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In Cooperation with the
Commission on History of
Science and Technology
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EDITORIAL

JOURNALS UNDER THREAT: A JOINT RESPONSE FROM HISTORY OF SCIENCE, TECHNOLOGY AND MEDICINE EDITORS

We live in an age of metrics. All around us, things are being standardized, quantified, measured. Scholars concerned with the work of science and technology must regard this as a fascinating and crucial practical, cultural and intellectual phenomenon. Analysis of the roots and meaning of metrics and metrology has been a preoccupation of much of the best work in our field for the past quarter century at least. As practitioners of the interconnected disciplines that make up the field of science studies we understand how significant, contingent and uncertain can be the process of rendering nature and society in grades, classes and numbers.

We now confront a situation in which our own research work is being subjected to putatively precise accountancy by arbitrary and unaccountable agencies. Some may already be aware of the proposed European Reference Index for the Humanities (ERIH), an initiative originating with the European Science Foundation. The ERIH is an attempt to grade journals in the humanities — including “history and philosophy of science”. The initiative proposes a league table of academic journals, with premier, second and third divisions. According to the European Science Foundation, ERIH “aims initially to identify, and gain more visibility for, top-quality European Humanities research published in academic journals in, potentially, all European languages”. It is hoped “that ERIH will form the backbone of a fully-fledged research information system for the Humanities”. What is meant, however, is that ERIH will provide funding bodies and other agencies in Europe and elsewhere with an allegedly exact measure of research quality. In short, if research is published in a premier league journal it will be recognized as first rate; if it appears somewhere in the lower divisions, it will be rated (and not funded) accordingly.

This initiative is entirely defective in conception and execution. Consider the major issues of accountability and transparency. The process of producing the graded list of journals in science studies was overseen by a committee of four (the membership is currently listed at <http://www.esf.org/research-areas/humanities/research-infrastructures-including-erih/erih-governance-and-panels/erih-expert-panels.html>). This committee cannot be considered representative. It was not selected in consultation with any of the various disciplinary organizations that currently represent our field such as the European Association for the History of Medicine and Health, the Society for the Social History of Medicine, the British Society for the History of Science, the History of Science Society, the Philosophy of Science Association, the Society for the History of Technology or the Society for Social Studies of Science. Journal editors were only belatedly informed of the process and its relevant criteria or asked to provide any information regarding their publications. No indication has been given of the means through which the list was compiled; nor how it might be maintained in the future.

The ERIH depends on a fundamental misunderstanding of conduct and publication of research in our field, and in the humanities in general. Journals' quality cannot be separated from their contents and their review processes. Great research may be published anywhere and in any language. Truly ground-breaking work may be more likely to appear from marginal, dissident or unexpected sources, rather than from a well-established and entrenched mainstream. Our journals are various, heterogeneous and distinct. Some are aimed at a broad, general and international readership, others are more specialized in their content and implied audience. Their scope and readership say nothing about the quality of their intellectual content. The ERIH, on the other hand, confuses internationality with quality in a way that is particularly prejudicial to specialist and non-English language journals. In a recent report, the British Academy, with judicious understatement, concludes that "the European Reference Index for the Humanities as presently conceived does not represent a reliable way in which metrics of peer-reviewed publications can be constructed" (*Peer review: The challenges for the humanities and social sciences*, September 2007: <http://www.britac.ac.uk/reports/peer-review>). Such exercises as ERIH can become self-fulfilling prophecies. If such measures as ERIH are adopted as metrics by funding and other agencies, then many in our field will conclude that they have little choice other than to limit their publications to journals in

the premier division. We will sustain fewer journals, much less diversity and impoverish our discipline.

Along with many others in our field, this Journal has concluded that we want no part of this dangerous and misguided exercise. This joint Editorial is being published in journals across the fields of history of science and science studies as an expression of our collective dissent and our refusal to allow our field to be managed and appraised in this fashion. We have asked the compilers of the ERIH to remove our journals' titles from their lists.

Hanne Andersen (*Centaurus*); Roger Ariew & Moti Feingold (*Perspectives on Science*); A. K. Bag (*Indian Journal of History of Science*); June Barrow-Green & Benno van Dalen (*Historia Mathematica*); Keith Benson (*History and Philosophy of the Life Sciences*); Marco Beretta (*Nuncius*); Michel Blay (*Revue d'Histoire des Sciences*); Cornelius Borck (*Berichte zur Wissenschaftsgeschichte*); Geof Bowker & Susan Leigh Star (*Science, Technology and Human Values*); Massimo Bucciantini & Michele Camerota (*Galilaeana: Journal of Galilean Studies*); Jed Buchwald & Jeremy Gray (*Archive for History of Exact Sciences*); Vincenzo Cappelletti & Guido Cimino (*Physis*); Roger Cline (*International Journal for the History of Engineering & Technology*); Stephen Clucas & Stephen Gaukroger (*Intellectual History Review*); Hal Cook & Anne Hardy (*Medical History*); Leo Corry, Alexandre Métraux & Jürgen Renn (*Science in Context*); Brian Dolan & Bill Luckin (*Social History of Medicine*); Hilmar Duerbeck & Wayne Orchiston (*Journal of Astronomical History & Heritage*); Moritz Epple, Mikael Hård, Hans-Jörg Rheinberger & Volker Roelcke (*NTM: Zeitschrift für Geschichte der Wissenschaften, Technik und Medizin*); Steven French (*Metascience*); Paul Farber (*Journal of the History of Biology*); Mary Fissell & Randall Packard (*Bulletin of the History of Medicine*); Robert Fox (*Notes & Records of the Royal Society*); Jim Good (*History of the Human Sciences*); Willem Hackmann (*Bulletin of the Scientific Instrument Society*); Bosse Holmqvist (*Lychnos*); Michael Hoskin (*Journal for the History of Astronomy*); Ian Inkster (*History of Technology*); Marina Frasca Spada (*Studies in History and Philosophy of Science*); Nick Jardine (*Studies in History and Philosophy of Biological and Biomedical Sciences*); Trevor Levere (*Annals of Science*); Bernard Lightman (*Isis*); Christoph Lüthy (*Early Science and Medicine*); Michael Lynch (*Social Studies of Science*); Stephen McCluskey & Clive Ruggles (*Archaeoastronomy: The Journal of Astronomy in Culture*); Peter Morris (*Ambix*); E. Charles Nelson (*Archives of Natural History*); Ian Nicholson (*Journal of the History of the Behavioural Sciences*);

Iwan Rhys Morus (*History of Science*); John Rigden & Roger H Stuewer (*Physics in Perspective*); Julio Samsó (*Suhayl: Journal for the History of the Exact and Natural Sciences in Islamic Civilisation*); Simon Schaffer (*British Journal for the History of Science*); Claire Strom (*Agricultural History*); Paul Unschuld (*Sudhoffs Archiv*); Peter Weingart (*Minerva*); Stefan Zamecki (*Kwartalnik Historii Nauki i Techniki*); Hub Zuidervaart (*Studium. Tijdschrift Voor Wetenschaps*); Liliane Pérez (*Documents pour l'Histoire des Techniques*); Robert Halleux (*Archives Internationales d'Histoire des Sciences*); Mark Clark & Alex Keller (*Icon: Annual Journal of the International Committee for the History of Technology*); Norbert Schappacher (*Revue d'Histoire des Mathématiques*); Rod Home (*Historical Records of Australian Science*); Cathryn Carson (*Historical Studies in the Natural Sciences*); John Staudenmaier SJ (*Technology and Culture*); Johana Bleker (*Medizinhistorisches Journal*); Phil Hurst (*Notes and Records of the Royal Society*); Brigitte Lohff (*Deutsche Gessellschaft für Geschichte der Medizin, Naturwissenschaft und Technik*).

Al-Battānī's Astrological History of the Prophet and the Early Caliphate

E.S. Kennedy,
Colleagues and Former Students

Keywords: Al-Battānī, *Kitāb fī dalā'il al-qirānāt wa l-kusūfāt*, astrology, astrological history, Saturn-Jupiter conjunctions, eclipses.

Abstract

This article presents the last major project that Edward S. Kennedy (1912-2009) worked on towards the end of his long and productive life. Finished by three “colleagues and former students”, it gives a full edition with English translation of the astrological history of the Prophet and the early caliphate by al-Battānī (ca. 900), which is extant in a unique manuscript in Ankara. The commentary includes definitions of most relevant astrological concepts, analyses and recomputations of the 21 horoscopes given by al-Battānī, and a detailed discussion of his astrological interpretations.

Introduction

Prof. E.S. Kennedy dedicated the last years of his long and active life to the study of the text presented here: an edition, translation and commentary of the *Kitāb fī dalā'il al-qirānāt wa l-kusūfāt* by the famous Syrian astronomer Muḥammad ibn Jābir ibn Sinān al-Ḥarrānī al-Battānī (b. before 858, d. 929)¹. This text is extant in a thirteenth-century manuscript

¹ *Hartner, van Dalen 2.*

(Ankara, Dil ve Tarih-Coğrafya Fakültesi, collection Saib, no 199/2, fols. 27v-42v)², discovered by Fuat Sezgin, to whom we express our gratitude for his generosity in giving us access to his own microfilm of this work. The other parts of this manuscript contain *Asrār 'ilm al-nujūm* by Abū Ma'shar (fols. 1r-26v)³ and the *Qirānāt* by Kankah al-Hindī (fols. 43r-76r)⁴. The text is written in a clear *naskhī* script and contains seventeen lines per page.

Kennedy and Pingree dedicated many years to the study of mathematical astrology and did a great deal of research on historical horoscopes in papers and books like *Pingree 1 & 2* or *Kennedy & Pingree*. Historical horoscopes have also attracted the attention of other scholars (see, for example, *Labarta, Labarta & Mestres* or *Samsó 1, 2 & 3*), who became interested in sources of this kind under the influence of the publications of Kennedy and Pingree. Many of these horoscopes are based on Saturn-Jupiter conjunctions and, very often, they were cast for the year transfers (*taḥāwīl sinī al-'ālam*) or spring equinoxes of the years in which a conjunction of this kind took place.⁵ Al-Battānī believes that year transfers have no particular significance and reminds the reader of the importance attached by *Ptolemy* (II, 4 and 6) to solar and lunar eclipses for general prognostications related to the future of countries and cities. This is why al-Battānī plans, in his booklet, to combine the Greek tradition of eclipses with the Sasanian theory of Saturn-Jupiter conjunctions and to analyse, in his early history of Islam, the eclipses which take place near successive conjunctions of the aforementioned planets. The same idea occurs, without a specific reference to al-Battānī, in Ibn Amājūr's contemporary summary (on which see below), which states that astrologers did not take into consideration eclipses which occur at the same time as conjunctions.⁶ The idea reappears, now attributed to Ptolemy and al-Battānī, in the *Kitāb al-Bārī' fī aḥkām al-nujūm* of Ibn Abī l-Rijāl (d. after 1035-36), who considers that predictions should be based on eclipses which take place in years of conjunctions, and that eclipses of this kind should be taken into consideration together with year transfers.⁷

² *Sezgin*, p. 159, no. 1.

³ *Sezgin*, p. 147, no. 18.

⁴ *Sezgin*, p. 95, no. 1.

⁵ See *Pingree 1*, pp. 487 ff; *Pingree 2*, pp. 70 ff. Most relevant technical concepts are explained in detail in the commentary starting on page 76.

⁶ MS Leiden 107, f. 70v.

⁷ *Battānī*, vol. 1, p. XXIII; *Hartner*, p. 513; *Hilty*, p. 195.

Al-Battānī's astrological history covers a period of some 112 years in the early history of Islam. Its starting point is the conjunction of Saturn and Jupiter, with a shift in triplicity, which coincides with a lunar eclipse in the year 571, in which the Prophet Muḥammad is assumed to have been born. The last chronological reference is to the death of Caliph Yazīd I (680-683), although the last horoscope is cast for Yazīd's accession to the Caliphate. The whole astrological history covers the life of the Prophet (571-632, Horoscopes 1-12), which is Battānī's main centre of interest, the caliphates of the four *rāshidūn* caliphs (632-661, Horoscopes 13-18), and that of the two first Umayyad caliphs (661-683, Horoscopes 19-21). During this period of time six Saturn-Jupiter conjunctions take place at intervals of, approximately, 20 years (571, 590, 610, 630, 650 and 670). These conjunctions mark subperiods in history, some of which are particularly important. The first conjunction (571), because of the shift in triplicity, indicates the birth of the Prophet and the rise of Islam. The fourth conjunction (630) returns to the sign of Scorpio (that of the first) and this is why it is called *qirān al-'awda*; it corresponds to the death of the Prophet in 632. The sixth conjunction (670) does not seem so important, in spite of the fact that it is a conjunction with a temporary shift from the triplicity of water to the triplicity of air: this subperiod (670-683) was marked by the death of Mu'āwiya and the accession and death of Yazīd I.

Within each of the subperiods marked by the Saturn-Jupiter conjunctions, predictions about particular events are made on the basis of eclipses: in al-Battānī's collection of 21 horoscopes, 15 are for eclipses (three of them solar). Six of these eclipses take place in the same year as a Saturn-Jupiter conjunction (Horoscope 1 in 571, 3 in 590, 4 in 610, 8 in 630, 17 in 650, 20 in 670). Not a single one of the 21 horoscopes corresponds to a year transfer, but there are three horoscopes cast for the Prophet's nativity transfer (*taḥāwīl sinī al-mawālīd*): while Horoscope 2 corresponds to the birth of the Prophet (571), Horoscope 7 is related to his nativity transfer in the year of the Hijra (622), Horoscope 10 to the transfer in the year of the fourth conjunction (630), and Horoscope 12 to the transfer in the year of his death (632). The two remaining horoscopes correspond to the Prophet's arrival in Medina (Horoscope 5) and to his death (11). We include recomputations of all 21 horoscopes and found that Battānī most likely calculated them from the tables in his own *Ṣābi' Zīj*, rather than from the *Mumtaḥan Zīj*, which he mentions in the text.

Ted Kennedy is the author of the translation of the Arabic text and wrote most of the commentary with the collaboration of Benno van Dalen;

George Saliba edited the Arabic text; Benno van Dalen prepared the software for recomputing the horoscopes, wrote part of the astronomical commentary, and added three appendices on the recomputation and astronomical analysis of the horoscopes. Finally, as Kennedy had only written an astrological commentary of the introductory section of the book, Julio Samsó tried to clarify al-Battānī’s interpretations of each of the 21 horoscopes in the work. George Saliba also prepared a working edition⁸ of the *Kitāb jawāmi’ aḥkām al-kusūfayn wa qirān al-kawkabayn Zuḥal wa l-Mushtarī wa-dalālat dhalika ‘alā amr al-mīlal wa l-adyān wa l-mulūk wa aḥwāl al-‘ālam* by al-Battānī’s contemporary Abū l-Qāsim [‘Abd Allāh] ibn [A]mājūr, which contains a summary of al-Battānī’s astrological theory as developed in *Dalā’il al-qirānāt wa l-kusūfāt*. Because a full investigation of Ibn Amājūr’s treatise would have significantly delayed publication of this study, we have decided not to include it here. George Saliba is planning to publish the text together with a translation and a commentary. Also a systematic comparison of Battānī’s astrological history (and in particular the dated events it includes) with other early Islamic works on universal astrology is left for future research.

Van Dalen, Saliba and Samsó are the “colleagues and former students” who co-author this paper. They all consider themselves to be Ted Kennedy’s disciples – even though not all of them were technically his students – and wish to dedicate this paper to the memory of their master.

Notes on the edition, translation, and commentary

As a result of the long period of time that elapsed between the beginning of Ted Kennedy’s work on Battānī’s astrological history and this publication, we did not any more have an editable version of George Saliba’s edition of the Arabic text. Rather than typesetting the entire text anew, we decided to reproduce the original edition, which is generally in very good state. There is, however, a small number of places in the horoscope data where we decided to deviate from the edition. All these deviations have been indicated in the notes to the horoscopes in the commentary, where they are indicated by asterisks following the data.

⁸ Based on MS Leiden, Universiteitsbibliotheek, Or. 107, fols. 70v-76r (*de Jong et De Goeje*, pp. 115-116). Another MS of the same work is also extant: Paris, Bibliothèque Nationale de France, arabe 5894, fols. 67v-73r (*Bloch*, p. 135). See *Rosenfeld & Ihsanoğlu*, p. 70, no 157.

كتاب جابر بن سنان الحرّاني البتّاني
في
دلائل القرانات والكسوفات

Jābir ibn Sinān al-Ḥarrānī al-Battānī's
Book on the Indications of
Conjunctions and Eclipses

قال محمد بن جابر البتاني :

- لما كان النظر في أمور الملل وأوقات الدول وأحوال الملوك ومبادئ ذلك وأوقات تغييراته من أجل ما تقدمت به المعرفة من صناعة النجوم ، وكُنَّا قد وقفنا على ما تكلم به في ذلك كثيرًا من أهلها في زماننا ، فوجدناهم قد راموا علمها والتمسوا معرفتها بتحاويل السنين التي جعلوا مبادئها دخول الشمس برج الحمل ٥ في أزمان القرانات بطوال تلك الأوقات ، وأشياء كثيرة من هذا النوع ليس فيها حجة توجب استعملها ولا أصول يقاس عليها ، وأغفلوا أمر الكسوفات الواقعة مع القرانات في مواضعها من فلك البروج واشتراكات الكواكب في الأشكال ، إذ كان ذلك من أدلِّ الأشياء على التغييرات وأوَّل الانقلابات ، وكان بطلميوس ، مع تقدمه في هذه الصناعة ، لم يعوِّل علي شيء غيرها في معرفة الأحداث الكائنة في العالم ، ١٠ رأينا أن نعتقد مذهبه وتتبع ما رسمه وأشار إليه من ذلك في كتابه المعروف بالأربع مقالات الذي ذكر فيه القضاء علي الحوادث من النجوم . فنقدم قبل وصفنا قولاً وجيزاً . وهو أن أثقل الكواكب المتحيرة وأبطأها مقارنة وأعلاها أفلاكاً وأعظمها أجراماً كوكب زحل وكوكب المشتري . ولذلك خُصَّ بالقران دون غيرهما من الكواكب الباقية . ويقع اقترانهما في زهاء ١٥ كل عشرين سنة مرةً واحدة . فيقتربان في كل مثلثة من مثلثات البروج اثنتي عشرة مرةً ، في كل برج أربع مرات . ثم تنتقل الي المثلثة التي تلوها على ذلك الرسم حتَّى يتم اقترانهما في مثلثات فلك البروج الأربع في مقدار تسع مائة وثلاث وخمسين سنة شمسيةً بالتقريب .

٥- معرفتها : معرفته ، الشمس : بدأ الناسخ بكتابة كلمة «أول» بعد هذه الكلمة فكتب «أو» ثم عاد وخطها ٩- فلك : كرر الناسخ سهواً هذه الكلمة فكتب «الفلك فلك» ٩١- أدل : أجل ٩١- وأوَّل : كتب الناسخ «واوجهها» وصححت على الهامش ١٢١- الذي : التي ، قبل : قبل ما ١٤١- ولذلك : ولذلك ما ١٦١- تنتقل : المقصود هي القرانات

f.27v

In the name of God, the Merciful, the Forgiving

Thus spoke Muḥammad b. Jābir al-Battānī:

Since the investigation of matters relating to religious sects, periods of governments, conditions of kings, their beginnings and their times of change, is of the noblest of astrological prognostications, and since we have looked
 5 into what was said about it by most of its practitioners in our time, | and we found them to have searched for this knowledge and sought its lore through year-transfers, the beginnings of which are the entry of the sun into the sign of Aries at the times of conjunctions, by casting the horoscopes of such times, and similar things of this sort, for the use of which there is no justification, nor are there any principles to go by. They did not take into account eclipses accompanying conjunctions in their places in the ecliptic, as well as the participation of the planets in these configurations, since that (the occurrence of eclipses) is among the best indicators regarding variations and the beginnings of changes.

10 Since Ptolemy, with all his preeminence | in this art, paid no heed to anything other than it concerning events coming to pass in this world, we deem it (well) to adopt his doctrine, to follow what he has prescribed and indicated concerning that in his book known as the *Tetrabiblos*, in which he explained judgments by the stars upon events.

Hence, before setting forth our (full) presentation, we introduce a short statement to the effect that the heaviest of the wandering stars, and the slowest as to conjunctions, the highest with regard to orbs, and the largest in point of size, are Saturn and Jupiter. For that reason, they are particularly designated for conjunctions, to the exclusion of the remaining planets. Their
 15 conjunction occurs about once | every twenty years. They conjoin in each triplicity of the triads (of the signs) twelve times, four times in each of their signs. Then they shift to the triplicity which follows that one, in the same manner, until the conjunctions of the two (planets) are completed in the four triplicities of the ecliptic in a span of nine hundred and fifty-three solar years approximately.

- ٢٨ و / ثم يعود القران إلى البرج الخامس من البرج الذي اقتربنا فيه أول مرة ثم إلى البرج التاسع منه بعد ألف وتسع مائة وست وستين شمسية حتى تكون عودته إلى البرج الأول بعد ألفي وثمان مائة سنة وتسع وخمسين سنة. وذلك بعد مائة وأربعة وأربعين قرناً . فإذا ضرب كل واحد من هذين العددين في عدد البروج الإثني عشر كان الذي يجتمع من عدد القمرانات
- ٥ ألف وسبع مائة وثمانية وعشرون قرناً . ومن عدد السنين قريباً من أربعة وثلاثين ألفاً
- و ثلاثمائة سنة . هذا شبيه بالعدد الذي ذكرت أنه مقدار دورة واحدة من أدوار النجوم . ولكوكب المريخ أيضاً مع هذين الكوكبين شهادة واشتراك قوي لمكانه فوق الشمس ولأنه أعظم جرماً من الكوكبين الباقيين الذين تحتها ، أعني الزهرة وعطارد . وقوتها
- في ذلك دون قوة المريخ . فكلما اقترب زحل والمشتري في مثلثة ظهرت قوتها وعز أهل البلدان
- ١٠ والأمصا والام المنسوبة إليهما وقهروا من يليهم ، سيما ما كان من هذه البلدان منسوبة إلى
- البرج الذي يكون فيه القران والكسوف جميعاً . وينالهم المضرة والنكبات عند تردد زحل والمريخ في برجهم أو في البرج المقابل له أو على تربيعة . ويكون ذلك بحسب الترتيب
- في القوة والضعف . وكذلك ينالهم الخير والسعادة في الأمور عند تردد المشتري والزهرة في هذه الأوتاد وخاصة المشتري لطول مقامه في الموضع . والقول فيما ذكرنا
- ١٥ ينقسم إلى ثلاثة أقسام . فالقسم الأول أمور الملل وهو أعلاها مرتبة وأطولها مدة وأثقلها وزناً . والقسم الثاني أمور الدول الذي لها انتقالات في البيوتات من الملة وهو أوسط الثلاثة في القوة والثقل . والقسم الثالث أمور الملوك وهو دون القسمين الأولين في القوة والمدة وأكثرها اختلافاً .

١- البرج ٢ : البروج ٢١ - وست : وستة ٢١-٣ - ألفي ... سنة: كتب الرقم «٢٨٥٩» تحت السطر ٣١- مائة ... وأربعين: كتب الرقم «١٤٤» تحت السطر ٥١- ألف ... وعشرون: كتب الرقم «١٧٢٨» تحت السطر

f.28r

Then the conjunction returns into the fifth sign from the sign in which it had conjoined the first time, then unto the ninth sign from it after a thousand and nine hundred and sixty-six solar (years), so that its return will be to the first sign after two thousand and eight hundred years and fifty-nine years. That will be after a hundred and forty-four conjunctions. So if one multiplies
 5 the number of conjunctions (will be) | a thousand and seven hundred and twenty-eight conjunctions, and from the number of years (will be) close to thirty-four thousand and three hundred years. This resembles the number I mentioned as being the amount of one cycle of the stellar cycles.

The planet Mars has, together with the other two (superior) planets, a strong witness and participation on account of its position above the sun. Thus, because it is larger in body than the two remaining planets under it, I mean Venus and Mercury, their strength in that regard is less than the
 10 strength of Mars; then whenever Saturn and Jupiter conjoin in a triplicity, their power will become apparent, and the people of the countries, | regions, and nations related to them (the planets) will become mighty, and will conquer those who are in their vicinity, especially those countries related to the sign in which the conjunction and the eclipse occur together. They are affected by damage and calamities when Saturn and Mars frequent their sign, or the sign opposite it, or in quartile with it. That will be according to the ordering of power and weakness. Thus they acquire goodness and good fortune in (all) affairs when Jupiter and Venus frequent in these cardines, especially Jupiter, because of its longer stay in that position.

15 The statement regarding what we said before may be | divided into three parts. The first is the affairs of religious sects, it being the highest of them in rank, the longest in duration, and the heaviest of them in weight. The second concerns the affairs of government, for which there are transitions in the houses (dynasties) within the same religious sect, it being the middle of the three as to strength and weight. The third part is the affairs of kings, it being lower than the first two parts as to strength and duration, and the most variable of them.

- ٢٨ ظ / وقد تكون الملة بالدولة والدولة بالملة وقد تضعف إحداهما أحياناً وتقوى . فأمّا الدول التي تكون بغير ملل فإنّها سريعة الزوال . وكذلك الملل التي تكون بغير دول فإنّها تفسد وتضمحلّ سريعاً . ولزحل والمشتري والمريخ فضل على غيرها من الكواكب إذا كانت مقيمة عند الكسوف وكانت الدلالة مأخوذة منها باستيلائها على التدبير . ويكون استيلائها على التدبير بحسب ما لها من الحصاص في المواضع من أنّها أرباب ٥ فلك البروج والشرف والمثلثات والحدود والظهور القريب أو الاشتراك في الشكل ، أعني في برج الكسوف وبرج الوند الذي يجاربه أحد المضيئين قبل كسوفه . وإن اجتمعت هذه الحصاص الخمس لكوكب واحد يعينه كان هو صاحب التدبير وحده . وإن كانت لكوكبين أو أكثر من ذلك ، أخذ الكوكبان معاً اللذان لهما مشاكلات ١٠ أكثر إلى كلّ واحد من الموضعين أو ساير الكواكب التي تكون لها الحصاص فإن كان ما لكل واحد منها مساوياً للآخر في الوزن اختير وقُدّم في التدبير ما كان أولى أن يُقال إنه في الوند . ويُختار ويُقدّم أولاً صاحب تدبير البرج الذي فيه الكسوف . ويُؤخذ أيضاً مع ذلك من الكواكب الشابتة ما يطلع أو يتوسّط السماء مع موضع الكسوف ، أي هذين الوندتين اتفق مصير أحد المضيئين إليه وقت الكسوف ، ١٥ وأيضاً الكولب التي تكون في وقت الكسوفات في ذلك الوند . فيكون الاستدلال على خواص الأشياء من خواص البروج التي يكون فيها الكسوف ، والتي تكون فيها الكواكب المتحيّرة المتولّية للتدبير . ومن صور هذين الموضعين ومشاكلة الكواكب الشابتة

٣ - ولزحل: كتب على هامش هذا السطر ، ويخط مختلف ، العبارة التالية «مدبر كسوف وخسوف» ٩١ - اللذان ا

١٤ - الكسوف: هناك بياض في المخطوطة بعد هذه الكلمة ملئ بالعبارة التالية «مدبر كسوف وخسوف من الثوابت» ١٧١ -

f.28v

It is possible that the religious sect may be within the government, and the government within the religious sect. Either of them may be weakened or strengthened from time to time. As for governments without religious sects, they are quick to decline. Similarly, religious sects which are without government, they decay and fade away quickly.

Saturn, Jupiter, and Mars exceed the other planets¹ in virtue if they are positioned at the eclipse, and if the indications are inferred from them by virtue of their dominance over | the administration. Their dominance over the administration will be according to what they have by virtue of apportionment in these places: be they lords of (1) the zodiac, (2) in exaltation, (3) the triplicities, (4) the terms, and (5) imminent appearances, or participation in the configuration. I mean in the sign of the eclipse, and the sign of the cardine passed by one of the two luminaries before its eclipse. If these five apportionments are gathered into one planet by itself, it alone would be the lord of the administration. If they (the apportionments) are allotted to two or more, one takes together the two planets which have | more relations to each of the two places – or [any of] the other planets having the apportionments – then if the share of each of them is equal to the other in weight, then the one which could be described as being at the cardine would be selected and given prominence in the administration. The administrator of the sign in which the eclipse takes place would be selected first and given prominence.

One takes also fixed stars which rise or culminate together with the place of the eclipse, whichever of these two cardines is reached by either of the two luminaries at the time of the eclipse², | and furthermore the stars located in that cardine at the time of the eclipse. Then the indications concerning the particulars of things are to be taken from the characteristics of the signs in which the eclipse occurs, as well as those (signs) in which the wandering stars in charge of the administration are found. From the depiction of these two places and the configuration of the fixed stars

¹Here a marginal note, in bad Arabic, characterizes this section as dealing with the administration of eclipses.

²A note added to the text in a different hand marks this section as “The fixed star which is the administrator of eclipses”.