Access Copyright)

the Cogito Foundation, Switzerland

the Scientific Instrument Society, United Kingdom

the University of St. Michael's College, Toronto: SSHRCC small-grant program

York University, Toronto

Addendum 1

Lost Manuscripts and Erroneous, Non-Functioning, and Ghost References

Assisi, Biblioteca del Sacro Convento, Fondo Antico Communale, ms. 369, ff. 1-24

Theological treatises; reference found in the additional notes to Francis J. Carmody's *Arabic Astronomical ...*; most probably an erroneous entry for Ravenna, Biblioteca Classense, ms. 269.²⁹⁵ Note: because of the unclear handwriting, some have interpreted the manuscript number as "769"; no manuscript 769 exists in the Assisi collection.

Baltimore, Library of Robert Garrett, no. 99

Now Princeton, University Library, ms. Garrett 99²⁹⁶

Basel, Öffentliche Bibliothek der Universität, ms. F-II-25

Erroneous reference for Basel, Öffentliche Bibliothek der Universität, ms. F-III.25²⁹⁷

Basel, Öffentliche Bibliothek der Universität Basel, ms. F-III-33²⁹⁸

Ff. 8v-16r: Liber Messehalla, De receptione et questionibus seu interrogationibus

Cambridge, Trinity College Library, ms. 1216 (*olim* O.3.44)

Now London, British Library, ms. Egerton 844

Dresden, Sächsische Landesbibliothek, ms. 10661

Erroneous reference for München, Bayerische Staatsbibliothek, Clm 10661²⁹⁹

Dresden, Sächsische Landesbibliothek, ms. C-79^{m300}

Completely destroyed during World War II.

²⁹⁵ Both the Assisi and the Ravenna manuscripts are catalogued in the same volume: Mazzatinti, *Inventari*, vol. 4.

²⁹⁶ W. H. Bond, ed., *Supplement to the Census of Medieval and Renaissance Manuscripts in the United States and Canada* (New York: Bibliographic Society of America, 1962), p. 200.

²⁹⁷ Zinner, *Verzeichnis*, entry 7024.

²⁹⁸ Zinner, *Verzeichnis*, entry 7024 originally had F-II-25 (in error for F-III-25 – see above), but corrected in his master copy (Institute for the History of Science, Johann Wolfgang Goethe University, Frankfurt am Main) to F-III-33.

²⁹⁹ From Francis J. Carmody, *Arabic Astronomical and Astrological Sciences in Latin Translation. A Critical Bibliography* (Berkeley and Los Angeles: Univ. of California Press, 1956), p.25

³⁰⁰ Fols. 1r-84; 14th/15th cent. Franz Schnorr von Carolsfeld, *Katalog der Handschriften der königl. Öffentlichen Bibliothek zu Dresden* (Leipzig, 1882), 1: 196.

Kaliningrad, *see* Königsberg

Königsberg, Staats- und Universitätsbibliothek, ms. Folio 1735

Now Toruń, Uniwersytetu Mikołaja Kopernica, Biblioteka Główna, ms. 74

Lyon, Bibliothèque des Augustines déchaussés de la Croix-Rousse, ms. 170

Unable to trace nor otherwise identify³⁰¹

Magdeburg, Stadtbibliothek, ms. IV 307 4^o, 1, item 1

Cited in Zinner, entry 7067, who also indicates that it was written in German. In any event, the manuscripts from the Magdeburg Stadtbibliothek were all lost during World War II.³⁰²

Metz, Bibliothèque Médiathèque (*olim* Bibliothèque Municipale), ms. 1217, ff. 67^r-84^v³⁰³

Destroyed during World War II.

Napoli, Biblioteca Statale Oratoriana del Monumento Nazionale dei Girolamini, ms. CF.1.20; 13th century.

This manuscript has had several shelf-marks; an earlier one was Pil. XXIV no. VII, also known as Mandarini 31 (or XXXI) from the 1897 catalogue.³⁰⁴ The text was found on ff. 133-177.

Unfortunately the Director of the Oratoriana and the Librarian were found to be looting the library, stealing rare books and manuscripts from the collection and selling them privately. The Oratoriana and the library were seized by judicial order in 2012 and only re-opened in 2015. I made inquiries at that time of the librarian, Dr. Raffaele De Magistris (as suggested by the Biblioteca Nazionale “Vittorio Emanuele III” in Naples), about the manuscript but received no replies. Working through an Italian colleague, and his colleagues in Naples, contact was eventually made with Dr. De Magistris and Dr. Mariarosaria Berardi in December 2017 who informed us that the

³⁰¹ Found in the 1667 inventory of books by one “Frère Éloi”. The library was gradually dispersed during the 18th century. See Henry Martin, “Bibliothèque des Augustines déchaussés de la Croix-Rousse de Lyon: Catalogue de leurs manuscrits,” in his *Catalogue des manuscrits de la Bibliothèque de l’Arsenal* (Paris, 1899), 8: 245-249, 266.

³⁰² Paul Oskar Kristeller, *Latin Manuscript Books Before 1600*, 4th ed. by Sigrid Krämer, *Monumenta Germaniae Historica Hilfsmittel 13* (Munich: Monumenta Germaniae Historica 1993), p. 576.

³⁰³ 13th century. *Catalogue Général des Manuscrits des Bibliothèques Publiques de France. Départements*, 48 (Paris, 1933), pp. 411-412.

³⁰⁴ Enrico Mandarini, *I Codici Manoscritti della Biblioteca Oratoriana di Napoli* (Naples/Rome, 1897), pp. 53-54; often cited as Pil. XXIV no. VII and Mandarini XXXI. The use of Roman numerals has led to a number of careless citations, e.g., “24-6” and “Mand. 21”.

manuscript seems to have gone missing sometime after September 1972, but that a black-and-white 35 mm negative microfilm did exist which could be digitized and sent to me. A pro-forma invoice for € 166.00 was sent along with the usual application form / agreement as required by Italian state libraries. The form was completed and sent back to one Mauro Bosnia at the library, and a bank transfer in December 2017 was made as directed to Tesoreria provinciale dello Stato di Napoli, crediting the account of the Oratoriana.

Nothing has since been heard from the library or the Oratoriana. Despite numerous attempts to contact them by myself, by my colleague, and by his colleagues, it now appears that pursuit of a copy of the microfilm, or the recovery of the payment, is in vain and that any access to the contents of this manuscript is now lost.

Paris, Bibliothèque nationale de France, ms. lat. 16659, ff. 171^r-189^v

Erroneous entry for Paris, Bibliothèque nationale de France, ms. lat. 16649.³⁰⁵

Roma, Library of Prince Baldassarre Boncompagni, ms. 51 (*olim* 326) ff. 16^v-18^r

Unable to trace nor otherwise identify³⁰⁶

Roma, Library of Prince Baldassarre Boncompagni, ms. 104 (*olim* 279), ff. 1^r-10^v

Unable to trace nor otherwise identify³⁰⁷

Roma, Library of Prince Baldassarre Boncompagni, ms. 128 (*olim* 40) ff. 3^r-9^r

Unable to trace nor otherwise identify³⁰⁸

Roma, Library of Prince Baldassarre Boncompagni, ms. 357 (*olim* 328) ff. 20^r-30^r

Unable to trace nor otherwise identify³⁰⁹

Rovigo, Biblioteca dell'Accademia dei Concordi, ms. 13

A totally erroneous shelfmark for ms. Silvestriano 88 (q.v.) in the same library.

Salzburg, Stiftsbibliothek Sankt Peter, ms. Inc. 800

Now New Haven, Yale University Medical Library, ms. 25

³⁰⁵ Error in the additional notes in Carmody, *Arabic Astronomical ...*, p. 24.

³⁰⁶ Enrico Narducci, *Catalogo di Manoscritti ora posseduti da D. Baldassarre Boncompagni*, 2nd ed. (Rome, 1892), p. 19: 94 folios, 14th cent.

³⁰⁷ Narducci, p. 67: 41 folios, 15th cent.

³⁰⁸ Narducci, p. 81: 10 folios, 16th cent.

³⁰⁹ Narducci, p. 211-212: 71 folios, 14th cent.

Toledo, Biblioteca Capitular, ms. 98-20
 Now Madrid, Biblioteca Nacional, ms. 10009

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1313
 Erroneous reference for Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat 1373³¹⁰

Addendum 2 Spurious References: Other Astrolabe Texts

These references have appeared in various lists and databases as possible astrolabe texts by Pseudo-Masha'allah, but upon examination do not contain the text as we have it. The sources of some of these references are given, but for many of them the source of the original suggestion has been lost.

Amsterdam, Universiteit van Amsterdam, Bibliotheek, ms. II C 1 (catalogue 1333), ff. 25-47³¹¹
 Contains Isagoge, *Ars astrologie*, and Masha'allah astrological texts including *De rebus eclipsium*.

Catania, Biblioteca Universitaria, ms. 85
 See Catania, Biblioteca Universitaria, ms. 87³¹²

Catania, Biblioteca Universitaria, ms. 87³¹³
 Fols. 184^v-191^v: *Compositio novi quadrantis; Utilitates novi quadrantis*
 Fols. 224-253: John of Gamundia, astrolabe text³¹⁴

Darmstadt, Universitäts- und Landesbibliothek, ms. 765
 Fol. 137^v: star catalogue only, and not the one usually found with Pseudo-Masha'allah.³¹⁵

³¹⁰ Error in the additional notes in Carmody, *Arabic Astronomical ...*, p. 25.

³¹¹ Listed by Masi as a possible copy of the astrolabe text.

³¹² See Mariano Fava, "Codices latini catinense," *Studi Italiani de Filologia Classica*, 5 (1897), 433-435. He cites shelf-mark "85" in error for "87" (q.v.).

³¹³ See Fava, "Codices latini catinense," pp. 433-435; G. Tamburini in Mazzatinti, *Inventari*, vol. 20, pp. 133-148. Note: Fava gives the shelf-mark as "85"; Tamburini as "87", citing Fava but changing his "85" to "87". Ms 85 contains other, non-astronomical material.

³¹⁴ Identified in Thorndike and Kibre, item 1292-2.

³¹⁵ Zinner, *Verzeichnis*, entry 10996; Paul Kunitzsch, *Typen von Sternverzeichnissen in astronomischen Handschriften des zehnten bis vierzehnten Jahrhunderts* (Wiesbaden: Otto Harrassowitz, 1966), p. 88.

Dresden, Sächsische Ladesbibliothek. ms. N100

Fols. 1r-10v: Prosdocimo de'Beldomandi, *Compositio astrolabii et operatio*³¹⁶

Fols. 20r-24v: Profatius Judaeus, *Compositio novi quadrantis*³¹⁷

Edinburgh, Royal Observatory, Crawford Library, ms. 3.28, ff. 41^v-48^v

The use of the astrolabe preceded by the astrolabe construction treatise, translated by Johannes Hispalensis;³¹⁸ the *Practica* are probably by Johannes as well (but not the set sometimes found with Pseudo-Masha'allah)..

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms. Amplon, F^o 38, ff. 13^r-15^v

A yet-to-be-identified astrolabe text, inc.: Astrolabium sic componas. Describe circulum ...³¹⁹

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms. Amplon. F^o 395, ff. 122^{rb}-124^{vb}
(olim 121^{rb}-123^{vb})

A yet-to-be-identified astrolabe text, inc.: Astrolabium constituitur hoc modo recipe tabulas ...³²⁰

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms. Amplon. Q^o 316, ff. 36r-38r

A yet-to-be-identified astrolabe text, inc.: Investigantibus nobis practicam astrolabii ...³²¹

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms. Amplon. Q^o 366, ff. 82r-84r

Maslama, *De astrolabii*, inc.: Cum volueris facere astrolabium, fac tabulam planam ...³²²

Erfurt, Universitäts- und Forschungsbibliothek Erfurt/Gotha, ms. Amplon. Q^o 386, ff. 98^v-102^r

A different treatise on the astrolabe;³²³ see ff. 130^r-150^v for Pseudo-Masha'allah.

Erlangen, Friedrich-Alexander-Universität Erlangen-Nürnberg, Universitätsbibliothek, ms. 554

(olim Irm. 729, ff. 17^r-40^v)

³¹⁶ Thorndike and Kibre, item 1164-1; also 331-5 (for "Canones utilites astrolabii").

³¹⁷ Thorndike and Kibre, item 241-8.

³¹⁸ Ker, 2: 569.

³¹⁹ Zinner, *Verzeichnis*, entry 884; Thorndike and Kibre, item 155-9; Schum, p. 32.

³²⁰ Thorndike and Kibre, item 154-8; Schum, pp. 278-281.

³²¹ Zinner, *Verzeichnis*, entry 7026; Thorndike and Kibre, item 776-2; Schum, pp. 550-551.

³²² Thorndike and Kibre, item 353-9; Schum, pp. 612-614.

³²³ From Schum, pp. 645-647; cited in the additional notes in Carmody, *Arabic Astronomical ...*, p. 25.

Astrolabe text of Christianus de Prachatitz³²⁴

Frankfurt am Main, Goethe Universität, Universitätsbibliothek, ms. Carm. 20, ff. 14^r-30^v

Various astrolabe texts by Andaló de Negro³²⁵

Frauenfeld, Thurgauische Kantonsbibliothek, ms. P 142

Mathematical texts in sixteenth-century handwriting, in the middle of which are a large number of pages from various printed books on a wide range of practical topics. Included are 21 folios (plus a single folio bound earlier in the volume) which seems to be a printed edition of the Pseudo-Masha'allah text (both composition and use), close to but still a variation on the medieval Latin text.

The folios of the volume are not numbered, so any referencing would be cumbersome.³²⁶

Grenoble, Bibliothèque Municipale, ms. 814, ff. 34^r-40^r

A text on astrology by Masha'halla.³²⁷

Grenoble, Bibliothèque Municipale, ms. 1814, ff. 34^r-40^r

Error in the additional notes in Carmody, *Arabic Astronomical ...*, p. 25 for Grenoble, Bibliothèque Municipale, ms. 814, ff. 34^r-40^r

Heidelberg, Ruprecht-Karls-Universität, Universitätsbibliothek, cod. Sal. VII,60, ff. 1^r-15^r

A yet-to-be identified astrolabe text, "Descriptio et Vsus Astrolabii" (a.d. 1718)

Kraków, Biblioteka Jagiellońska, ms. 709 (olim DD.III.33), ff. 168^r-175^v

Various unidentified astrolabe texts:³²⁸ ff. 168^r-171^v; 171^v-172^r; 172^r-175^v

From the additional notes in Carmody, *Arabic Astronomical ...*, p. 25.

Kraków, Biblioteka Jagiellońska, ms 1843, ff. 232^r-247^v

Another astrolabe text, inc.: Cum volueris facere astrolabium accipe laminam eris ...

From the master copy of Zinner's *Verzeichnis* in Frankfurt-am-Main (entry 7054f).

³²⁴ Fischer, *Die Lateinischen Papierhandschriften*, p. 207. Reference in the notes of Michael Masi, possibly based on information from Frances J. Carmody.

³²⁵ Gerhard Powitz and Herbert Buck, *Die Handschriften des Bartholomäusstifts und des Karmeliterklosters in Frankfurt am Main* (Frankfurt a.M.: Klostermann, 1974), p. 435. Reference originally from Jordanus Database, Munich.

³²⁶ Microfilm and initial cataloguing of contents supplied by Menso Folkerts.

³²⁷ *Catalogue général des Bibliothèques publiques de France. Départements 7. Grenoble* (Paris, 1889), pp. 245-246. Recorded in the additional notes in Carmody, *Arabic Astronomical ...*, p. 25 (as ms. 1814).

³²⁸ *Catalogus ... Jagellonica*, vol. 5 (1993), p. 126.

Kraków, Biblioteka Jagiellońska, ms 1844, ff. 170^v-184^r (pp. 340-369)

Fols. 161^r-170^r: Christianus de Prachaticz

Fols. 170^v-184^r: various instruments/mathematical texts

Fols. 184^r-196^v: Prosdocimo de'Beldomandi, *Astrolabe construction*³²⁹

From the additional notes in Carmody, *Arabic Astronomical ...*, p. 25.

Kraków, Biblioteka Jagiellońska, ms. 1865, ff. 172^r-179^r (pp 349-363)

Fols. 172^r-175^r: Profatius Judaeus, *Compositio novi quadrantis*

Fols. 175^v-179^r: Johannes Eligerus de Gondersleuen, *De utilitate quadrantis*

From the additional notes in Carmody, *Arabic Astronomical ...*, p. 25³³⁰.

Kraków, Biblioteka Jagiellońska, ms 1927, ff. 80^r-83^r (pp. 161-167)

Profatius Judaeus, *Compositio novi quadrantis*

From the additional notes in Carmody, *Arabic Astronomical ...*, p. 25.

Leipzig, Universitätsbibliothek, Cod. 1469, ff. 6^v-7^v³³¹

Part of a *Practica* of the astrolabe text, but not Pseudo-Masha'allah's.

Lincoln, Cathedral Library, ms 148, ff. 98^r-

Fols. 94^r-102^v: De tabula umbre, inc.: "Ad notitiam tabule umbre ..."

From the additional notes in Carmody, *Arabic Astronomical ...*, p. 24.

London, British Library, ms. Harley 321, ff. 24^v-28^r (pp. 46-53)

A *Practica* of the astrolabe text, possibly based on Pseudo-Masha'allah's.

"Nomina instrumentorum astrolabii [later hand:] sive Astrolabii declaratio et usus, per Simonem de Bredon"

London, British Library, ms. Harley 5402, ff. 81^r-104^v

"Incipit prologus in libro Meshalle": not astrolabe text

London, British Library, ms. Sloane 780, ff. 49^r-53^r (*olim* 160^r-164^r)

Practica of the astrolabe, but not Pseudo-Masha'allah's text.

London, British Library, ms. Sloane 2479, ff. 1^r-7^r (*olim* 110^r-116^r)

Some other astrolabe text, inc.: "Astrolabium sic construitur. Recipe tabulas de auricalco ..."³³²

³²⁹ From my personal notes made in the autumn of 1973.

³³⁰ From my personal notes made in the autumn of 1973.

³³¹ From the master copy of Zinner's *Verzeichnis* in Frankfurt-am-Main (entry 7038a).

³³² Thorndike and Kibre, entry 155-8.

Lüneburg, Ratsbücherei, ms. Misc. D.2^o.13, ff. 127^{rb}-131^{rb}

Nechaius Bodaius Zabith (?), *Canones astrolabii*,³³³ a reworking of Pseudo-Masha'allah.

Madrid, Biblioteca Nacional, ms. 10053 (*olim* Toledo, Biblioteca Capitular, ms. 98-21), ff. 9r–

Millás Vallicrosa, suggested that this might contain the table of stars for Pseudo-Masha'allah's text,³³⁴ but it is in fact some other set of astronomical tables

Madrid, Biblioteca Nacional, ms. 10063 (*olim* Toledo, Biblioteca Capitular, ms. 98-19), ff. 12ra-13ra

Some other astrolabe text, possibly by Johannes Hispalensis.³³⁵

Metz, Bibliothèque Médiathèque (*olim* Bibliothèque Municipale), ms. 1223, ff. 31^{vb}-32^{rb}

Listed in the additional notes in Carmody, *Arabic Astronomical ...*, p. 24; not the Pseudo-Masha'allah text.

München, Bayerische Staatsbibliothek, Clm 27, ff. 79^r-110^r

From the additional notes in Carmody, *Arabic Astronomical ...*, pp. 24 and 25.

Fols. 79^r-98^r: Another astrolabe text, inc.: "Astrolabium facere cum volueris. Primo fac tabulam illius magnitudinis quam vis ..." ³³⁶

Fols. 100r-110v: Use of the astrolabe, inc.: "Qui nonnulli ob nimiam oaccurtationem" ³³⁷

München, Bayerische Staatsbibliothek, Clm 25005,³³⁸ ff. 1^r-28^v

Astrolabe text ascribed to Johan of Gamundia, inc.: "Quoniam practica astronomie absque instrumentis ..." ³³⁹

München, Bayerische Staatsbibliothek, Clm 25010,³⁴⁰ ff. 12r-18v³⁴¹

An unidentified astrolabe text.

³³³ Wierschin, pp. 30-38.

³³⁴ Millás Vallicrosa, p. 184.

³³⁵ Millás Vallicrosa, p. 158.

³³⁶ Thorndike and Kibre, entries 155-2 and 1103-11..

³³⁷ Thorndike and Kibre, entry 1225-4: "Practica astrolabii Pragensium."

³³⁸ Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 4 (1881), p. 156.

³³⁹ Thorndike and Kibre, entry 1294-2.

³⁴⁰ Carolus Helm, et al., *Catalogus Codicum*, vol. 2, part 4 (1881), p. 155.

³⁴¹ Note: the ms contains a number of unnumbered blank folios in the middle of its texts.

München, Bayerische Staatsbibliothek, Clm 25024, ff. 26^r-36^r
 German text.

Oxford, Bodleian Library, ms. Ashmole 361, ff. 57^r-63^r
 A different set of instructions for the use of an astrolabe.
 Fols. 45^r-56^v (from the additional notes in Carmody, *Arabic Astronomical ...*, p. 25) do not
 contain an astrolabe text.

Oxford, Bodleian Library, ms. Ashmole 393
 Fols. 96^r-96^v (from the additional notes in Carmody, *Arabic Astronomical ...*, p. 25) contain
 part of Chaucer, “Tretis off the Astrolabye”

Oxford, Bodleian Library, ms. Bodley 68, ff. 26^r-34^r
 A different astrolabe treatise, inc.: “Astrolabium ita construitur. Accipe tabulas de auricalco
 ...”³⁴²
 Listed in the additional notes in Carmody, *Arabic Astronomical ...*, p. 25.

Oxford, Bodleian Library, ms. Bodley 472, ff. 30^v-36^r
 A treatise on the quadrant.
 Listed in the additional notes in Carmody, *Arabic Astronomical ...*, p. 25.

Oxford, Bodleian Library, ms. Canon. Misc. 340, ff. 49^r-56^r
 A different treatise, perhaps by John of Seville, inc. “Dixit Johannes: Cum volueris facere
 astrolabium, accipe auricalcum optimum ...”³⁴³
 Listed in the additional notes in Carmody, *Arabic Astronomical ...*, p. 25.

Oxford, St. John’s College, ms 188, ff. 92^r-98^v, 99^v³⁴⁴
 A different treatise on the use of the astrolabe; unidentified.

Paris, Bibliothèque nationale de France, ms. lat. 7272, ff. 45^{ra}-59^{vb}
 A different treatise on the use of an astrolabe; with a similar incipit: “Nomina instrumen-
 torum sunt hec. Primo est annulus sive armilla ...”

Paris, Bibliothèque nationale de France, ms. lat. 7352A, fol. 132r-140v
 A different astrolabe treatise, unidentified; incipit: “Quantitatum ea est natura ...”

³⁴² Thorndike and Kibre, entry 155-8.

³⁴³ Thorndike and Kibre, entry 454-8

³⁴⁴ Although numbered 92-99, three blank folios earlier in the manuscript were not numbered; therefore these are actually folios 95-102.

Salamanca, Universidad de Salamanca, Biblioteca. ms. 2138, ff. 304^v-319^r

A very free Spanish translation and not the Latin text.³⁴⁵

Salamanca, Universidad de Salamanca, Biblioteca, ms. 2621, ff. 89^r-95^r³⁴⁶

Fols. 81-89: Robert of Chester or Prosdocimo de Beldomandi, inc: “Quia plurimi ob nimiam
...³⁴⁷

Fols. 89-95: Fabrica astrolabii, inc.: “Quamvis astrolabii tam modernorum quam
veterum ...³⁴⁸

Fol. 116^r contains a star list often found with the Masha’allah text. It has been edited by Paul
Kunitzsch.³⁴⁹

Sankt Gallen, Kantonsbibliothek Vadiana, ms. 412

Fols. 86r-92v: another astrolabe text, inc.: “Cum vero astrolabium facere seu componere
volaris”³⁵⁰

Toledo, Biblioteca Capitular, ms. 98-19

Now Madrid, Biblioteca Nacional, ms. 10063, q.v.

Toledo, Biblioteca Capitular, ms. 98-21

Now Madrid, Biblioteca Nacional, ms. 10053, q.v.

Toledo, Biblioteca Capitular, ms. 98-27, ff. 35r-48v

A different astrolabe text, possibly by John of Seville³⁵¹

Vatican, Biblioteca Apostolica Vaticana, ms. Barb. lat. 3453

An erroneous listing in Carmody³⁵²; the manuscript contains a single 16th or 17th-century
Spanish political text

³⁴⁵ Beaujouan, *Salamanque*, p. 120.

³⁴⁶ Beaujouan, *Salamanque*, p. 173.

³⁴⁷ Thorndike and Kibre, entry 1228-5; also 331-4/5.

³⁴⁸ Thorndike and Kibre, entry 1164-1.

³⁴⁹ Paul Kunitzsch, *Typen von Sternverzeichnissen in astronomischen Handschriften des zehnten bis vierzehnten Jahrhunderts* (Wiesbaden, 1966), p. 47.

³⁵⁰ Thorndike and Kibre, entry 351-1.

³⁵¹ Transcription in Millás Vallicrosa, pp. 322-327; inc.: “Dixit Iohannes: Cum volueris facere astrolabium accipe auricalcum optimum ...” (Thorndike and Kibre, entry 454-8].

³⁵² Carmody, *Arabic Astronomical ...*, p. 25.

Vatican, Biblioteca Apostolica Vaticana, ms. Ottob. lat. 399

An erroneous listing in Carmody³⁵³; the manuscript contains the major books of the Bible

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1353

Fols. 72ra-76ra: unknown astrolabe text, inc.: In quadrato posito in dorso astrolabii ...³⁵⁴

Fols. 76rb-76va: unknown chapter on astrolabe, inc.: Scribitur enim ipsum primo posteriorum ...³⁵⁵

Fols. 76vb-80rb: “Henricus” astrolabe text, inc.: Ad faciendum asstrolabium accipe materiam ligni ...³⁵⁶

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1384³⁵⁷

Fols. 58r-60r contain a set of astrolabe canons, but not by Pseudo-Masha'allah.

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1391, ff. 195v-198v

Text on the projection of a sphere onto a plane.³⁵⁸

Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1435³⁵⁹

Fols. 260^{rb}-262^{rb} (olim 246^{rb}-248^{rb}): A different astrolabe text, inc.: “Astrolabium ita construitur. Accipe rotulas ...”³⁶⁰

Fols. 268^{rb}-271^{va} (olim 254^{rb}-257^{va}): Another astrolabe text, inc.: “Scribitur primo posteriorum in omni scientia ...”³⁶¹

Vatican, Biblioteca Apostolica Vaticana, ms. Ross. 1106³⁶²

Fols. 1^r-6^r, Profatius Judaeus, Compositio novi quadrantis, inc.: “Compositurus novum

³⁵³ Carmody, *Arabic Astronomical ...*, p. 25.

³⁵⁴ Not in Thorndike and Kibre.

³⁵⁵ Variation on Thorndike and Kibre, entry 1414-3.

³⁵⁶ Not in Thorndike and Kibre.

³⁵⁷ From the master copy of Zinner's *Verzeichnis* in Frankfurt-am-Main (entry 7056g).

³⁵⁸ Listed in Carmody, *Arabic Astronomical ...*, p. 25. and in the master copy of Zinner's *Verzeichnis* in Frankfurt-am-Main (entry 7056a).

³⁵⁹ From the master copy of Zinner's *Verzeichnis* in Frankfurt-am-Main (entry 7056h).

³⁶⁰ Thorndike and Kibre, entry 155-7.

³⁶¹ Thorndike and Kibre, entry 1414-3.

³⁶² From the additional material in Carmody, *Arabic Astronomical ...*, p. 25.

quadrantem accipe tabulam planam ...³⁶³

Fols. 6^v-12^r, Use of the quadrans, inc.: “Utilitates quadrantis novi breviter ...”³⁶⁴

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 3113,

Fols: 50-67: Practica/Tractatus quadrantis, inc.: “Debes scire quod ...”³⁶⁵

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 4087

Fols: 74v-81r (olim 86v-93r): John of Seville (?), on the astrolabe, inc.: “Dixit Johannes. Cum volueris facere astrolabium ...”³⁶⁶

Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 4385

Fols: 134ra-139rb: A different astrolabe construction text, inc.: “Si vis facere abstrrolabium [sic] describere primo rotulam unam ...”³⁶⁷

Fols. 139rb-143vb: a different use text, inc.: “Nomina instrumentorum astrolabii haec sunt ...”

Wien, Österreichische Nationalbibliothek, ms. Palatinus 2452³⁶⁸

Fols 1-10: Johannes Hispanus, Liber Astrolabii, inc.: “Dixit Johannes cum volumus”³⁶⁹

Wien, Österreichische Nationalbibliothek, ms. Palatinus 4987³⁷⁰

Fols. 78v-84r: another astrolabe text, inc.: “Scribit Aristotiles primo posteriorum an omni scienti ...”³⁷¹

Fols. 84v-93r: Profatius Judaeus, De compositione novi quadrantis, inc: “Compositurus novum quadrantem ...”³⁷²

³⁶³ Thorndike and Kibre, entry 241-8.

³⁶⁴ Not in Thorndike and Kibre.

³⁶⁵ Thorndike and Kibre, entry 396-4. This item, found in the additional material in Carmody, *Arabic Astronomical ...*, p. 24, could be an error for Vat. lat. 3133.

³⁶⁶ Thorndike and Kibre, entry 454-8.

³⁶⁷ Not in Thorndike and Kibre.

³⁶⁸ From the additional material in Carmody, *Arabic Astronomical ...*, p. 24.

³⁶⁹ Thorndike and Kibre, entry 454-8.

³⁷⁰ From the additional material in Carmody, *Arabic Astronomical ...*, p. 25.

³⁷¹ Thorndike and Kibre, entry 1412-6.

³⁷² Thorndike and Kibre, entry 241-8.

- Wien, Österreichische Nationalbibliothek, ms. Palatinus 5145
 Fols. 58r-71r: Christianus de Prachatice, Tractatus de compositione astrolabii, inc.: “Circa
 initium astrolabii ...”³⁷³ [But see above for Pseudo-Masha’allah, *Practica*.]
- Wien, Österreichische Nationalbibliothek, ms. Palatinus 5184³⁷⁴
 Fols. 25r-36r, 37r-49v: Prosdocimo de Beldomandi, De compositione astrolabii (inc.:
 “Quamvis de astrolabii compositione ...”) ³⁷⁵ and De utilitate astrolabii (inc.: “Quia
 plurimi ob nimiam quoque ...”) ³⁷⁶
 Fols. 76r-86v: Profatius Judaeus, De compositione novi quadrantis, inc.: “Compositurus
 novum quadrantem ...”³⁷⁷
- Wien, Österreichische Nationalbibliothek, ms. Palatinus 5296³⁷⁸
 Fols.1r-22v: John of Gmunden, De compositione et usu astrolabii, inc.: Quoniam practica
 astronomiae ...”³⁷⁹
 Fols. 134r-140r: Profatius Judaeus, De compositione novi quadrantis, inc.: “Compositurus
 novum quadrantem ...”³⁸⁰

Addendum 3 Printed Editions of Pseudo-Masha’allah

Insofar as I have been able to trace them, the following is a list of all the times the text of Pseudo-Masha’allah has been published.

³⁷³ Thorndike and Kibre, entry 207-7.

³⁷⁴ From the additional material in Carmody, *Arabic Astronomical ...*, p. 25.

³⁷⁵ Thorndike and Kibre, entry 1164-1.

³⁷⁶ Thorndike and Kibre, entry 1228-5.

³⁷⁷ Thorndike and Kibre, entry 241-8.

³⁷⁸ From the additional material in Carmody, *Arabic Astronomical ...*, p. 25.

³⁷⁹ Thorndike and Kibre, entry 1294-2.

³⁸⁰ Thorndike and Kibre, entry 241-8.

[1.] *Margarita Philosophica nova*. Ed. Gregor Reisch. Strasbourg: Johann Grüninger, 1512.³⁸¹

The text is one of the addenda, entitled *De compositione et utilitate Astrolabii* (appendices, fol. Hii^r–Miv^v). The version published here (and the later reprints) begins by following the medieval text of Ps.-Masha'allah but soon becomes a completely different version, at least in the *Compositio* section. Here the printed text has a bit of the Prologue and about half of Cap. 1 (Grüninger, Cap. I);³⁸² nearly all of Cap. 2 (Cap. II); virtually all of Cap. 3 (Cap. III); and nearly all of Cap. 4 and of the first 31 lines of Cap. 5 (Cap. IV). However after this Cap. V on almucantars differs from Cap. 13; Cap. VI on azimuths is not Cap. 14; Cap. VII on unequal hour lines is not Cap. 16; Cap. VIII on inscribing the equatorial circle and the tropics differs from Cap. 7; Cap. IX on the rete differs from Cap. 11; Cap. X on inscribing the zodiac is not Cap. 8; Cap. XI on inscribing stars on the rete differs from Cap. 10; Cap. XII on inscribing the twilight line is not Cap. 21. The star list contains only 27 stars.

In the early parts taken from the medieval Ps.-Masha'allah there are small but significant errors which indicate that the editor did not really understand what he was reading or copying and which vitiate the usefulness of the text. It should be noted, however, that in Cap. 2/II, the data (e.g., for the position of the sun in the zodiac for beginnings of the months) have supposedly been updated to "1494" (as noted in the text of Cap. II), although I have not tested this.

The text of the *Practica* as printed is closer to the medieval text found in the manuscripts, although there are numerous additions and omissions. The prologue material on the parts of the astrolabe was not included in the printed edition; Grüninger's cap. 1 to 6 are Ps.-Masha'allah's cap. 1 to 6; Grüninger's cap. 7 to 10 are four new chapters on the unequal hours in the daytime, the unequal hours in the night, the equal hours in the night, and the equal hours in the day; then Grüninger's cap. 11-19 are Ps.-Masha'allah's cap. 7 to 15; Grüninger's cap. 20 is only half of Ps.-Masha'allah's cap. 16; Ps.-Masha'allah's cap. 17 is missing; Grüninger's cap. 21-23 are Ps.-Masha'allah's cap. 18-20; Grüninger's cap. 24 is Ps.-Masha'allah's cap. 21 and 22; Grüninger's cap. 25-40 are Ps.-Masha'allah's cap. 23-38; Grüninger's cap. 41 and 42 are Ps.-Masha'allah's cap. 39; Grüninger's cap. 43 is Ps.-Masha'allah's cap. 40 and 41;³⁸³ Grüninger's cap. 44 is Ps.-Masha'allah's cap. 42; Grüninger's cap. 45 is Ps.-Masha'allah's cap. 43 and 44; and Grüninger's cap. 46-[48]³⁸⁴ are Ps.-Masha'allah's cap. 45-47.

Note: the original 1503 Freiburg edition of the *Margarita Philosophica* printed by Johann Schott does not contain this text, nor does his March 1504 edition (Strasbourg),³⁸⁵ the February 1508 edition

³⁸¹ See John Ferguson, "The *Margarita Philosophica* of Gregorius Reisch. A Bibliography," *The Library. Transactions of the Bibliographical Society*, ser. 4, 10 (1929) 194-216.

³⁸² Hereafter the capitula of the *Compositio* as printed by Grüninger are designated by Roman numerals; those designated by Arabic numbers are the Ps.-Masha'allah capitula as edited here.

³⁸³ The value of 93° in Ps.-Masha'allah, cap. 40, is revised to 87° 19' in the printed text, cap. 43.

³⁸⁴ The last two capitula in the printed text are unnumbered.

³⁸⁵ No actual place of publication is specified in the volume. Some library catalogues list the place of publication as Strasbourg or Freiburg, but Ferguson (p. 195) doubts that it was printed in either of these cities, nor in Basel (where Schott was in 1508).

The general listing of Strasbourg as place of publication stems from the fact that the colophon (fol. tt iv^v) credits the work to Schott of that city. However, the colophon continues with the words "Chalcographi

(Basil: Michael Furter and Johann Schott), nor the 1517 edition (Basel: Michael Furterius).

Of the editions printed by Grüninger, the earlier February 1504 Strasbourg³⁸⁶ and the March 1508 Strasbourg³⁸⁷ editions also do not contain this material.

[1A.] *Margarita Philosophica nova*. Ed. Gregor Reisch. Strasbourg: Johann Grüninger, 1515.

The text is identical to the 1512 edition, although retypeset, which changes the lineation and the pagination; the diagrams and the star list, however, seem to have been printed from the same blocks or type as the earlier printing. The text is found on fol. Gvi^r–Liii^r; the added “geographical astrolabe” material is on fol. Kii^r–Kii^v.

[1B.] *Margarita Philosophica*. Ed. Gregor Reisch. Basel: Henricus Petrus [/ Officina Henricpetrina], 1535.

The reset text (pp. 1362-1415) is virtually identical to the earlier editions printed by Grüninger, but with the abbreviations expanded and the occasional substitution of a word (I noticed “Facies que ...” becoming “Facies igitur ...”). New diagrams. The “geographical astrolabe” material (pp. 1416-1420) now follows the *Practica* section.

[1C.] *Margarita Philosophica*. Ed. Gregor Reisch. Basel: Sebastian Henric Petrus [/ Officina Henricpetrina], 1583.

The text (pp. 1275-1329) is identical to the 1535 Basel edition, although it has been retypeset so that the pagination and lineation differ. However, the diagrams are identical to the 1535 edition. The “geographical astrolabe” material (pp. 1330-1334) follows the *Practica* section.

[2A.] *Margarita filosofica del R.P.F. Gregorio Reisch ...* Trans. Gio. Paolo Gallucci. Venice: Barezzo Barezzi, 1599.

Contains (pp. 1034-1080) an Italian translation of the Latin printed edition and therefore covers the same ground. It is not possible to say which edition was used, although given that the “geographical astrolabe” material, found on pp. 1081-1084, also follows the *Practica* section, it is probable that either the 1535 or the 1583 edition was used.

As well the data in cap. 2 of the *Compositio* is updated to “1592” and the value given in the *Practica*, cap. 43 is also 87° 19' as in the printed versions.

Gunther cites a “1593” edition (p. 135) in error for this edition of 1599.

[2B.] *Margarita filosofica del R.P.F. Gregorio Reisch ...* Trans. Gio. Paolo Gallucci. Venice: Iacomo Antonio Somascho, 1599

Ciuis,” or “Printer to the city,” which may in fact mean that the place of publication was indeed Strasbourg.

³⁸⁶ Title: *Aepitoma omnis phylosophiae, alias Margarita phylosophica*

³⁸⁷ Also entitled *Margarita Philosophica Nova*.

[2C.] *Margarita filosofica del R.P.F. Gregorio Reisch ...* Trans. Gio. Paolo Gallucci. Venice: Iacomo Antonio Somascho, 1600

Both 2B and 2C are identical to Venice: Barezzo Barezzi, 1599. It appears that Somascho obtained unbound sheets from the first printing, produced new title pages, and issued the volume twice under his own imprint.

[3.] Chaucer, Geoffrey. *A Treatise on The Astrolabe addressed to his son Lowys*. Ed. Walter W. Skeat. Early English Text Society, Extra Series 16. London: Oxford University Press, 1872.

Contains, pp. 88-105, an edition of the *Practica* text, as found in ms Cη.

While most of Skeat's EETS edition was reprinted in 1894 as part of the complete works of Chaucer, the Ps.-Masha'allah material was not republished.³⁸⁸

[4.] Gunther, R. T., ed. *Chaucer and Messahalla On the Astrolabe*. Early science in Oxford 5. Oxford, 1929.

The text (pp. 195-216) and translation (pp. 137-167) of the *Compositio*, based on ms Cη, with some readings from mss Oζ and Oη. Also the text (217-231) and translation (pp. 168-192) of the *Practica*; the Latin is a virtual reprint of Skeat's 1872 edition, implicitly acknowledged. Some readings from the Reisch editions are also included.

This text, while covering the whole of the Pseudo-Masha'allah treatise (but not the star list except for a facsimile reprint of ms Cη fols. 70v-71r), is troublesome because of the idiosyncracies of the base manuscript.

What is generally not known is that most of the Latin was the work of a nun (or nuns) from a religious house near Oxford in the 1920s. There was correspondence to this effect in the Museum of the History of Science, University of Oxford, in the early 1970s; this was reported to me at the time by my doctoral supervisor, the late John D. North, then Assistant Curator of the Museum.

[5.] Ron B. Thomson, ed. *Jordanus de Nemore and the Mathematics of Astrolabes: De plana spere*. Studies and Texts 39. Toronto: Pontifical Institute of Mediaeval Studies, 1978.

Contains (pp. 179-185) a re-edition of the *Compositio*, Cap. 17 and 18, based on the 1929 text collated with mss Pδ, Pμ, and Po and attempting to correct the most egregious errors in these capitula as printed by the Gunther.

³⁸⁸ Geoffrey Chaucer, *The Complete Works*, ed. Walter W. Skeat (Oxford: Clarendon Press, 1894), vol. 3, pp. lvii-xci, 175-241, 352-367

Sigla

- Aα Assisi, Biblioteca del Sacro Convento, Fondo Antico Communale, ms. 174, ff. 105^r-113^v
- Bα Brugge, Openbare Bibliotheek Biekorf, ms. 523, ff. 79^r-85^v
- Bβ Bamberg, Staatsbibliothek., ms. Class. 84, ff. 121^r-132^v
- Bγ Berlin, Staatsbibliothek zu Berlin - Preussischer Kulturbesitz, ms. lat. fol. 610, ff. 63^r-82^r
- Bδ Berlin, Staatsbibliothek zu Berlin - Preussischer Kulturbesitz, ms. lat. fol. 192, ff. 29^r-32^r
- Bε Berlin, Staatsbibliothek zu Berlin - Preussischer Kulturbesitz, ms. lat. fol. 246, ff. 32^r-38^v
- Bε₁ Berlin, Staatsbibliothek zu Berlin - Preussischer Kulturbesitz, ms. lat. fol. 246, f. 59^r
- Bζ Basel, Öffentliche Bibliothek der Universität Basel, ms. F-III-25, ff. 26^v-41^r
- Bη Bernkastel-Kues, St. Nikolaus-Hospitals, Bibliothek, ms. 212, ff. 118^r-122^r; 124^r-126^v
- Bθ Bologna, Biblioteca Universitaria, ms. 132 (154), ff. 98^r-119^v
- Bι Brugge, Openbare Bibliotheek Biekorf, ms. 522, ff. 60^r-74^r
- Bκ Brno, Moravská zemská knihovna v Brně, ms A 64, ff. 406^v-420^r
- Cα Cambridge, St John's College Library, ms. 155 (*olim* F.18), ff. 50^r-55^v
- Cβ Cambridge, St John's College Library, ms. 162 (*olim* F.25), ff. 50^r-54^r
- Cγ Cambridge, Trinity College Library, ms. 567 (R.2.86), ff. 26^r-32^r
- Cδ Cambridge, University Library, ms. 1684 (*olim* Hh.6.8), ff. 185^r-198^r (*olim* pp. 208-234)
- Cε Cambridge, University Library, ms. 1705 (*olim* Ii.1.13), ff. 84^v-94^v (*olim* 75^v-85^v)
- Cζ Cambridge, University Library, Additional ms. 6860, ff. 66^v-77^r
- Cη Cambridge, University Library, ms. 1767 (*olim* Ii.3.3), ff. 61^r-79^r
- Cθ Cambridge, University Library, ms. 1935 (*olim* Kk.1.1), ff. 105^v-109^v
- Cι Cambridge, Gonville and Caius College Library, ms. 174/95, pp. 24^a-53^b
- Dβ Darmstadt, Universitäts- und Landesbibliothek, ms. 1227, 117^r-120^v
- Dγ Darmstadt, Universitäts- und Landesbibliothek, ms. 2661, ff. 146^r-168^r
- Dδ Douai, Bibliothèque Municipale, ms. 715, ff. 9^r-14^r
- Dη Dublin, Trinity College Library, ms 403 (D.2.29/502), ff. 57^r-78^r
- Eα Edinburgh, Royal Observatory, Crawford Library, ms 3.12, ff. 4^r-10^r
- Eβ Eger, Főegyházmegeyei Könyvtár, ms U² VI 1, ff. 79^r-97^v
- Eγ Edinburgh, Royal Observatory, Crawford Library, ms 5.14, ff. 8^r-8^v
- Eδ Einsiedeln, Stiftsbibliothek, ms 29 (878), pp. 103-136
- Eε Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. F^o 38, f. 2^v
- Eζ Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. F^o 376, ff. 82^v-95^v
- Eη Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. F^o 394, ff. 60^r-67^r
- Eκ Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q^o 349, ff. 163^r-171^v
- Eλ Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q^o 351, ff. 34^r-36^v
- Eμ Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q^o 355, ff. 49^r-62^r
- Eν Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q^o 363, ff. 94^r-95^v

- Eo Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q° 369, ff. 184^r-190^v
 Eπ Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q° 367, f. 99^v
 Eρ Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q° 382, ff. 18^v-20^v
 Eσ Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q° 385, ff. 147^r-151^r
 Eτ Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, ms Amplon. Q° 386, ff. 130^r-150^v
 Ev Erlangen, Friedrich-Alexander-Universität Erlangen-Nürnberg, Universitätsbibliothek, ms. 665, ff. 9^r-26^v
 Eφ El Escorial, Real Biblioteca del Monasterio de San Lorenzo, ms. O.II.10, ff. 69^r-71^v
 Fa Firenze, Biblioteca Nazionale Centrale, ms. II.III.24, ff. 189^r-198^r
 Fβ Firenze, Biblioteca Nazionale Centrale, ms. Con. Sop. J.II.10 ff. 197^r-216^v (189^r-208^v)
 Fγ Firenze, Biblioteca Riccardiana, ms. 689, ff. 41^r-46^v
 Fδ Firenze, Biblioteca Riccardiana, ms. 885, ff. 104^r-107^r
 Fζ Firenze, Biblioteca Medicea Laurenziana, ms. Plut. XVIII sin. cod. 3, ff. 68^v-90^r
 Ga Göttingen, Niedersächsische Staats- und Universitätsbibl., ms. Theol. 124, ff. 145^r-147^v, 143^r
 Ka Karlsruhe, Badische Landesbibliothek, ms. EM 32, ff. 111^r-117^v
 Kγ Kraków, Biblioteka Jagiellońska, ms 551 (*olim* DD.III.62), ff. 30^r-30^v
 Kδ Kraków, Biblioteka Jagiellońska, ms 601 (*olim* DD.IV.5), ff. 57^v-60^v
 Kε Kraków, Biblioteka Jagiellońska, ms 715 (*olim* DD.III.11), ff. 28^v-31^r (*olim* pp. 56-64)
 Kθ Kraków, Biblioteka Jagiellońska, ms 1915 (*olim* BB.XXV.2), ff. 53^v-57^v (*olim* pp. 106-114).
 Kι Kraków, Biblioteka Jagiellońska, ms 1970 (*olim* BB.XXIII.13), pp. 1-12
 La Leyden, Bibliotheek der Rijksuniversiteit, ms. Scaligerani 64, f. 120v
 Lβ London, British Library, ms. Arundel 268, ff. 49^r-61^r
 Lγ London, British Library, ms. Egerton 844, ff. 58^r-77^r
 Lδ London, British Library, ms. Egerton 2622, ff. 169^v-173^v
 Lε London, British Library, ms. Harley 3647, ff. 63^r-81^r
 Lζ London, British Library, ms. Royal 12.C.ix, ff. 38^r-49^v
 Lη London, British Library, ms. Royal 12.C.xvii, ff. 95^r-118^r
 Li London, British Library, ms. Sloane 513, ff. 15v-19v
 Lκ London, Middle Temple, ms. 75, ff. 132^v-133^r, 136^r-140^r
 Lλ London, Wellcome Library, ms. 19, ff. 104^v-107^v (*olim* 94^v-97^v)
 Lμ Lüneburg, Ratsbücherei, ms. Misc. D.2°.11, ff. 69^v-73^v
 Ma Madrid, Biblioteca Nacional, ms. 10009, ff. 20^r-23^r
 Mγ Mantova, Biblioteca Comunale Teresiana, ms. 125, ff. 13^{rb}-21^{vb}
 Mδ Manchester, University of Manchester, John Rylands Library, ms. 67, ff. 218^r-231^r
 Mζ Melk, Stiftsbibliothek, Cod. 601 (*olim*. 51; *olim* B.16), f. 17^v
 Mη Milano, Biblioteca Pinacoteca Accademia Ambrosiana, ms. H.75.Sup., ff. 34^r-51^v
 Mθ Milano, Biblioteca Pinacoteca Accademia Ambrosiana, ms. H.109.Sup., ff. 1^r-7^r; 17^v
 Mi Milano, Biblioteca Pinacoteca Accademia Ambrosiana, ms. M.28.Sup., ff. 92^v-97^r

- Μκ Milano, Biblioteca Pinacoteca Accademia Ambrosiana, ms. R.47.Sup., ff. 126^r-132^v; 112^r-117^v
- Μλ Montpellier, Bibliothèque Interuniversitaire, Section Médecine, ms. H 323, ff. 74^r-98^v
- Μμ München, Bayerische Staatsbibliothek, Clm 372, ff. 227^r-235^v
- Μν München, Bayerische Staatsbibliothek, Clm 353, ff. 41^r-54^r
- Μο München, Bayerische Staatsbibliothek, Clm 572, ff. 1^r-27^v
- Μπ München, Bayerische Staatsbibliothek, Clm 588, ff. 137^v-141^r
- Μρ München, Bayerische Staatsbibliothek, Clm 10661, ff. 159^r-161^r
- Μσ München, Bayerische Staatsbibliothek, Clm 10662, ff. 154^r-157^r
- Μτ München, Bayerische Staatsbibliothek, Clm 10664, ff. 16^v-26^v
- Μυ München, Bayerische Staatsbibliothek, Clm 14583, ff. 410^r-425^v
- Μφ München, Bayerische Staatsbibliothek, Clm 14684, ff. 82^v-98^r
- Μχ München, Bayerische Staatsbibliothek, Clm 19689, f. 66^r (*olim* 60^r)
- Μψ München, Bayerische Staatsbibliothek, Clm 19690, ff. 108^r-109^r
- Να Napoli, Biblioteca Nazionale “Vittorio Emanuele III”, ms. VIII-C-36, ff. 29^r-36^r
- Νβ Napoli, Biblioteca Nazionale “Vittorio Emanuele III”, ms. VIII-C-43, ff. 43^r-52^r
- Νγ Napoli, Biblioteca Nazionale “Vittorio Emanuele III”, ms. VIII-G-86, ff. 120^r-126^r
- Νε New Haven, Yale University, Cushing/Whitney Medical Library – Medical Historical Library, ms. 25, ff. 109^r-114^v
- Οα Oxford, Bodleian Library, ms. Bodley 430, ff. 42^r-45^v
- Οβ Ottobeuren, Bibliothek der Benediktinerabtei, ms. O. 86 (*olim* II 319 / F 319), ff. 143^v-150^v
- Ογ Oxford, Bodleian Library, ms. Ashmole 340, ff. 29^r-38^r
- Οζ Oxford, Bodleian Library, ms. Ashmole 1522, ff. 80^r-101^v
- Οη Oxford, Bodleian Library, ms. Ashmole 1796, ff. 40^v-55^v
- Οι Oxford, Bodleian Library, ms. Bod. 464, ff. 134^r-139^v
- Οκ Oxford, Bodleian Library, ms. Canon. Misc. 61, ff. 1^r-8^v
- Ομ Oxford, Bodleian Library, ms. Digby 28, ff. 212^v-215^v
- Ον Oxford, Bodleian Library, ms. Digby 38, ff. 73^r-76^v
- Οξ Oxford, Bodleian Library, ms. Digby 207, ff. 16^r-24^v
- Οο Oxford, Bodleian Library, ms. Digby 215, ff. 44^v-46^r
- Οπ Oxford, Bodleian Library, ms. Savile 16, ff. 49^r-50^v
- Ορ Oxford, Bodleian Library, ms. Savile 17, ff. 11^v-21^v
- Οσ Oxford, Bodleian Library, ms. Savile 21, ff. 104^r-115^r
- Οτ Oxford, Bodleian Library, ms. Selden Supra 78, ff. 51^r-70^r
- Ου Oxford, Bodleian Library, ms. Tanner 192, ff. 76^v-95^v (*olim* pp. 156^a-194^b)
- Οφ Oxford, Magdalene College, ms. 182, ff. 103^r-109^r
- Οχ Oxford, Merton College, ms. 259, ff. 90^v-94^r
- Οψ Oxford, St. John’s College, ms. 188, f. 98^v
- Ρα Paris, Bibliothèque Sainte-Geneviève, ms. 1043, ff. 65^r-80^r
- Ρβ Paris, Bibliothèque nationale de France, ms. fr. 12481, ff. 78^v-83^r

- Pγ Paris, Bibliothèque nationale de France, ms. lat. 7194, ff. 46^r-62^v
 Pδ Paris, Bibliothèque nationale de France, ms. lat. 7195, ff. 44^r-61^r
 Pε Paris, Bibliothèque nationale de France, ms. lat. 7196, ff. 34^v
 Pζ Paris, Bibliothèque nationale de France, ms. lat. 7198, ff. 8^r-10^v
 Pθ Paris, Bibliothèque nationale de France, ms. lat. 7280, ff. 73^r-81^r
 Pι Paris, Bibliothèque nationale de France, ms. lat. 7292, ff. 296^v-300^v
 Pκ Paris, Bibliothèque nationale de France, ms. lat. 7294, ff. 30^r-30^v
 Pλ Paris, Bibliothèque nationale de France, ms. lat. 7295A, ff. 49^r-62^v
 Pμ Paris, Bibliothèque nationale de France, ms. lat. 7298, ff. 61^v-75^v
 Pν Paris, Bibliothèque nationale de France, ms. lat. 7336, ff. 307^r-326^v
 Pξ Paris, Bibliothèque nationale de France, ms. lat. 7378A, ff. 86^r-89^r
 Pο Paris, Bibliothèque nationale de France, ms. lat. 7413(1), ff. 1^r-18^v
 Pπ Paris, Bibliothèque nationale de France, ms. lat. 7413(2), f. 75^v; 36^v
 Pρ Paris, Bibliothèque nationale de France, ms. lat. 7414, ff. 9^r/1^r-[48^v]/40^v
 Pσ Paris, Bibliothèque nationale de France, ms. lat. 7416, ff. 1^r-7^v
 Pτ Paris, Bibliothèque nationale de France, ms. lat. 7416B, ff. 75^v-86^r
 Pυ Paris, Bibliothèque nationale de France, ms. lat. 7421, ff. 62^r-89^v (*olim* 61^r-88^v)
 Pφ Paris, Bibliothèque nationale de France, ms. lat. 10266, ff. 126^r-147^r
 Pχ Paris, Bibliothèque nationale de France, ms. lat. 16649, ff. 181^v-189^v
 Pψ Paris, Bibliothèque nationale de France, ms. lat. 16652, ff. 2^r-6^r
 Pω Paris, Bibliothèque nationale de France, ms. n.a.l. 595, ff. 27^r-27^v

 Qα Paris, Bibliothèque nationale de France, ms. n.a.l. 693, ff. 9^r-14^r
 Qβ Paris, Bibliothèque nationale de France, ms. n.a.l. 1893, ff. 48^v-65^r
 Qγ Paris, Bibliothèque de la Sorbonne, ms. 595, ff. 68^r-88^r
 Qδ Parma, Biblioteca Palatina, ms. 984 (*olim* HH.III.17), ff. 115^r-130^v
 Qε Pommersfelden, Gräfllich Schönbornsche Schlossbibliothek ms. 66 (2640), ff. 109^{rb}-113^v
 Qζ Praha, Knihovna Metropolitní Kapituli, ms. L.29, ff. 63^v-65^v
 Qη Praha, Národní Knihovna České Republiky, ms. V.G.18, ff. 6^r-11^r
 Qθ Praha, Národní Knihovna České Republiky, ms. X.A.23, ff. 63^r-68^r
 Qι Praha, Národní Knihovna České Republiky, ms. XIII.F.24, ff. 90^r-91^v
 Qλ Princeton, Princeton University Library, ms. Garrett 99, ff. 180^r-198^r
 Qμ Private Collection, ff. 132-157

 Rα Ravenna, Biblioteca Classense, ms. 269, ff. 1^r-24^v
 Rβ Rovigo, Biblioteca dell'Accademia dei Concordi, ms. Silvestriano 88, ff. 70^r-79^v

 Sα Saint-Omer, Bibliothèque municipale, ms. 374, ff. 137^v-139^v
 Sβ Salamanca, Universidad de Salamanca, Biblioteca, ms. 2353, ff. 4^v-12^r
 Sγ Salamanca, Universidad de Salamanca, Biblioteca, ms. 2621, f. 116^r
 Sδ Salamanca, Universidad de Salamanca, Biblioteca, ms. 2662, ff. 67^r-84^v
 Sε Sankt Gallen, Kantonsbibliothek Vadiana, ms. 412, ff. 93^v-95^r

- Sη Schlägl/Aigen-im-Mühlkreis, Bibliothek des Praemonstratenserstiftes, ms. Plagens [824] 236, ff. 158^r-172^r
- Sθ Sevilla, Biblioteca Capitulare y Colombina, ms. 7-6-2, ff. 121^r-140^v
- Si Sevilla, Biblioteca Capitulare y Colombina, ms. 7-7-2, ff. 43^r-49^r, 51^r-55^r
- Sk Stams, Stiftsbibliothek, ms. 13, ff. 78^{ra}-101^{rb}
- Sl Sankt-Peterburg, Rossijskaja Nacionalnaja Biblioteka, ms. Lat O.v.IX n^o. 2, ff. 6^v-26^r
- Tβ Toruń, Uniwersytetu Mikołaja Kopernica, Biblioteka Główna, ms. 74, ff. 200^r-204^v
- Tδ Trier, Stadtbibliothek, ms. 1074/1271 (8^o), ff. 49^r-81^v (olim 50^r-82^v)
- Uα Uppsala, Universitetsbibliotek, ms. C 653, ff. 61^r-65^v
- Vα Vatican, Biblioteca Apostolica Vaticana, ms. Barb. lat. 156, ff. 198^r-214^r
- Vβ Vatican, Biblioteca Apostolica Vaticana, ms. Barb. lat. 276, ff. 41^r-50^v/91^r-109^r, 57^r-71^v
- Vγ Vatican, Biblioteca Apostolica Vaticana, ms. Barb. lat. 303, ff. 79^v-81^r
- Vε Vatican, Biblioteca Apostolica Vaticana, ms. Borg. 312, ff. 15^r-18^r
- Vη Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1373, f. 12^r
- Vθ Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1391, ff. 195^v-198^v
- Vι Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1376, ff. 335^r-342^v
- Vκ Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1381, ff. 137^r-147^r
- Vλ Vatican, Biblioteca Apostolica Vaticana, ms. Reg. lat. 1195, ff. 34^r-51^v
- Vν Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1414, ff. 179^v-189^v
- Vξ Vatican, Biblioteca Apostolica Vaticana, ms. Pal. lat. 1416, ff. 214^r-221^v
- Vπ Vatican, Biblioteca Apostolica Vaticana, ms. Rossiano 732 (*olim* X,112), ff. 47^v-66^v
- Vρ Vatican, Biblioteca Apostolica Vaticana, ms. Urb. lat. 1399, ff. 27^r-29^r
- Vσ Vatican, Biblioteca Apostolica Vaticana, ms. Urb. lat. 1408, ff. 7^r-20^r
- Vτ Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 1108, ff. 162^v-164^r
- Vυ Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 3099, ff. 28^r-33^v; 35^r-38^r
- Vφ Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 3127, ff. 13^r-18^r
- Vχ Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 3133, ff. 58^r-62^r
- Vψ Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 4037, ff. 168^r-186^r
- Vω Vatican, Biblioteca Apostolica Vaticana, ms. Vat. lat. 4085, ff. 85^r-93^r
- Wα Wien, Österreichische Nationalbibliothek, ms. Palatinus 2367, ff. 77^r-92^v, 184^r, 196^r
- Wβ Wien, Österreichische Nationalbibliothek, ms. Palatinus 2386, ff. 4^r-6^r
- Wγ Wien, Österreichische Nationalbibliothek, ms. Palatinus 3105, ff. 73^v-76^r
- Wδ Wien, Österreichische Nationalbibliothek, ms. Palatinus 2323, ff. 80^v-81^r, 83^v
- Wε Wien, Österreichische Nationalbibliothek, ms. Palatinus 5277, ff. 110^v-116^v
- Wζ Wien, Österreichische Nationalbibliothek, ms. Palatinus 5337, ff. 116^v-120^r
- Wη Wien, Österreichische Nationalbibliothek, ms. Palatinus 5412, f. 159^r
- Wθ Washington, Library of Congress, Rare Book and Special Collections, ms. 95, ff. 75^r-76^r
- Wι Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 76.1 Aug. 2^o, ff. 2^r-22^v

- Wκ Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 81.26 Aug. 2^o, ff. 139^v-140^r
Wλ Wien, Österreichische Nationalbibliothek, ms. Palatinus 5145, ff. 5^v-10^v
Wμ Wrocław, Biblioteka Uniwersytecka, ms. IV F 19, ff. 218^v-220^r
- Xα Venezia, Biblioteca Nazionale Marciana, ms. VIII.33 (= 2499), ff. 92^r-99^v
Xβ Venezia, Biblioteca Nazionale Marciana, ms. VIII.33 (= 2499), ff. 100^r-115^v
Xγ Venezia, Biblioteca Nazionale Marciana, ms. VIII.77 (=3223), ff. 18^r-19^v
Xδ Venezia, Biblioteca Nazionale Marciana, fondo antico 343 (= Z[anetti] 343) (=1877)
ff. 2^v-6^r
- Zα Zurich, Zentralbibliothek, ms. C 364, ff. 5^r-8^v