

Incipit Tabule alfonsi olim Castellæ Regis illustris Et primo tabula differenciarum unius regni ad aliud et nomina regum atque annorum eius cognite. Et sunt radices dierum cuiusque nomine in sequentibus tabulis posite.

Differencie et nomina erant hic posite.

	2	3	4	5	Dies aggregati	Annus ultimus
Differencia diluuii et regis alfonsi	1	21	60	78	440078	2747104
Dia nabugodonosor et alfonsi regis	3	22	66	24	120864	199896
Dia mortis alex. patris philippi et alfonsi	2	33	66	41	1141104	1442202
Dia alexandri magni et regis alfonsi illustris	2	38	72	66	1100162	1462263
Dia ere cesaris et alfonsi regis illustris	2	10	69	19	210946	1289142
Dia incarnationis ihu xpi et alfonsi	2	6	48	49	610116	1241112
Dia diocetiani et alfonsi regis illustris	1	38	11	13	343683	962211
Dia alhyere .i. ere arabum et alfonsi regis	1	3	48	28	230062	629222
Dia Ierdigert .i. ere persarum et alfonsi	1	2	48	0	226200	619241
Dia diluuii et nabugodonosor	3	48	46	13	260187	274110
Dia diluuii et mortis alex. patris philippi	2	21	44	33	1016937	2108267
Dia diluuii et alexandri magni	2	23	11	42	1017212	2110211
Dia diluuii et ere cesaris augusti	4	10	41	19	1119019	3002210
Dia diluuii et incarnationis ihu xpi	4	12	62	39	1132046	3101316
Dia diluuii et diocetiani	4	23	29	24	1226014	3284130
Dia diluuii et ere arabum .i. mahometi	6	18	26	12	1360012	3102109
Dia diluuii et ere persarum	6	18	26	38	1367108	3122119
Dia nabugod. et mortis alex. p. philippi	0	22	41	20	146160	223269

Tabla tota ad extrahendum omnes horas bisextiles et ad extrahendum unam incognitam ex altera cognita.

Ad annos iuxta uicium r. alfonsi alexandri cesaris ac diocetiani	Ad hanc partem	Ad hanc partem	
Annus	2 3 4 5	Annus	3 2 1 0
60	0 2 3 30	1	0 6 4 14
70	0 6 1 14	2	0 12 10 30
80	0 8 1 0	3	0 18 14 24
100	0 10 8 0	4	0 24 21 0
200	0 20 18 30	5	0 30 26 14
300	0 30 26 14	6	0 36 21 30
400	0 40 24 0	7	0 42 26 24
500	0 40 22 0	8	0 48 22 0
600	1 0 12 30	9	0 54 21 14
700	1 11 1 14	10	1 0 42 30
800	1 21 10 0	11	1 6 41 24
900	1 31 18 30	12	1 12 3 0
1000	1 41 28 30	13	1 18 8 14
2000	2 22 46 0	14	1 24 15 20

ALFA TEAM MEETING

Building and analysing the corpus of Alfonsine texts

24–27 September 2018

Observatoire de Paris
Salle du Conseil
77 avenue Denfert-Rochereau
75014 Paris

ALFA is an ERC funded project for 60 months
Consolidator grant 2016 agreement n° 723085



ALFONSINE ASTRONOMY

RATIONALE

This meeting is a follow up on the methodological workshop of the end of January 2018. Its aim is to begin discussion of our first research results on the shaping of the Alfonsine corpus in order to prepare the concluding conference of ALFA first phase's (Sept 2019) and the following collective publication (to be submitted Sept 2020).

ALFA develops three main approaches to manuscripts in the first phase of the project in order to shape the Alfonsine corpus. The first approaches, where all of us contribute, is the survey of Alfonsine manuscripts. In this survey we locate works related to Alfonsine astronomy in manuscripts from the main European libraries. When collected this information will offer many new research opportunities and give us a richer picture of the development of Alfonsine astronomy. A presentation of the current state of the survey will be given during the conference. Some papers could be devoted to the survey and address methodological questions, describe the image it gives of the development of Alfonsine astronomy and propose new venues of research using this digital resource. In the second approaches smaller groups of manuscripts are considered. These approaches include in the study not only Alfonsine works but also the other kind of works that circulate with them (astrological, musical, mathematical, theological, natural philosophy, etc.). These smaller corpus appear, for instance, when preparing an edition (the manuscript tradition of a given work) or when studying a specific ancient library. Such approaches can produce interesting papers helping us to understand the various intellectual milieus in which Alfonsine astronomy was practiced and their connections. A third type of approaches is that of the detailed description of manuscripts. This approach challenges the simple divide between intellectual and material aspects of the manuscript and considers the

codex as a whole artefact. It studies how physical, decorative and intellectual dimensions of a codex cast light on the kind of practice actors where engaged with in the production/use of the manuscript. Papers resulting from this third approach can help us understand the relation between different types of documents and different types of astronomical/mathematical practices.

These three approaches that we are developing together have also interesting echoes in the broader field of manuscript studies as they address general questions, including: How a corpus is shaped over time (in the case of Alfonsine astronomy this corpus does not crystallise around a fixed canon)? How are multiple texts manuscripts organised, how do they document various intellectual milieus? What kind of intellectual or cultural practices is associated with the production/use of manuscripts (the manuscript as archaeological site metaphor)? Thus, in addition to the value of having a good knowledge of our corpus and a critical, reflexive posture with respect to it, our work will also be of interest to larger scientific communities. On the practical side, each of us will be invited to present the current state of his/her research and from this to formulate a proposal for what could be his/her contribution to the 2019 conference and the 2020 collective book. Then these proposals will be discussed together in order to refine them and to build common grounds on the methodological and thematic dimensions. At this point, of course, everything will remain very open but the aim of the September 2018 workshop is to have at least a draft program of the 2019 conference.

Organisation:

J. Chabás, M. Husson, R. Kremer, L. Miolo, ALFA team

Participants:

Jean-Patrice Boudet; José Chabás; Laura Fernández Fernández; Petr Hadrava; Alena Hadravova; Matthieu Husson; Richard Kremer; Laure Miolo; Antonin Penon; Eric Ramírez Weaver; Marie-Madeleine Saby; Galla Topalian; Alexandre Tur; Glen Van Brummelen

Monday, 24 September

- 14.00-15.30 **Manuscript Oxford, Bodl., Canon. Misc. 499 of Prague provenience and its importance for the history of Alfonsine astronomy in Central Europe as well as for the Czech history**
Alena Hadravová (Academy of Sciences, Czech Republic)
- 15.30-16.00 Coffee break
- 16.00-17.30 **Retracing the tradition of John of Genoa's astronomical works through extant manuscripts**
Laure Miolo (Postdoctoral fellow, ERC project ALFA, Paris observatory)

Tuesday, 25 September

- 9.00-10.30 **Almanach in "Bat-books" manuscript the case of BnF lat. 7418**
Alexandre Tur (BnF, Paris)
- 10.30-11.00 Coffee break

- 11.00-12.30 **Bohemian King Wenceslas IV's Copy of the Alfonsine Tables and Their Place within His Astronomical and Astrological Corpus**
Eric Ramírez-Weaver (University of Virginia, USA)
- 12.30-14.00 Lunch
- 14.00-15.30 **The Libro de las tablas alfonsías: an illuminated manuscript**
Laura Fernández Fernández
(Complutense University, Madrid)
- 15.30-16.00 Coffee break
- 16.00-17.30 **Presentation of DISHAS new development**
Galla Topalian & Antonin Penon
(IT DISHAS, ERC ALFA, Paris Observatory)

Wednesday, 26 September

- 9.00-10.30 **Manuscript Prague, National Library XIV E 37 and precession in medieval star catalogues**
Petr Hadrava (Academy of Sciences, Czech Republic)

- 10.30-11.00 Coffee break
- 11.00-12.30 **Exploring a late 15c astrologer's toolbox: British Library Add Ms 34603**
Richard Kremer (Dartmouth college, USA)
- 12.30-14.00 Lunch
- 14.00-15.30 **Alfonsine Astronomy and Astrology in Fourteenth Century Oxford: the case of MS Bodleian Library, Digby 176**
Jean-Patrice Boudet (IRHT, Univ Orléans) and Laure Miolo (Postdoctoral fellow, ERC project ALFA, Paris Observatory)
- 15.30-16.00 Coffee break
- 16.00-17.30 **Free time for discussion**

Thursday, 27 September

- 9.00-10.30 **Simon de Phares, Historian of
Alfonsine Astronomy**
Jean-Patrice Boudet (IRHT, Université
d'Orléans)
- 10.30-11.00 Coffee break
- 11.00-12.30 **The Tables of John the Lignères of
1322: Identification and Edition**
José Chabás (Université Pompeu Fabra,
Barcelona) and Marie-Madeleine Saby
(université Grenoble)
- 12.30-14.00 Lunch
- 14.00-15.30 **Remarks on the survey of manuscripts
with Alfonsine works**
Matthieu Husson (CNRS, SYRTE-
Observatoire de Paris-PSL)
- 15.30-16.00 Coffee break
- 16.00-17.30 **Free time for discussion**

ABSTRACTS

in alphabetical order

BOUDET, Jean-Patrice (IRHT, université d'Orléans)

Simon de Phares, Historian of Alfonsine Astronomy

Author of an apologetic history of the science of the stars written in the end of the fifteenth century, the French astrologer Simon de Phares is also, in so doing, a historian of the alfonsine astronomy whose testimony must not be neglected, even it is most of the time unreliable. Himself owner of several copies of the Alfonsine tables and their canons (e.g. MS Paris, BnF, lat. 7287, and the editio princeps of Erhard Ratdolt, Venice, 1483), Simon de Phares is well enough informed about the works of Jean Vimond, Jean de Lignerès and Jean de Saxe. And he also evokes the existence, ca. 1300, maybe in Paris, of a certain "Johannes Ungerii", who "was the first one to give the order to understand the practice of the tables of King Alfonso" ("Cestui donna premier l'ordre d'entendre la pratique des tables du roy Alphonse"). What does it mean and who was this mysterious individual?

BOUDET, Jean-Patrice (IRHT, Univ Orléans) & **Laure MIOLO**

(Postdoctoral fellow, ERC ALFA)

Alfonsine Astronomy and Astrology in Fourteenth Century Oxford: the case of MS Bodleian Library, Digby 176

MS Oxford, Bodleian Library, Digby 176, is a privileged witness of the evolution of the astronomical and astrological science in Oxford in the fourteenth century. This codex belonged to William Reed (d. 1385), former fellow of Merton College and bishop of Chichester. It is a composite collection of texts and tables which some parts were acquired by William from different masters (Nicholas of Sandwich and the executors of Thomas Bradwardine and Richard Campsall) and which was completed by William's own hand and that of his secretary, Walter Robert. It reflects the influence of Alfonsine astronomy in England and constitutes the richest preserved collection of predictions on the planetary

conjunctions of the fourteenth century (predictions on the conjunctions of 1325, 1345, 1357, 1365 and 1367). It raises in particular the problem of the practical complementarity between astronomy and astrology, some of these predictions having been made by John Aschenden on the basis of William Reed's calculations. This codex shows that Merton College became, in the fourteenth century, a tree nursery of scholars specialized in the sciences of quadrivium, collaborating the one with the other one, particularly in the field of astronomy-astrology.

CHABÁS José (Universitat Pompeu Fabra, Barcelona) & **Marie-Madeleine SABY** (université Grenoble)

The Tables of John the Lignères of 1322: Identification and Edition

Among his astronomical texts, John of Lignères wrote two canons: one for the daily rotation and various trigonometric problems and another for the motion of the planets and the computation of eclipses. The incipits of the two texts are, respectively, *Cuiuslibet arcus propositi sinum rectum...*, in 44 chapters, and *Priores astrologi motus corporum celesti...*, in 46 chapters. The tables associated with these canons are identified and described in this paper. In order to make an edition of the set, several manuscripts have been selected and edition criteria have been established. The relevant information is presented in this paper.

HADRAVA, Petr (Academy of Sciences, Czech Republic)

Manuscript Prague, National Library XIV E 37 and precession in medieval star catalogues

The ms. Prague, NL XIV E 37 contains ten folios with a star catalogue inscribed "Loca stellarum fixarum verificata Anno Domini 1429o". This catalogue lists 1014 stars, which are ordered in a non-standard way according to increasing longitude within each of the 48 Ptolemaic constellations, the sequence of which is also unusual. The catalogue contains short descriptions of some of the constellations, which are obviously influenced by the literary and iconographic tradition (Gerardus of Cremona's translation with Arabic traces, Michael Scot).

The longitudes of the stars are updated to the year 1429 allegedly according to Alfonsine "motus accessus et recessus", however, our recalculations reveal, that the actual correction significantly deviates from this model.

HADRAVOVÁ, Alena (Academy of Sciences, Czech Republic)
Manuscript Oxford, Bodl., Canon. Misc. 499 of Prague provenience and its importance for the history of Alfonsine astronomy in Central Europe as well as for the Czech history

Ms. Oxford, Bodl., Canon. Misc. 499 contains – among other – one of the four known copies of canons "Mirabilis in altis Dominus", which belong to the Alfonsine tables calculated for Breslau (Wrocław) and Prague meridian. In last month, I succeeded to read correctly not only the name of scribe of these canons and several other treatises in this ms., but also to correct the year of the scribe's work and the name of the real author of canons (up to now, these items were traditionally read and repeated wrongly, cf. Coxe, ThK, Rosińska, Dobrzycki, Catalogus... IV). In the contribution, I shall explain, what is known about the newly identified scribe – baccalaureus of the Prague University Iohannes Krczin (Jan Krčín) and later physician of the Czech King Georg of Poděbrady –, why he made his copy of canons already in 1451 (and not in 1471 as it is claimed in the above mentioned literature), and I shall also emphasize Iohannes Krczin's testimony that Petrus Cruciferus (member of the Czech "Ordo militaris Crucigerorum cum rubea stella" near the Charles Bridge in Prague) excerpted canons from Alfonsine tables for Wrocław meridian firstly and just then to the meridian of Prague. Last, but not least, the existence of "mysterious" person of a "Gaerparus", "Carpar(i)us" or "Caspar", who is usually mentioned in the secondary literature, will completely be dissolved by the proper reading of the word "excerptarum".

HUSSON, Matthieu (CNRS, SYRTE-Observatoire de Paris-PSL)
Remarks on the survey of manuscripts with Alfonsine works

The survey of manuscripts containing Alfonsine works is a central collective enterprise of the first phase of ALFA. The aim of this presentation is to present the current state of the work, to

schedule necessary further developments and to precise the articulation of the survey with ALFA aims in its first phase and beyond. I'm going to address these aims in three complementary ways. First I'll describe how the survey is itself a very important scientific result giving us a specific image of the development of Alfonsine astronomy. Then I'll describe how the survey can be a tool or a platform from which new research question can be asked and traditional ones renewed. Eventually I will discuss organisational and methodological matters related to the survey.

KREMER, Richard (Dartmouth college, N. H., USA)

Exploring a late 15c astrologer's toolbox: British Library Add Ms 34603

The BL cataloguers describe the codex very tersely. It contains eight texts, medical and astrological (only one source is given), a "large collection of tables" (32 are listed, no sources listed), several autograph rubrics (Tabula de vrina visa per me magistrum Marcum Schynagel alme vniuersitatis Crakouiensis), and was "compiled about A.D. 1500 by Marcus Schynagel". 305 folios. The codex, of course, contains much more, including three quires of unfinished illuminated sheets related to a large winged polyptych that Schinnagel prepared in 1489 (now in Stuttgart, that I studied in a 2012 article) and to an edition of paranatella published by Johann Engel in 1488. It also contains most of the Parisian Alfonsine tables, completely rearranged and mixed with other tables. Combining the worlds of print, large (1 x 3 meter) painted panels, astronomical tables and astrological medicine, Add Ms 34603 offers a rich "archaeological site" for considering the "intellectual or cultural practices ... associated with the production and use of manuscripts" at the end of the Alfonsine period.

MIOLO, Laure (Postdoctoral fellow, ERC ALFA)

Retracing the tradition of John of Genoa's astronomical works through extant manuscripts

This paper aims to situate John of Genoa's astronomical treatises in the Parisian scientific practices of the first half of the 14th century, and to retrace the dissemination of his works regarding extant manuscripts. Little is known about John of Genoa, he was

probably a disciple of John of Lignières to whom he borrowed a lot of material. Several evidences indicate that he was a scholar of the University of Paris in the 1330's. He wrote at least three astronomical works mainly related to eclipses and the motion of the Sun, the Moon, based on Alfonsine tables for the meridian of Paris. His best known treatise is a canon on eclipses dated to 1332, extant in seven manuscripts, ranging from c. 1344 to the end of the 15th century. Regarding the colophon of the *Canones eclipsium*, this work is based on three important astronomical works, which constituted sources for pre-Alfonsine astronomers: the *Almagestum parvum*, Albategni, *De scientia astrorum* and John of Sicily's commentary on Toledan Tables. Likewise, his short canon on Solar and Lunar motions is based on Albategni's *zij*. John of Genoa wrote also a detailed computation for the 1337 eclipse, such as John of Murs and Levi ben Gerson produced on this same phenomenon. I will focus on his three works : the *Canones eclipsium*, his computation of the 1337 eclipse (*Investigatio eclipsis solis anno Christi 1337*) and his short canons for his table of Solar and Lunar true motion and velocities (*Verum motum solis et lune in una hora*). A close study of the extant manuscripts should lead to encompass the process of dissemination of these works, as well as the texts to which they are associated in the textual tradition. This overview will allow a better understanding of their context of reception.

RAMÍREZ-WEAVER, Eric (University of Virginia, USA)
Bohemian King Wenceslas IV's Copy of the Alfonsine Tables and Their Place within His Astronomical and Astrological Corpus

Wenceslas IV (d. 1419) ruled Bohemia after the death of his father, Holy Roman Emperor Charles IV (d. 1378). The legacy of Emperor Charles's French education, which he received at his uncle's court in Paris, the late Capetian King Charles IV (d. 1328) starting with 1323, can be felt in one of the seven luxury codices associated with the royal library of his son and heir, Wenceslas. Alongside literary romance, a prescient biblical translation into the German vernacular, and ecclesiastic or political documents, three books of medieval astronomy and astrology form a nucleus around which all discussion of the Wenceslas library must by necessity revolve. One of these three books, the *Astronomical*

Anthology with Alfonsine Planetary Tables (currently in Vienna, Österreichische Nationalbibliothek, Cod. 2352), contains the canons of Johannes Dank (or of Saxony) datable to 1327 on folios 34r-51r with tables to follow on folios 53r-80r. In addition, this manuscript anthology juxtaposed the exegetical canons with a collection of texts linked to Michael Scotus (1r-31v) or concerned with prognostication (83v-102r). The other two astronomical and astrological books from the Wenceslas IV library are a deluxe copy of Haly ibn Ridwan's Commentary on Ptolemy's Tetrabiblos (Vienna, Österreichische Nationalbibliothek, Cod. 2271) and the Astronomical Anthology for Wenceslas IV in Munich (Bayerische Staatsbibliothek, Clm 826). Considering these manuscripts in conjunction with the Alfonsine Tables contained within Cod. 2352, and reflecting upon the inclusion of said planetary tables alongside definitive late medieval visualizations of the heavens, as well as, statements about genethialogy or prediction, permits an uncommon opportunity to investigate the role of astrological and astronomical texts in Prague in the late fourteenth and early fifteenth centuries. The historical connections linking Paris to Prague during the reign of Bohemian Emperor Charles IV, and supplying the catalyst for the celestial curriculum eventually presented to Wenceslas IV by his astrologically minded courtiers, encourage greater reflection. It is worth considering the degree to which Valois Parisian manuscripts might have continued to foster cultural and scientific exchange with Prague during the reign of Charles V of France (d. 1380). The contents of the three Bohemian manuscripts made in Prague for and during the reign of Wenceslas IV provide a compelling opportunity to revisit the significance of the Alfonsine astronomical tradition within a central European court ca. 1400.

FERNÁNDEZ FERNÁNDEZ, Laura (Complutense University, Madrid)

The Libro de las tablas alfonsíes: an illuminated manuscript

The original manuscript of the Alphonsine Tables has unfortunately not been preserved, but we have precise information about why the Tables were executed and who carried it out thanks to the Ms. 3306 kept at the National Library in Madrid. The book, a factitious paper manuscript with several scientific treatises, belonged to the library of Juan Fernández de

Velasco, Condestable de Castilla, and, as is well known, includes the unique extant copy of part of the Libro de las tablas alfonsías (ff. 34v-72r). This copy, dated in the early sixteenth century, has no iconic repertoire, just the text of the canons. Nevertheless, clear documentary references reveal that the original manuscript was conceived as an illuminated manuscript, as were most of the scientific books commissioned by Alfonso X. Given the importance of visual language in the Alfonsine scriptorium, it is plausible to think in the Libro de las tablas alfonsías as a rich codex, carefully executed, whose iconic repertoire could include a presentation of the book image at the beginning of the manuscript, and the figures of the constellations following al-Sufi's iconography, as in the Lapidario, Ms. h-I-15, Escorial Royal Library, or in the Libro del saber de astrología, BH Ms. 156, Complutense University.

TUR, Alexandre (BnF)

Almanacs in "Bat-book" manuscripts: the case of BnF Latin 7478

Recently brought to light by Johan Gumbert, "bat-books" are a codicological type of folded manuscript mainly used, in the 14th and 15th centuries, for calendars and almanacs. Not only the well-known "English almanacs", but also diverse (mostly Latin) continental perpetual calendars adopt this shape in the Alfonsine era. How much of their content is influenced (or not) by Alfonsine astronomy, or whether they were a common tool in the "Alfonsine civilization" remains however to be determined. This contribution will aim to suggest a few first ideas on this matter, considering the case of the BnF Latin 7478 "bat-book", an Italian almanac dated 1456.

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