

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

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Colleagues and Former Students

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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-Bāri' 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 *Šābi' 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 [ʿAbd 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 بطوالع تلك الأوقات ، وأشياء كثيرة من هذا النوع ليس فيها حجة توجب استعمالها ولا أصول يقاس عليها ، وأغفلوا أمر الكسوفات الواقعة مع القرانات في مواضعها من فلك البروج واشتراكات الكواكب في الأشكال ، إذ كان ذلك من أدل الأشياء على التغييرات وأول الانقلابات ، وكان بطلميوس ، مع تقدُّمه في هذه الصناعة ، لم يعوّل علي شيء غيرها في معرفة الأحداث الكائنة في العالم ، ١٠ رأينا أن نعتقد مذهبه ونتبع ما رسمه وأشار إليه من ذلك في كتابه المعروف بالاربع 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 مرة واحدة . فيقترنان في كل مثلثة من مثلثات البروج اثنتي عشرة مرة ، في كل برج أربع مرّات . ثم تنتقل الي المثلثة التي تتلوها على ذلك الرسم حتّى يتم اقترانهما في مثلثات فلك البروج الأربع في مقدار تسع مائة وثلاث وخمسين سنة شمسيّة بالتقريب .

٥- معرفتها : معرفته ، الشمس : بدأ الناسخ بكتابة كلمة «أول» بعد هذه الكلمة فكتب «أو» ثم عاد ونسبها ٩- فلك : كرر الناسخ سهواً هذه الكلمة فكتب «الفلك فلك» ٩١- أدل : أجل ٩١- وأول : كتب الناسخ «واوجها» وصححت على الهامش ١٢١- الذي : التي ، قبل : قبل ما ١٤- ولذلك : ولذلك ما ١٦- 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 وثلثمائة 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 جرمًا 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 والأمصار والأمم المنسوبة إليهما وقهروا من يليهم ، سيما ما كان من هذه البلدان منسوبة إلى البرج الذي يكون فيه القران والكسوف جميعاً . وينالهم المضرة والتكبات عند تردد زحل والمريخ في برجهم أو في البرج المقابل له أو على تربيعه . 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 الموضوع . 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 اختلافًا .

١- البرج ٢: البروج ٢١ - وست : وستة ٢١-٣ - ألفي ... سنة: كعب الرقم «٢٨٥٩» تحت السطر ٣١- مائة ... وأربعين: كعب الرقم «١٤٤» تحت السطر ٥١ - ألف ... وعشرون: كعب 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 each one of these two numbers by the twelve signs, that which remains from 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 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.

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 الحصص 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 الحصص الخمس لكوكب واحد بعينه 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 الحصص فإن كان ما لكل واحد منها مساوياً للآخر في الوزن اختير وقُدّم في التدبير ما كان أولى أن يُقال إنّه في الوند . ويُختار ويُقدّم أولاً صاحب تدبير البرج الذي فيه الكسوف . ويُؤخذ أيضاً مع ذلك من الكواكب الثابتة ما يطلع أو يتوسط السماء مع موضع الكسوف ، أي هذين الوندتين اتفق مصير أحده المضيئين إليه وقت الكسوف ، ١٥ وأيضاً الكولب التي تكون في وقت الكسوفات في ذلك الوند . فيكون الاستدلال على خواصّ الأشياء من خواصّ البروج التي يكون فيها الكسوف ، والتي تكون فيها الكواكب المتحيّرة المتولّية للتدبير . ومن صور هذين الموضعين ومشاكل الكواكب الثابتة

٣ - ولزحل : كتب على هامش هذا السطر ، وبخط مختلف ، العبارة التالية «مدبر كسوف وخسوف» ٩١ - اللذان : اللذان
 ١٤ - الكسوف : هناك بياض في المخطوطة بعد هذه الكلمة ملئ بالعبارة التالية «مدبر كسوف وخسوف من الثوابت» ١٧١ -
 المتولّية : المتولّية

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
5 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,
10 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
15 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”.

٢٩ و / لتلك المتحيرة المستولية على التدبير في المزاج والقوة ، سيّما الكواكب التي هي أعظم ضياءً ، أعني التي تكون في القدر الأوّل ثم في القدر الثاني من الأقدار الستة التي رُسمت للكواكب الثابتة في عظم الأجرام ، وذلك أنّها إذا شاكلت الكواكب المتحيرة في المزاج والقوة قوّت دلائلها وصيّرتها محضة خالصة ، وكما أنّها إذا خالفتها في المزاج والقوة نقصت من تلك الدلائل ولم تكن تامّة في القوة ولا محضة ولا خالصة . وكذلك تفعل الكواكب المتحيرة إذا شاكلت الكواكب المتولية للتدبير منها في الخير ، أو كانت على خلاف [ذلك] .

دلائل الكواكب في البروج ونواحي الفلك

فإن كانت في أحد برجّي الاعتدالين دلّت على ما يحدث في غلات الهياكل ومواضع العبادة والمساجد وما أشبهها . فإن كانت في أحد برجّي الانقلابين دلّت على تغيير السنن والعبادات ، نريد الأديان والملل . وإن كانت في ذوات الأجساد دلّت على ما يحدث في الناس وعلى الملوك . وإن كانت في البروج الثابتة دلّت على ما يحدث في الأساسات والأبنية ، نريد الأصول والشرايع . وكذلك أيضاً إذا كانت في المواضع التي وضعها في المشرق خاصّة ، نريد الطالع ، دلّت على أنّ الحادث يكون في من سنّه سنّ الأحداث وفي الأساسات . وإن كانت في وسط السماء دلّت على الحادث أن يكون [في من] سنه السنّ الوسطى وفي الهياكل والملوك . وفي ناحية المغرب دلّت على سنّ المشايخ النافذي الأعمار وعلى تغييرات السير أيضاً . ونعلم كثرة الحادث وقتله من قياس الكواكب المدبّرة إلى موضع الكسوف . وذلك أنّها متى كانت في أشكال منسوبات إلى العشيات عند كسوفات القمر أو أشكال

٦- ذلك: نقترح زيادتها لاستقامة المعنى ٨١- يحدث: يحث ١٨١- في من: نقترح إضافتها كما وردت سابقاً لاستقامة النصّ

f.29r

with regard to the wandering (ones) ruling the administration as to temperament and strength – especially the stars among them which are most powerful in light, I mean those of the first magnitude, then the second magnitude, of the six magnitudes which are assigned to the fixed stars with regard to size – that is so that if the planets are configured as to temperament and strength, their indications are strengthened, and made to be pure and unsullied, just as if they had differed in temperament and strength, they would diminish | these indications, and thus they (the planets) would not be complete in strength, nor pure and unsullied. This also is the case with the wandering stars, with regard to goodness or the contrary, whenever they configure with planets in charge of the administration.

Indications of the Planets in the Signs, and Regions of the Heavens

If they are in one of the two equinoctial signs it indicates what will happen with regard to the revenues of temples, places of worship, mosques, and the like. But if it is in one of the two solstitial signs it indicates changes in habitual practice and worship, | meaning religions and sects. If it is in those (signs) having bodies, it indicates what will happen to people and kings. If it is in fixed (signs), it indicates what will happen in foundations and structures, meaning (religious) precept and doctrine. Thus also it will be if it is in positions which are placed in the east, especially meaning the ascendant, it indicates that the events will affect those whose age is still youthful, and foundations in general. But if it is in midheaven, it indicates that the event will affect those of middle age as well as temples and kings. | If it is in a western region it indicates the elderly, whose lives have been extensive, and changes in life span as well. One learns about the multiplicity or paucity of events from consideration of the administering planets with regard to the place of the eclipse. That is when it is in configurations related to the evenings, for lunar eclipses, or in configurations

- ٢٩ ظ / منسوبة إلى الغدوات عند كسوفات الشمس ، دلت على كثرة الحادث وعلى أنه يكون في أكثر الجنس . وإذا كانت مقابلة للشمس على القطر كان الحادث وسطاً وفي نصف ذلك الجنس . وإذا كانت في الأشكال المنسوبة إلى الغدوات عند كسوفات القمر، أو في الأشكال المنسوبة إلى العشيّات عند كسوفات الشمس كان الحادث قليلاً في أقلّ الجنس . ويستدلّ على سرعة الحادث وإبطائه من تلك الكواكب أيضاً . ٥
- وذلك أنّها متى كانت في الأمرين جميعاً، أعني كسوفات الشمس والقمر معاً، منسوبة إلى الغدوات كان الحادث عنها سريعاً . ومتى كانت منسوبة إلى العشيّات كان عنها بطيئاً . وكذلك إذا كانت في ناحية المشرق من الأفق دلت على السرعة . وإذا كانت ممّا يلي وسط السماء دلت على التوسط في السرعة والإبطاء .
- ١٠ وإذا كانت في ناحية المغرب دلت على الإبطاء والتأخير . ومتى كان الكسوف ظاهر الحسّ متصاعداً إلى وسط السماء كان الحادث قوياً متزايداً . فإذا كان منحدرًا إلى الأفق صائراً إلى المغرب والخفّاء عن الحسّ كان دون ذلك .
- والزهرة وعطارد إذا كانا منسوبين إلى طلوع العشيّات دلا على السرعة . وطلوعهما المنسوب [إلى] الغدوات يدلّ على دون ذلك . وغروبهما المنسوب إلى الغدوات والعشيّات جميعاً يدلّ على الإبطاء . وكثرة دلائلهما في كثرة الحادث وقتله . ١٥
- وأما دلالة كلّ واحدٍ من الكواكب الخاصّة له، فإنّ زحل إذا ولي التدبير وحده كان سبباً للخوف والضيق والهرب والموت وخاصّة لمن قد طعن في السن .

f.29v

related to morning in the case of solar eclipses, which indicate the multiplicity of the event, and that it will include most of the varieties. If it is in diametrical opposition to the sun, the event will be of the medium (variety), and will affect half the varieties. But if it is in a configuration related to morning at lunar eclipses, or in configurations related to evenings at solar eclipses, the event will be | small, (affecting) few varieties. The speed or slowness at which an event (takes place) is also indicated by those stars. That is when they are (involved) in both situations, I mean both solar and lunar eclipses are related to morning, the event will be quick, but when related to evenings it will be slow. Similarly, if it is in an eastern region of the horizon it indicates speed, but if it is in the vicinity of midheaven, it indicates medium speed or slowness, | but if it is in a western region it indicates slowness and delay. When the eclipse is apparent to the senses, ascending toward midheaven, the event will be strong, and continuously increasing. But if it is descending toward the horizon, going to the west and disappearing from the senses, it will be less than that.

As for Venus and Mercury, if they are related to evening risings (?), they indicate speed, but their risings related to morning indicate a lesser degree of that. Their settings related to both mornings and | evenings indicate slowness, and most of their indications (point to) multiplicity and paucity of events.

As for the indication which is peculiar to each one of the planets, it is special to it. If Saturn alone has assumed the administration, it would be a cause of fear, distress, flight, and death, especially for anyone advanced in years.

٣٠ و / وأما المشتري فإنه يكون سبباً للسعادة والسلامة والعمارة والعدل ويزيد الخيرات وعطايا الملوك . وأما المريخ فإنه يكون سبباً للحروب والسببي وتوثب جملة الناس وغضب الرؤساء ، سيما بين القوم وأهل جنسهم ، وما قد يصاب به بعض الناس بالغضب والهوان والتعدي والخروج عن الشريعة والحريق والسلب والقتل .

٥ وأما الزهرة فإنه إذا وليت التدبير وحدها كان ما يحدث عنها شبيهاً بما يحدث عن المشتري من رفع المراتب والكرامات وتحريك أمور الجماع وحسن الأخلاق ومحبة النظافة والطيب وهي دالة على الوحي والأمور الإلهية . وأما عطارد فإنه إذا مازج بعض الكواكب شاكل طبيعته، غير أنه يحرك الأشياء أكثر من ساير الكواكب ، ويُعين على القوة والجد في الأمور ولطف الخيلة وقطع الطرق والغارات وأمور الكهانة والعبادة وما يعرض في غلات الهياكل وتغيير السنن .

[ألوان الكسوف]

- ١٠ وأيضاً إذا كانت ألوان الكسوف سوداء أو مائلة إلى الخضرة دلّت على الأشياء التي من طبيعة زحل . وإذا كانت بيضاء دلّت على الأشياء التي من طبيعة المشتري . فإن كانت مائلة إلى الحمرة دلّت على الأشياء التي من طبيعة المريخ . وإذا كانت صهباء ذهبية دلّت على الأشياء التي من طبيعة الزهرة . وإذا كانت مختلفة الألوان دلّت على الأشياء التي من طبيعة عطارد .
- ١٥ وإذا كان اللون في جميع جرم أحد المضيئين أو فيما حوله كان ذلك في جميع أجزاء البلدان . وإذا كان في جزء من النيرين أو فيما حولهما كان في الناحية التي تلي ذلك الجزء فقط . وكذلك أيضاً يستدلّ بذوات الأذنان التي تظهر

٦- من: مع ٩١- السنن: يلي هذه الكلمة العبارة التالية «الوان كسوف» ، أدخلت في النص لاحقاً ، أثبتنا هنا موافقة مع نص ابن أماجور المثبت في الملحق .

f.30r

As for Jupiter, it is the cause of happiness, safety, affluence, justice, abundance of good things, and gifts of kings. As for Mars, it is the cause of wars, taking in bondage, slavery, insurrection of many people, and anger of the chiefs, especially within peoples of the same race, and that which afflicts some of the people with anger, ignominy, transgressions, the abandoning of
 5 religious law, conflagration, plundering, and killing. | As for Venus, if it assumes the administration by itself, that which is caused by it resembles what is caused by Jupiter by way of elevation of ranks and honors, the stirring up of matters related to sexual intercourse, good behavior, and cleanliness and perfume. It indicates theological revelation, and godly things. As for Mercury, if it is with another planet, it will conform with its (the planet's) nature. Except that it stirs up things more than the other planets,
 10 and it assists toward power and diligence in affairs, resourcefulness in predicaments, highway robbery, assaults, matters of soothsaying, | worship, and whatever relates to the revenues of temples and changes in traditional practices.

Moreover, if the color of the eclipse is black, or tending toward green, it indicates things which are of the nature of Saturn. But if it is white, it indicates things which are of the nature of Jupiter. If it is tending toward red,
 15 it indicates things which are of Mars' nature. If it is golden brown it indicates things which are of the nature of Venus. If it has different colors it indicates things which | are of the nature of Mercury. If the color covers the whole body of either of the two luminaries, or its surrounding, that would apply to all parts of the countries. If it is on part of the two luminaries, or around them, it would pertain only to the region which is in the direction of that part.

Thus also is the indication of comets which appear,

- ٣٠ ظ / وساير ما يحدث من [الأ]شياء التي تسمى [العصي] والبوقات وما أشبهها . وتقام طبائعها مقام ما قيل إن طبيعة المريخ وعطارد تحدث وتظهر فيهما من الحروب والاحتراق والزلازل . ويستدل على المواضع التي تحدث فيها الأحداث بمواضعها من فلك البروج وبالمواضع التي يسامتها ذنب الكوكب . ويستدل على ما يحدث من صورة ما يظهر، وفي زمان مدته على مدة
- ٥ الأحداث ومن قياسه على الوقت في كون الحادث . وذلك أنها في أكثر الأمر إذا كان ظهورها بالعشيات كان الحادث عنها بطيئاً . وإذا ظهرت بالغدوات كان الحادث سريعاً . ومما يستدل به على قوة الحادث وضعفه أن تكون الكسوفات مع القرانات في مواضعها من فلك البروج ، وبخاصة إذا كان عند بدء الانتقال إلى المثثة، فإنه أبلغ في القوة . ويعدّه يكون ما قلنا عند عودة القران إلى البرج الذي ابتدئ فيه من المثثة . ويعدّه إذا كان
- ١٠ في البرجين الباقيين من المثثة ، وهو أضعف الثلاثة في القوة . وذلك أنه لا يقع قران وكسوف في موضع واحد من فلك البروج عند بدء وانتقال القران إلى المثثة إلا في الفرط من الزمان . وقد قيل إن أوقات التغييرات تكون في كل ثلاثمائة وأربعين سنة ونحوها . وذلك أنه لا يقع قران مع كسوف ، أو على مقابلة في فلك البروج فيما وجدنا من المحنة ، إلا في القران الخامس من الأول فإنه وقع على قطر الكسوف وذلك من بعد ثمانين سنة بالتقريب ،
- ١٥ ثم من بعد تحويل القران إلى المثثة الأخرى ، وهو القران الثامن عشر من الأول وذلك من بعد ثلاثمائة وسبعة وثلاثين سنة ، فإنه أيضاً وقع الكسوف في آخر القران ، ثم الذي بعده بقرانين ، وهو قران العشرين من الأول ، وذلك بعد ثلاثمائة وسبعة وسبعين سنة ،

١- الأثياء: أجزاء مظلومة في الأصل ، العصي والبوقات : كلمة العصي سقطت وقد أضيفت كما في الملحق ، وتقام: ويقام ، قيل: قيل

f.30v

and other (phenomena) of this nature which are called [canes], horns, and suchlike. Their natures will replace the previous ones (celestial bodies). Indeed, the nature of both Mars and Mercury bring about in them things related to wars, conflagrations and earthquakes. The localities in which events occur are indicated by their (comets, etc.) positions in the ecliptic, or by positions indicated by the star's tail. The kind of event occurring will be indicated by the figure which appears. The duration (of the comet indicates)

5 the duration of | the events. From its relation to time the nature of the event (is indicated). For in most cases, if their appearance is in the evening, the event from it will be slow. But if it appears in the morning, the event will be speedy. The indication for the strength or weakness of the event is from the positions of the eclipses and the conjunctions in those signs, especially if they are at the beginning of a shift to (another) triplicity, the strength will be greatest. Next (in strength) will occur, as we have said, at the time of return of the conjunction to the sign in which it began in the triplicity. Next, if it is |
10 in (one of) the two remaining signs of the triplicity, it will be the weakest of the three in strength. This (order of strength) is because a conjunction and an eclipse will not occur in the same position in the ecliptic at the beginning of the shift of the conjunction to a triplicity except after an immoderate (amount of) time.

Indeed, it was said that the times of changes take place every three hundred and forty years, or thereabouts; that is that there will not occur any conjunction with an eclipse, or in opposition to it in the ecliptic, as we have found by examination, except in the case of the fifth conjunction from the first. It occurred at the diametrically (opposite point) to the eclipse, and that
15 after eighty years, approximately. | Then, after the transfer of the conjunction to another triplicity, it will be the eighteenth conjunction from the first. That will be after three hundred and thirty-seven years. For there also an eclipse occurred at the end of the conjunction. Then that which is after it by two conjunctions, it being the twentieth conjunction from the first. That will be after three hundred and seventy-seven years.

٣١ و / فإيته اتفق فيه الكسوف في برج القران إلا أنه لم يكن فيما حسبنا يقع في موضع القران كالأول ، فلا يكون زحل والمشتري فيه مقترنين كما كانا في الأصل ، بل يكون بينهما مقدار حد واحد من حدود الكواكب .

ظهور النبيّ صلّى الله عليه وسلم

- ٥ كان ظهور نبوته ، صلّى الله عليه ، بعد أربعين سنة من القران الأول الذي كان في وقت مولده .
- وقد كان أيضاً من القران الثاني عشر من الأول الذي من بعد مائتي وثمان وثلاثين سنة قبالة الكسوف ، غير أنّ الشمس كانت في آخر جزء من البرج ، وزحل والمشتري في أكثر من نصف البرج ، والقمر يقابل الشمس وهو أضعف ما وجدنا في هذه المدة التي قسنا بها ما ذكرنا من القران .
- وربما خرج القران في وقت الكسوف عن المثلثة التي يكون فيها من قبل تمام اثني عشر قرناً .
- ١٠ وربما عاد إليها في القران الثالث عشر الذي هو القران الذي يكون فيه الانتقال عنها . فهذا هو المأخذ الذي يُستدلّ به على أمور التغييرات . ويمثله أيضاً يُستدلّ على أمور الدول والملوك إلا أنه لا يُضطرّ في أمور الدول أن يكون القران مع الكسوف [و] على قطره من فلك البروج . وكذلك لا يضطرّ في أمور الملوك أن تكون الكسوفات في أوقات القران ولا في مواضعها من فلك البروج . بل يكون النظر في أمور الدول التي تكون في البيوتات من حلول الكواكب التي تكون أسباب الحوادث في المواضع الرئيسية من الابتداء الأول الدالة على التغييرات
- ١٥ في أوقات الكسوفات الكائنة عند عودات القران إلى مواضعها من فلك البروج . وذلك شيء يكون في كل ستين سنة بالتقريب مرة واحدة . وربما تقدم الابتداء في الدولة

٣- حد: زحل ٧١ - البرج ١: البروج ٨١- المدة: المرة ، القران: القران ، وقد صححت على الهامش الأيسر بالعبارة التالية «وقيل القران» ١٠١- المأخذ: الأخذ ، كنا في الأصل ، ولكن قرأناها وفقاً للعبارة التالية الواردة على هامش المخطوط الأيمن «وفي نسخة المأخذ» ١٣١- مواضعها: كبت أولاً «مواضع» ثم صححت بإضافة الهاء دون شطب دائرة العين ١٥١ - التغييرات: وردت العبارة التالية على الهامش: القران (كنا) العلويين في سنة ١١١٤ هجرية في الحمل وعاد في سنة ١١٧٥ هجرية (كنا) في الحمل ويكون بينهما ستين سنة .

f.31r

So there occurred at it an eclipse in the sign of the conjunction, except that according to our calculations, it did not occur at the position of the conjunction like the first. So Saturn and Jupiter were not conjunct in it as they were originally, but there was between them (the planets) the amount of one of the planetary terms.

The Advent of the Prophet, the Prayers of God upon Him and Peace

- 5 | The appearance of his prophetic mission, the prayers of God upon him, was forty years after the first conjunction, which was at the time of his birth. There was also the twelfth conjunction after the first, which was after two hundred and thirty-eight years, in opposition to the eclipse. Except that the sun was in the last degree of the sign, while Saturn and Jupiter were in more than half of the sign, and the moon in opposition to the sun. It was the weakest of what we have found during this time in which we measured all the conjunctions¹ we have stated. At the time of the eclipse the conjunction may depart from the triplicity in which it had been, before the completion of
- 10 twelve conjunctions. | It may also return to it at the thirteenth conjunction, that being the conjunction at which the shift (normally) occurs. This is the principle² which indicates matters of change. From such (principles) are the indications of state and kings, except that in the case of affairs of state the conjunction need not coincide with the eclipse or be diametrically opposite to it in the ecliptic. Similarly, in the affairs of kings, the eclipses need not be at the times of the conjunctions, nor in their position in the ecliptic, but rather one looks into affairs of state which involve dynasties, from the po-
- 15 sitions of the planets | which are the causes of the events, at the principal points, at the beginning, which indicate the changes at the times of eclipses occurring at the time of the return of the conjunctions to their places in the ecliptic. That is a thing which will occur once each sixty³ years approximately. The beginning of the (new) government may precede it (the conjunction), and

¹We read the plural as suggested in the margin.

²We read "principle" in accordance with the marginal note designating the variant reading from another manuscript.

³A marginal note in a late hand asserts that a conjunction of the two superior planets took place in 1114 H in the sign of Aries, and that there was another one in 1175 H, also in Aries, hence separated by sixty years.

- ٣١ ظ / فكان في القران الذي يقع قبل قران العودة قرب انقضائه . ثم يكون تمام الدولة واستواؤها في قران العودة من الحال التي تكون للكواكب بعضها عند بعض في هذه الأوقات المذكورة ومشاكلتها للأمر الأول ، وإسعادها وإضرارها به على حسب ما سيعود فيما يُستأنف .
- ومن البروج التي تنتهي إليها السنون من البرج الأول الذي يكون الابتداء منه لكل برج
- ٥ سنة كما يُفعل في المواليد . ويكون النظر في أمور الملوك من سائر الكسوفات التي تحدث قبل أوقات ملكهم على ما تقدّم من القول ومما سيظهر فيما يُستقبل من أسباب تلف الملوك وقيامهم . وينظر معها في تحاويل السنين التي تكون لمولد صاحب الملة وبروج الانتهاء من طالعها في تلك السنين ومن كسوفات القرانات التي يقع قيام الملوك فيما بينها . ويُقاس بعض الأمور ببعض .
- وإذ قد أتينا على ما ينبغي أن يُقدم في هذا النوع ، فإننا نجعل له مثلاً وقياساً يُقاس إليه .
- ١٠ . وبتدئ من القران الذي دلّ على ظهور أمر العرب ومولد النبيّ ، صلى الله عليه وسلم ، ونلقي سواه مما قبله
- إذ كان القول فيما مضى من الأمم السالفة والملل .

وكان القران الذي دلّ على أمر العرب وظهور النبيّ ، صلى الله عليه وسلم ، ومولده

- عند ابتداء الانتقال من مثلثة الميزان إلى مثلثة السرطان . فكان بدء انتقاله إليها في برج العقرب .
- واتفق معه في وقته وفي موضعه من فلك البروج كسوف القمر أعظم ما يكون من الكسوفات
- ١٥ وأقربه منه إليها في الليلة التي صبيحتها اليوم السادس والعشرون من نيسان من سنة ثمان مائة واثنين وثمانين من سنيّ ذي القرنين ، وهي ليلة الأحد . واتفق طالع الكسوف بمكة التي بها كان مولده وظهوره وبيعته ، صلى الله عليه وسلم ، ومواضع الكواكب بحساب الممتحن على ما نذكره

f.31v

thus it may occur at the conjunction which took place before the conjunction of the return (to the old triplicity) near to its expiration. Then the government attains maturity and reaches a steady state during the conjunction of the return, in accordance with the situation of the planets with respect to each other during these (above-)mentioned times, and their configuration with respect to their original condition. The good fortune and adversity (which may befall) it is in accordance with what will be mentioned later. With regard to signs, marking the culminations of the years – starting from the first sign in which the beginning (of the government) occurred – giving to each sign a | year, as is done with nativities. The consideration of the affairs of kings is (derived) from the other eclipses which occur before the times of their reign, as was previously stated, and as will also be mentioned in connection with the causes for the rise and fall of kings. Together with that, one considers year transfers which are at the birth of the chief of a religious community, and the terminus (*intihā'*) signs of their horoscopes in these years, and from eclipses of the conjunctions in between which the accession of kings takes place. Some of these matters are weighted analogously to other (things). Now that we have mentioned the substance of what ought to be stated for this sort (of thing), we draw up an example of it, and set up a measure as a standard (for other things) to be measured analogously. | We commence with the conjunction which indicates the advent of the rule of the Arabs, and the birth of the Prophet, the prayers of God upon him and peace. We disregard everything which preceded it, since (our) concern is with nations and religious sects of the (recent) past.

The Conjunction which Indicated the Rule of the Arabs and the Advent of the Prophet, the Prayers of God upon Him and Peace

His birth was at the beginning of the shift from the triplicity of Libra to the triplicity of Cancer. The beginning of its transfer was in the sign of Scorpio. There occurred with it at (the same) time and place in the ecliptic the mightiest lunar eclipse of all eclipses, | the nearest (date) to it being the night of which its morning was the twenty-sixth day of Nīsān of the year eight hundred and eighty-two of the years of the Two-Horned, it being the night of Sunday. The horoscope of the eclipse occurred at Mecca, at which was his birth, and advent, and the oath of allegiance to him, the prayers of God upon him and peace. The positions of the planets, by *Mumtaḥan* computation, as we will remark, were

/ في هذه الصورة :
 الطالع القوس - بيت المشتري وحدّه ومثلثته -
 ووسط [السماء] السنبلة ، بيت عطارد وشرفه وحدّ الزهرة ،
 ومثلثته القمر ثم الزهرة . الشمس في
 الثور ، حدّ الزهرة وبيتها وشرف القمر ومثلثته ،
 ثم مثلثته الزهرة . والقمر في العقرب ،

العقرب القمر المشتري حد المشتري	القوس و حد المشتري	الجدي
الميزان	الدلو	الحوت
السنبلة	المحل	السرطان
الأسد المريخ	الجوزاء و	الثور و الرأس الشمس الاجرة

٣٢ و

٥

عرضه في الشمال ، ب ، بيت المريخ ومثلثته وآخر حده . زحل والمشتري في العقرب مقترنين .

أما عرض زحل فإنه دمه و عرض المشتري ان . وهما هابطان في الشمال في العرض في حدّ المريخ
 وبيته ومثلثته . المريخ في السرطان ، عرضه ا ، هابط في الشمال في حدّ نفسه ومثلثته ،

١٠ وهو برج هبوطه مع الكوكب الذي على رأس التوأمين ، ومزاجه مزاج المريخ . والزهرة

في الثور و عرضها هن في الشمال ، صاعدة في بيتها ومثلثتها مع القمر وحدّ المشتري . وعطارد في
 الحمل ، عرضه ان ، في الشمال هابط في حدّ نفسه ، ومثلثته المشتري . الرأس في الثور . والكوكب

الذي طلع مع القمر قبل كسوفه من الكواكب الثابتة برجل فرس قنطورس ، ومزاجه مزاج
 الزهرة والمشتري . فكان هذا الكسوف والقران على مذهب بطلميوس الذي أوضحناه

١٥ في صدر هذا الكتاب ، أنه لما اجتمع القران والكسوف عند بدء الانتقال في وقت واحد

وحدّ واحد من العقرب - وهي برج العرب التي تشاكلها مع المريخ الذي ينسب إليه من
 بلدانهم الحجاز مع الزهرة ، وخاصة مدينة يثرب - دلّ على قوة أمر العرب وظهورهم

٣ - السماء : سقطت في الأصل ، وقد أضيفت هنا لاستقامة المعنى ١٠١ - الكوكب : الكواكب ١٣١ - فرس : تحت السطر
 عبارة «من الثوابت» ١٤١ - فكان : فكانت ١٦١ - وهي : كذا يستخدم برج على أنها مؤنث ، تشاكلها : تشاكلهن .

f.32r

according to this figure:

Capricorn	Sagittarius 6	Scorpio Saturn 2;30 Jupiter 2 Moon 4;5
Aquarius	Horoscope 1	Libra
Pisces 13		Virgo 14
Aries Mercury 14;20 Node 6;30 Sun 6;5 Venus 18;7	Gemini 6	Leo Mars 14 Cancer
Taurus 6		

The ascendant (is) Sagittarius, the house of Jupiter, its term, and its triplicity; its (the horoscope's upper) mid-heaven (is) Virgo, the house of Mercury and its exaltation (as well as) the term of Venus and its (Virgo's) triplicity (governed by) the moon and Venus. The sun (is) in | Taurus, the term and house of Venus, and the exaltation of the moon and its triplicity, as well as the triplicity of Venus. The moon (is) in Scorpio, its latitude [0];2 to the north, (Scorpio) being

the house of Mars, its triplicity, and the last of its term. Saturn and Jupiter (are) in Scorpio, conjunct.

As for Saturn's latitude, it is 4;45, and the latitude of Jupiter is 1;50. The two of them are cadent to the north in latitude in the term of Mars, as well as its house and triplicity. Mars is in Cancer. Its latitude is 1, cadent to the north in its own term and triplicity. | It is the sign of its cadence, together with the star which is at the head of the Twins, and its temperament is the temperament of Mars. Venus is in Taurus, its latitude being 5;50 to the north, ascending in its house and triplicity with the moon and the term of Jupiter. Mercury is in Aries. Its latitude is 1;50 to the north, cadent in its own term and in the triplicity of Jupiter. The ascending node is in Taurus. The star which ascends with the moon before its eclipse is (one) of the fixed stars¹, the foot of the horse Centaurus. Its temperament is the temperament of Venus and Jupiter.

Thus (both) this eclipse and the conjunction are according to the doctrine of Ptolemy, which we have explained | in the beginning of this book, stating that whenever the conjunction takes place together with the eclipse at the beginning of the shift, at the same time and the same term in Scorpio – it being the sign of the Arabs, which configures with Mars and Venus, to which the Ḥijāz of their (the Arabs') regions is related, especially the city of Yathrib – then it would indicate the increase in strength of the Arabs and their overwhelming of

¹Repeated in another hand under the line.

- ٣٢ ظ / [على سا] ير من يليهم وإقبال دولتهم . وكان المريخ مستولياً على أمر الكسوف وموضعه والقران من جميع الجهات ، ومستحقاً للتدبير بأنه صاحب البيت والحدّ والمثلثة ، وهو مع ذلك يشارك موضع الكسوف من الشكل من التثليث . واتفق في برج الانقلاب الصيفي فيما يلي المغرب من الأفق ، مغرب في قياسه إلى الشمس وفي الشكل المنسوب إلى العشيّات . واتفق معه من الكواكب الثابتة ما يشاكله في المزاج والقوّة، فدّل على تغيير ٥ الملة وظهور دين يحدث ، وعلى تأخر الحادث ، وإنه يكون سنّه سنّ المشايخ القريبين للفناء ، وعلى كثرة الأمتة ودخول الناس في الملة ، وبلوغ الدين أقاصي الأرض وأطرافها وظهوره على ساير الأديان . ويدلّ أيضاً على الحروب والنجدة والمنازعة التي تكون بين النبيّ صلّى الله عليه وسلّم وبين عشيرته وما لقي منهم ومن غيرهم من العرب حتى استوثق له الأمر ودانت له العرب قرب وفاته ، ١٠ صلّى الله عليه . ولأنّ الكسوف في نهاية التمام دلّ على طول مدّة الدين وبقائه ما بقيت الأرض . ١٠ ولأنّ الكسوف كان متصاعداً من المشرق إلى وسط السماء، يُرى ويظهر في أكثر المساكن ، يدلّ على قوّة الملة وتزيدها على ممرّ الدهور والأزمان واتساع الدين . ولمشاكلة المريخ مع العقرب للعرب وأنّ بلدهم ينسب إليه ، وهو المدبّر للكسوف ، دلّ على البأس والنجدة والشجاعة والجهاد والصبر وابتدال النفوس في الحرب والظفر والغلبة . ودلّ اتصال القمر، بعد الكسوف ، ١٥ بالزهرة ، وهي قوّة بارزة من الشعاع في طلوع العشيّات ، وهي صاحبة بيت الشمس وحدّها ومثلثتها ، ومثلثة العقرب التي فيها القران والكسوف لها مع المريخ والقمر ، على الوحي والنبوّة والأمور الإلهيّة والنظافة والطهارة ومكارم الاخلاق ومحبة النساء والطيب سيّما

١ - على ساير: بعض هذه الكلمات مطموس في الأصل وقد استكملت هنا لاستقامة المعنى ٧١ - وظهوره : وظهره ٩١ - استوثق : استوسق ١٣١ - البأس : الناس

f.32v

(their other) neighbors, and the flourishing of their state. Mars was ruling over the affair of the eclipse and its position and the conjunction in all respects, thus well deserving of the administration, for it is the lord of the house and term and triplicity. Moreover, it participates with the position of the eclipse in the configuration of trine, and it so happened that it was in the summer solstitial sign in the direction of the western horizon, and westerly
 5 with respect to the sun in the configuration pertaining | to the evenings. There occur with it the fixed stars which are similar to it in temperament and power, thus indicating a change of religion and the appearance of a faith, and the delay in its occurrence. The age of its propagator being that of the elderly, advanced in years, and (indicating) the multiplying of the community, and the entry of people into (this) religion, and the propagation of (this) religion to the farthest parts of the earth, and its overwhelming of other religions. It also indicates wars and succor and contention which will be between the Prophet, the prayers of God upon him and peace, and his clan, and what he encountered from them and from the other Arabs until he was in
 10 full control, and all the Arabs succumbed to him close to his death, | the prayers of God upon him.

Because the eclipse was at the complete (shift), it indicated the length of time of (this) religion, and its persistence as long as the earth exists. Because the eclipse was ascending from the east toward midheaven, being seen and observed in most of the inhabited regions, it indicates the power of the religious community (of Islam) and its increase during the passage of ages and (long) times, and the spread of the faith. Because of the configuration of Mars with Scorpio of the Arabs, since their country is related to it (Scorpio), it being the administrator of the eclipse, it indicates valor, chivalry, courage, fighting, perseverance, and self sacrifice in war, success and victory. Since
 15 the moon, after the eclipse, was in aspect (*ittiṣāl*) | with Venus – while it (Venus), being strong, emerging from under the rays in an evening appearance, also being the lord of the solar house as well as its (solar) term, its triplicity, being (that of) Scorpio, in which the conjunction and the eclipse take place, (sharing) with Mars and the moon, (these) indicate revelation, prophecy, divine matters, cleanliness, purity, nobility of morals, and love of women and perfume.

- ١٥٣ / ولها ولاية البلد مع العقرب والذي يُنسب إليها من الأيام الجمعة . ولأن المشتري المستولي على الوتد الذي قبل موضع الكسوف ، أعني الطالع ، ومقارنته الكسوف واعتدال مزاجه ، مع زحل إذا اجتمعا ، ودلالتهما على السعادة ، دلّ على التقى والورع والأمانة والشرف والخطر وجودة الحسب والكرم وطلب معالي الأمور وجسامها . ولأن الكواكب في ناحية الشمال، وزحل أكثرها استعلاء ، وإليه تنسب مكة خاصّة ٥ مع الميزان، دلّ على شرف أهل مكة خاصّة وفضلهم على سائر العرب وسائر الأمم وفخرهم . وإن قيل إنه لما كان المريخ في هبوطه كانت الحرب سجالاً ، ولأن الدلالة كانت للقمر لكسوفه ، وهو صاحب المثالثة بالليل ، وهو في هبوطه ، دلّ على سنيّه الصغرى للملوك وهي مقدار خمس وعشرين سنة . وكذلك إن قيل لما شهد عطارذ ولم يكن له اشتراك في الدلالة كان صاحب الملة ، أعني النبيّ صلى الله عليه ، أمياً لا يكتب شيئاً ، ١٠ وكذلك إن قيل أيضاً إن المريخ الذي له تدبير الكسوف كان في البرج التاسع من برج الكسوف الذي يُسمّى بيت الدين دلّ على ظهور دين وملة ، كان ذلك ممّا لا ينكر . وأيضاً لأن المريخ ليليّ وكان فوق الأرض في حيزه بالليل دلّ على النصر والغلبة وحُسن العاقبة ، مع دلائل كثيرة لمن ميّزها واعتبرها ممّا يشاكل الحال يطول وصفها ١٥ وشرحها . **وكان مولد النبيّ ، صلى الله عليه وسلّم ،**
- قبل الكسوف بستة أيام في الليلة التي صبيحتها يوم الاثنين، وهي الليلة العشرون من نيسان من سنة ثمان مائة واثنين وثمانين من سنيّ ذي القرنين ، ولم نجد الوقت إلا أن الذي نقلت إلينا

٢- ومقارنته: ومقارنة ١٠١ - كان صاحب: كاحب ١٦١ - العشرون : العشرين ١٧ - ثمان ... وثمانين: كتب الرقم «٨٨٢» تحت الشطر

f.33r

Especially since it (Venus) has sovereignty over the country, together with Scorpio, and the day related to it is Friday. Because Jupiter rules over the cardine which preceded the position of the eclipse, I mean the ascendant, and was conjoint with the eclipse, and (because of) its moderate temperament whenever it conjoins with Saturn – both indicating good fortune, it indicates reverence, piety, trustworthiness, honor, substance, good lineage, generosity, and the pursuit of the highest and most magnificent things. Because | the planets are in the northern direction, and Saturn, the highest of them, is related to Mecca in particular, together with Libra, it indicates honor for the people of Mecca especially, and their excellence and dignity over the rest of the Arabs and the other nations.

If it were said that since Mars was in its cadence there would be war with alternate success, and (also) since the indication pertains to the moon because of its eclipse – it being lord of the triplicity at night while in its cadence – (this) indicates the small years for kings, being to the amount of twenty-five years. Moreover, if it is (also) said since Mercury was a witness, and | did not participate in the indications, the propagator of the religion, I mean the Prophet, the prayers of God upon him, was illiterate, writing nothing. If it is also said that Mars, to which is given the administration of the eclipse, was in the ninth sign (counting) from the sign of the eclipse, which is called the house of religion, indicating the appearance of the religion and faith, it would not be denied. Since Mars is also nocturnal, and was in its domain above the earth at night, it indicates victory, success, and happy culmination, together with many other indications for anyone who can discern them and consider it in such manner that its description | and explanation takes a long time.

The Birth of the Prophet, the Prayers of God Upon Him and Peace, was before the eclipse by six days in the night of which the morning was Monday, it being the twentieth night of Nīsān of year eight hundred and eighty-two¹ of the years of the Two-Horned. But the time (of day) is not found, except that which has been transmitted to us by

¹The number is repeated under the word, in Indian (decimal) numerals.

٣٣ ظ / الرواة وصحت به الأخبار أنه وُلد ليلاً . والذي يشاكل أحوال مولده وما أكرمه الله تعالى به من الرسالة وظهور الدعوة، إذا مُيَّز بحسب ما بلغ من العمر ، يجب أن يكون وقت المولد في هذه الليلة وزحل والمشتري مقترنين في دقيقة واحدة في خط وسط السماء . وذلك أنه إذا اتفق الجزء الذي اقترنا فيه ، وهو جـ من العقرب على وسط السماء بمكة كان الطالع بها الجدي كدرجة ، الشمس في الثور كـ والقمر في الأسد ب ، الزهرة ٥ في الثور يال ، عطارد في الحمل ز ، سهم السعادة في الشورح ، زحل والمشتري في العقرب جـ ، فاتفق صاحب الطالع زحل ، وهو صاحب مثثة الاجتماع الذي كان قبل المولد مع المشتري في درجة وسط السماء . والزهرة تنظر إلى الطالع ، وهي صاحبة مثثته .

١٠ فإذا جُمع دليل العمر درجة الطالع وسيّرت إلى تربيعة المريخ كان بينهما ، بمطالع مكة ، سا درجة . فإن جعلت درجة القران ، التي هي درجة وسط السماء ،

الدبر	الجدي ك	القوس
الحوت	مطلع مولد	زحل جـ المشتري جـ العقرب
عطارد ز	الشمس	الميزان
الحمل	المريخ ب	السنبله
الثور	القمر ب	السرطان ك
الزهرة يال	السرطان ك	الأسد
بال	الجوزاء	

للدليل كان بينها وبين مقابلة المريخ سا درجة بمطالع الفلك المستقيم . وكذلك إذا

١٥ جعلت درجة القمر الدليل ، إذ هو صاحب الحيز ، وفي وتد المغرب ، كان بينهما [وبين] درجة زحل ١٥ وتثليث المريخ بمغرب الإقليم [بحسب موضع القمر] من الأفق ، سا درجة أيضاً . وكذلك كان مقدار عمره عليه السلام من السنين الشمسية . وإن غيرت درجة الطالع عن موضعها وحالها لم يوافق هذه الأعداد

١٠ - جعل : يليها كلمة ممحاة في الأصل كأنها «ذلك» ، والأصح حذفها . على الهامش وردت العبارة التالية «عمر يغمبر ما سا صلى الله عليه وسلم» ١٥١-١٦- الكلمات الواردة بين المعقوفين مصححة من نص «دستور المنجمين» ص . ١٨٥ ظ

f.33v

reciters of tradition, and attested by reports that he was born in the night. The (situation matching) the conditions of his birth, as well as the gifts which God, be He exalted, bestowed upon him, that is his prophetic mission, and the declaration of his call – when that is critically examined with respect to his age – the time of the birth must have been during this night. Saturn and Jupiter were in conjunction in the same minute (of arc) in the line of midheaven. That is that if the part (of the ecliptic) at which the conjunction occurred, it being 3 of Scorpio, were at the midheaven of Mecca, then | the ascendant would be Capricorn 20 degrees, the sun in Taurus 5;25, the moon in Leo 2, Venus in Taurus 11;30, Mercury in Aries 7, the Lot of Fortune in Taurus 8, Saturn and Jupiter in Scorpio 3. So the lord of the ascendant is Saturn, it being the lord of the triplicity of the conjunction which was before the nativity, with Jupiter in the degree of midheaven. Venus was in aspect

5

10

15

Aquarius	Capricorn 20	Sagittarius
Pisces	Horoscope 2	Scorpio Saturn 3 Jupiter 3
Mercury 7 Aries	Libra	Virgo
Taurus Sun 36;13 Venus 11;30	Mars 2 Cancer 20	Moon 2 Leo
Gemini		

with the ascendant, it being the lord of its triplicity¹. | So, if the degree of the ascendant is taken as the indication of age, and the *tasyīr* is computed up to quartile with Mars, there would be between the two, in the (oblique) ascensions for Mecca, 61 degrees. And if the degree of the conjunction, which is the degree of midheaven, is made the indicator, there would be between it and opposition to Mars, 61 degrees in right ascension. If | the degrees of the moon are taken to be the indicator, since it is the

lord of the region in the western cardine, then between it and the degree of Saturn, as well as the trine of Mars in the westerly region of the horizon, (is) 61 degrees as well. Thus is the amount of his life, upon him peace, in solar years. If the degree of the ascendant were changed from its position and situation, these numbers would not coincide,

¹A marginal gloss in Persian says: The age of the Prophet, the prayers of God upon him and peace, (as a Prophet) was 41 (to) 61 (years).

٣٤ و / بعضها بعضاً ولم يوافق أحدها مثل هذا العدد .

وكان القرن الثاني في سنة ظب لذبي القرنين

واتفق فيها كسوف قمري في تسعة عشر من تشرين الأول . الطالع الجوزاء كه ،
وسط السماء الحوت يد ، الشمس في الميزان كزد ، زحل في السرطان ز ، المشتري في

السرطان يد ، المريخ في العقرب كب ، الزهرة في القوس زل ، عطارد في العقرب
يب ، وهو على ما في هذه الصورة .

السرطان زحل ز	الجوزاء كه	الثور القمر كزل
المشتري يد الأسد		الحمل
السنبله يد		الحوت يد
الميزان الشمس يجز	الزهرة زل	الدلو
المريخ كب العقرب	عطارد الاقوس	الجدي

٧ واتفق القرن الثالث الذي تنبأ فيه النبي صلى الله عليه

وسلم في سنة ظكا لذبي القرنين .

٨

السرطان	الجوزاء يط	الثور المريخ الزهرة عطارد الحمل
الأسد		الحوت يجز الشمس كزل زحل كب المشتري كب
السنبله ز القمر كزل		الدلو
الميزان	الاقوس يط	الجدي
العقرب		

٨ ووقع فيها كسوف قمري في اليوم

الخامس عشر من آذار بالنهار، والمضيئين
على وتدين ، والطالع الجوزاء يط ،

وسط السماء الحوت ز ، الشمس في الحوت
كزل ، القمر في السنبله كزل ، زحل
والمشتري

٧ - تنبأ : تنبأ ا (في الصورة الأولى) الشمس يجز ز : (في النص) الشمس كزد ا (في الصورة الثانية) الحوت يجز : (في
النص) الحوت ز ا زحل والمشتري في الحوت : (في النص) زحل والمشتري في الدلو

f.34r

one with the other, and not one of them will agree with the like of this number.

So the Second Conjunction Was in Year 902 of the Two-Horned.

There happened in it a lunar eclipse on the nineteenth of Tishrīn I. The ascendant (was) Gemini 25, midheaven Pisces 14, the sun in Libra 27;4, Saturn in Cancer 7, Jupiter in | Cancer 14, Mars in Scorpio 22, Venus in Sagittarius 7;30, Mercury in Scorpio 12, it being according to what is in this picture.

5

Cancer Saturn 7 Jupiter 14	Gemini 25	Taurus Moon 27;4
Leo		Aries
Virgo 14	Horoscope 3	Pisces 14
Libra Sun 13;7	Venus 7;30	Aquarius
Mars 22 Mercury 12 Scorpio	Sagittarius	Capricorn

So There Happened the Third Conjunction,

in which the Prophet, the prayers of God upon him and peace, (first) prophesied, in year 921 of the Two-Horned. There occurred in it a lunar eclipse, on the fifteenth day of Ādhār in the daytime, the two luminaries being in | the two cardines, the ascendant Gemini 19, midheaven Pisces 7, the sun in Pisces 27;30, the moon in Virgo 27;30, Saturn and Jupiter in

10

Cancer	Gemini 19	Taurus Venus 10
Leo		Mars 11 Mercury 17 Aries
Virgo 7 Moon 27;30	Horoscope 4	Sun 27;30 Pisces 13 Saturn 22 Jupiter 22
Libra		Aquarius
Scorpio	Sagittarius 19	Capricorn

٣٤ ظ / مقتربين في الدلو كـب ، المريخ في الحمل يا ، الزهرة في الثوري ، عطارد في الحمل يز ،
 برج الانتهاء الدلو . خرجت القراننات من مثلثة العقرب إلى مثلثة الميزان وبلغت السنة برج
 الدلو ، وصاحبه زحل ، وهو في بيته مقارن للمشتري في وتد من أوتاد القران ، وهو صاحب
 المثثة ويشاركة فيها عطارد . وعطارد المستولي على موضع الكسوف بالبيت
 ٥ والشرف ، وهو برج الاعتدال . والمريخ الذي هو دليل الكسوف في الاصل فقرانته معه
 في البرج . والزهرة في موضعها الأصلي ، وهي صاحبة مثلثة الشمس وشرفها لأنها هي الدليل لكونها
 فوق الأرض . فدل ذلك على تغير أمور الهياكل في هذا القران ، وعلى الوحي والنبوة ، لما لعطارد
 والزهرة من التدبير ، وما للمريخ أيضاً من أنه صاحب الاصل وصاحب مثلثة الشمس مع
 الزهرة ، وهو في موضعه المذكور . فكان مبعث النبي ، صلى الله عليه وسلم ، وظهور دعوته في
 ١٠ بدأ هذا القران ، وذلك من بعد أربعين سنة من عمره . وقد كان أمر العرب تحرك في
 هذين القرانين وانتصفوا في حربهم من العجم . وترادفت الأخبار بمبعث النبي ، صلى الله عليه وسلم ،
 بأرض تهامة ، واشرب الناس إلى ذلك وسارت به الركبان ، حتى ادعى جماعة من العرب
 النبوة وحدثوا أنفسهم بها لما كان مزماً أن يظهر في هذا الحين . فلما تنبأ ، عليه السلام ، أقام
 بمكة في ظهرانهم قريباً من عشر سنين يدعو إلى الله تعالى فيؤذونه ويكذبونه ويلقى
 ١٥ منهم الشدائد حتى هاجر من مكة إلى المدينة . وكان نزوله بظهر المدينة يوم الاثنين
 لثمان خلون من شهر ربيع الأول من سنة إحدى من الهجرة ، وهو اليوم العشرون من ايلول
 سنة ظللج الذي ابتداؤها ايلول . فكان نزوله قُبَاء فيما نُقل إلينا من الأخبار حين اشتد

f.34v

conjunction in Aquarius 22, Mars in Aries 11, Venus in Taurus 10, Mercury in Aries 17. The sign of the terminus (*intihā*) was Aquarius, the conjunctions going out of the triplicity of Scorpio into the Libra triplicity, the year (transfer) being the sign of Aquarius, whose lord is Saturn, it being in its house, conjunct with Jupiter, and in one of the cardines of the [first] conjunction, and it is the lord of the triplicity, sharing it with Mercury.

5 Mercury is the ruler over the place of the eclipse at the house | and the exaltation, and it is in an equinoctial sign. Mars, which is the indicator of the eclipse at the original position (*aṣl*), is (now) in conjunction with it in the (same) sign. Venus, in its original position, is the lord of the triplicity of the sun (as well as) its (the sun's) exaltation, because it is the indicator for being above the earth, so that indicates a change in the affairs of temples in this conjunction, and in revelation and prophecy on account of the administration of Mercury and Venus as well as (the position of) Mars, because it is the lord of the original, and lord of the sun's triplicity (together) with Venus, it (Mars) being in its (designated) place, as was mentioned.

10 So the assumption of his mission by the Prophet, the prayers of God upon him and peace, and the declaration of his call was at | the beginning of this conjunction, that being after forty years of his life had (passed). The affairs of the Arabs were set in motion during these two conjunctions, and they extracted their due from the foreigners in war. Word about the mission of the Prophet, the prayers of God upon him and peace, were widely spread in the region of Tihāma, and people were agitated about it, and it became so widely known that a group of Arabs began to claim prophecy, aspiring toward it by virtue of what was about to happen at this time. So when the Prophet, the prayers of God upon him and peace, prophesied, he remained among them in Mecca for a period of about ten years, calling them unto God, be He exalted,
15 while they in return maltreated him, and called him a liar and he encountered | from them adversity, so much so that he emigrated from Mecca to Medina.

His arrival in the vicinity of Medina was on a Monday, eight days having passed of the month of Rabī' I, of the first year of the Hijra, it being the twentieth day of Aylūl, year 933, which began with Aylūl. So it was his arrival at Qubā' (near Medina), according to the reports transmitted to us, at the time when

- ٣٥ و / الضحى وكادت الشمس أن تعندل . والذي يوجب أن يكون الطالع في ذلك ، القوس ، وهو طالع كسوف الأصل والشمس يومئذ في السنبله كط ، القمر في الدلو ب ، زحل في الأسد ط ، المشتري في الحوت ز ، المريخ والزهرة معاً مقترنان في العقرب هـ ، موضع قران الأصل وكسوفه ، وهما كانا صاحبي التدبير ، ولهما مشاكلة البلد مع العقرب .
- ٥ وعطارد في السنبله ، موضع كسوف القمر في القران الثالث ، وهو صاحب برج الكسوف . وقيل أنه بات ليلته تلك بقياء ودخل المدينة من الغد . فكل هذه الاتفاقات والمشاكلات شاهدة للأمر الأول ، مقوية له ، دالة على تمامه الذي أراد الله تعالى من كرامة نبيه

وظهور دعوته . **قيام النبي عليه السلام**

وكان قبل بيعته التي بايعه الأنصار ،

- ١٠ قبل هجرته ، كسوف قمرى في الليلة الثانية من شباط ظلج ، طالع العقرب يا ، وسط سمائه الأسد يب . الشمس والمشتري مقترنان معاً في الدلو به كح ،

القوس	العقرب يا	الميزان
السنبله الزهرة كجدل الجدي		السنبله
الدلو يب الشمس به كح المشتري به كح		الأسد يب القمر به كح
الحوت	الثور يا	السرطان زحل كدل المريخ كدل الجوزاء
الحمل		

- ١٥ القمر في الأسد به كح ، زحل والمريخ في السرطان مقترنين كدل ، الزهرة وعطارد مقترنين في الجدي كجدل ، برج الانتهاء الجدي .

وكان طالع هذه السنة عند زحوايلها من المولد

الثور ، وسط السماء الدلو ، الشمس في الثور كح ، القمر في الجوزاء يجل ، زحل في السرطان كب ك ،

١ - أن يكون: سقطت في الأصل وقد أضيفت على الهامش وألحقت بعلامة المقابلة «صح»

f.35r

the forenoon had advanced so that the sun had almost culminated, necessitating that the ascendant at that time be in Sagittarius, which was the ascendant of the original eclipse. The sun on that day was in Virgo 29, the moon in Aquarius 2, Saturn in Leo 9, Jupiter in Pisces 7, Mars and Venus with each other conjunct in Scorpio 5, the position of the original conjunction and its eclipse. The two of them were lords of the administration, and together with
 5 Scorpio, were associated with the country. | Mercury was in Virgo at the position of the lunar eclipse of the third conjunction. It is the lord of the sign of the eclipse. It is said that he passed that night at Qubā', and entered Medina the next morning. So all of these circumstances and configurations bear witness to the original matter, strengthening it and indicating its perfection which God, be He exalted, has willed in order to honor His Prophet, and the appearance of his call (*da'wa*).

10	Sagittarius Venus 23;30 Mercury 23;30 Capricorn	Scorpio 11	Libra Virgo
	Sun 15;28 Aquarius 12 Jupiter 15;28	Horoscope 6	Leo 12 Moon 15;28
15	Pisces Aries	Taurus 11	Cancer Saturn 24;30 Mars 24;30 Gemini

**The Rise of the Prophet,
 Upon Him Peace**

Before the oath of allegiance to him which was sworn to by the Companions (*anṣār*), and | before his *hijra* there was a lunar eclipse on the second night of Shubāṭ, year 933. Its ascendant was Scorpio 11, midheaven Leo 12, the sun and Jupiter conjunct together in Aquarius 15;28, the moon in Leo 15;28, Saturn and Mars in Cancer, conjunct at 24;30, Venus and Mercury | conjunct in Capricorn 23;30. The sign of the terminus was Cap-

ricorn.

The Ascendant of This Year at Its Transfer From the Nativity Was

Taurus, midheaven Aquarius, the sun in Taurus 5;25, the moon in Gemini 13;30, Saturn in Cancer 22;20,

٣٥ ظ / المشتري في الحوت انه ، المريخ في الأسد ج ، الزهرة في الحمل كوز ، عطارد في الثور ح ،
 برج الانتهاء من طالع المولد الحوت ، ومن وسط سمائه الجدي . فاتفق الكسوف في وسط
 السماء والقمر في موضعه في المولد يقابل ، وهو صميمي

المحمل الحوت المشتري يا به	الثور افتاب	الجوزاء القمر زحل كبل السرطان
الدلو		الأسد المريخ ج
الجدي القوس	العقرب	السنبله الميزان

مع الشمس ، والزهرة وعطارد في برج الانتهاء
 وهو طالع المولد . وعطارد صاحب حد
 الكسوف . والمريخ وزحل مقتربان في
 السرطان قبالة الزهرة وعطارد وطالع
 الأصل . والشمس صاحبة وسط السماء وبرج الكسوف ،

وهي في بيت زحل . وشكل زحل عند الشمس شكل رديء ، في السادس منها مع المريخ .

- ١٠ فاعطته الشمس مقدار نصف سنيها الصغرى . وزاده المشتري ، بمقدار سنيها الصغرى ،
 شهوراً وهو سنة . فصار الجميع بالتقريب ، من وقت الكسوف إلى أن قبض ، صلى الله عليه وسلم ،
 قريباً من عشر سنين ونصف . ولولا الشمس كانت مع المشتري في وتد لم تقو مع رداء شكلها
 مع زحل أن تعطي هذه العطية . ولما كانت الرئاسة في القران الثالث الذي قام فيه لبرج
 الكسوف ، وهو السنبله ، وهو أيضاً برج وسط سماء كسوف الأصل وقرانه ، صار برج
 ١٥ الانتهاء منها ، من السنة الحادية عشرة ، السرطان ، وفيه زحل والمريخ في كسوف القيام .
 دل على محنة عظيمة في هذه السنة ، وهي سنة إحدى عشرة كما بينا . وفيها قبض عليه السلام .
 فإن جعلت الانتهاء من برج كسوف القيام الذي هو الأسد كان انتهاؤه إلى الجوزاء

١٤ - كسوف : الكسوف ، وقد صُحِّت فوق السطر ١٥ - عشرة : عشر ١٦١ - محنة : منحة (في الصورة) زحل ك
 ل : (في النص) ك ك

f.35v

Jupiter in Pisces 1;55, Mars in Leo 3, Venus in Aries 26;7, Mercury in Taurus 8;20. The sign of the terminus (taken) from the ascendant of the nativity is Pisces, but from its midheaven is Capricorn. The eclipse occurred in midheaven, and the moon was at its position during the nativity, in perfect

5

Gemini Moon 13;30 Saturn 22;30 Cancer	Taurus Sun	Aries Venus 26;7 Jupiter 11;15 Pisces
Leo Mars 3	Horoscope 7	Aquarius
Virgo Libra	Scorpio	Capricorn Sagittarius

opposition to the sun. Venus and Mercury are in the sign of the terminus, | which is the ascendant of the nativity. Mercury is the lord of the term of the eclipse. Mars and Saturn are conjunct in Cancer, in opposition to Venus, Mercury, and the original ascendant. The sun (is) lord of the midheaven and of the sign of the eclipse, it (the) sun being in the house of Saturn. The configuration of Saturn with respect to the sun is a bad configuration, being in in the sixth sign

10 from it and together with Mars. | Thus the sun gave it the amount of half its small years. Jupiter increased it by the amount of its small years in months, making it a year.

So it came, in all, approximately, from the time of the eclipse to when he, the prayers of God upon him and peace, was seized (by God, i.e. died) to about ten years and a half. Had the sun not been with Jupiter in a cardine, it (Jupiter) would not have been able to grant this gift on account of its (the sun's) bad configuration with Saturn. Since the sovereignty in the third conjunction, in which he (the Prophet) arose, belonged to the sign of the eclipse, it being Virgo, and being also the sign of midheaven of the original eclipse and its conjunction, hence the sign of | the terminus from it (Virgo) in the eleventh year was Cancer; Saturn and Mars were in it during the eclipse of the accession. That indicated a mighty calamity in this year, it being the eleventh year, as we have demonstrated. In it (the Prophet), peace be upon him, died. So if you take the terminus from the sign of the eclipse of the accession, which was Leo, its terminus sign would be Gemini

15

٣٦ و / في كسوف وفاته ، وقبالة المريخ منه . وإذا نظرنا في تحويل هذه السنة كان صاحب الانتهاء من طالع المولد المشتري . وكان مشرقاً عن الشمس قوياً في طلوع الغدوات يدل على الحال المحمودة ، إلا أن زحل مقابل طالع المولد و برج الانتهاء من وسط سمائه يدل على ما لقي في هذه السنة من الضيق والشدة والخروج عن الوطن ، سيما و برج السرطان وبال زحل ، وهو صاحب طالع الأصل .

وكان القران الرابع ، وهو قران العودة إلى البرج الأول في سنة ظما

فأقرب الكسوفات إليه كسوف قمرى قبل القران في اليوم الثامن والعشرين من آب . طالع الجدي كاي ، وسط سمائه العقرب جهـ ، والكسوف بالتهار . والنحسان على الوتدين ، والشمس في السنبله و لز ، والقمر في الحوت و لز . زحل في العقرب جل . ١٠ المشتري في الميزان كول . المريخ في الدلو يجل . عطارد في الأسد كز . برج الانتهاء

في الميزان . وكان بعد القران كسوف شمسي بالليل ، والشمس في آخر الكسوف في بيت الطالع . الشمس والقمر في الدلو كز كز . زحل في العقرب ك . المشتري في ١٥ العقرب كطل . المريخ في الثور يا . الزهرة في الدلو يه . عطارد في الحوت

الدلو المريخ القمر و لز الحوت	الجدي كا	القوس زحل جل العقرب
الحمل		الميزان المشتري كز ل الزهرة زل
الثور	السرطان كا	الشمس و لز السنبله عطارد كز الأسد
الجوزاء		

٨ - آب:آب | (في الصورة) الجدي كا: (في النص) كاي | المريخ: (في النص) المريخ يجل | المشتري كز: (في النص) كو

f.36r

at the eclipse of his death, and Mars was in opposition to it. If one looks into this year-transfer, the lord of the terminus (taken) from the nativity ascendant would be Jupiter. It was east of the sun, strong in its vespertine rising, indicating a praiseworthy situation. Except that Saturn was in opposition to the nativity ascendant, and the terminus sign (taken) from midheaven, indicate what he encountered during this year by way of distress, hardship, and exile from the homeland, especially since Cancer is the dejection of | Saturn, it being the lord of the original ascendant.

Then Occurred the Fourth Conjunction, Being the Conjunction of the Return to the First Sign, in Year 941

The closest eclipse to it was the lunar eclipse before the conjunction on the twenty-eighth day of Āb. Its ascendant (was) Capricorn 21;10, midheaven Scorpio 3;5. The eclipse was in the daytime, and the two maleficent ones at | the two cardines. The sun was in Virgo 6;37, the moon in Pisces 6;37, Saturn in Scorpio 3;30, Jupiter in Libra 26;30, Mars in Aquarius 13;30, Mercury in Leo 27. The terminus sign was in Libra. After the conjunction there was a nocturnal solar eclipse, and the sun at the end of the eclipse was in the house of the ascendant. The sun and the moon were in Aquarius 27;27, | Saturn in Scorpio 20, Jupiter in Scorpio 29;30, Mars in Taurus 11, Venus in Aquarius 15, Mercury in Pisces

10
15

Aquarius Mars Moon 6;37 Pisces	Capricorn 21	Sagittarius Saturn 3;30 Scorpio
Aries	Horoscope 8	Jupiter 27;30 Libra Venus 7;30
Taurus	Cancer 21	Virgo Sun 6;37 Mercury 27 Leo
Gemini		

٣٦ ظ / ط ل ، والكسوف في الليلة الثانية والعشرين من شب[ط] سنة ظمب ، وبرج الانتهاء الميزان . وكان تحويل هذه السنة التي اتفق فيها الكسوفان ، وهي سنة س : الطالع ، الحمل ي ، وسط السماء الجدي و ، والشمس في الثور ك . القمر في الثور ح ل ،

الشمس في القمر ل الثور الجوزاء	الحمل ي عطارد زك الزهرة كز ط	الحوت الدلو
زحل في العقرب ، راجع د . المشتري في الميزان ، راجع كجم . المريخ في الجدي كدم . الزهرة في الحمل كزك . عطارد في الحمل زك . وكان الانتهاء من طالع المولد القوس ، ومن وسط سمائه الميزان . صاحب الانتهاء من الطالع المشتري ، وهو في برج	السرطان ز	الجدي ز
الأسد	المريخ كدم المشتري كجم الميزان ي	القوس زحل د العقرب

١٠ الانتهاء من وسط سماء المولد مع المريخ . الزهرة وعطارد قبالة البرج ، والزهرة صاحبة السنة ، من وسط السماء . وقد جاوزت مقابلة المريخ ، وتدخل في الاحتراق . وتدل مواضع الكواكب في هذا التحويل على حالٍ محمودة وغير محمودة ، سيما دلالة الزهرة التي هي صاحبة الانتهاء من وسط سماء الأصل ، ولأن زحل قد عاد إلى موضعه الأصلي وكان حسن الحال في الأصل ، أعني في المولد ، وعلى تجدد أمور حسنة وعاقبة محمودة .

١٥ وكان الكسوف القمري الأول بالنهار ١٥

زحل في وسط السماء ، والكسوف في موضعه الأصلي . المريخ في طالع الكسوف ووتد عاقبة الأصل ، والمشتري ليس مع زحل في البرج . والنحسان يفسدان برجي الأصل

٥ - الجدي: الميزان ١٤١ - وعلى : على (في الصورة) الزهرة كز ط : (في النص) الزهرة كزك | الجدي ز : (في النص) الجدي و

f.36v

9;30. The eclipse was in the night of the twenty-second of Shubā[ṭ] of the year 942. The terminus sign was Libra. The transfer of the year in which the eclipse took place was year 60. The ascendant: Aries 10, midheaven Capricorn 6, the sun in Taurus 0;20, the moon in Taurus 8;30, Saturn retrograde in Scorpio 4, Jupiter | retrograde in Libra 23;40, Mars in Libra

5

Taurus Sun 0;20 Moon 8;30	Aries 10 Mercury 7;20 Venus 27;9	Pisces
Gemini	Horoscope 10	Aquarius
Cancer 7		Capricorn 7
Leo	Mars 24;40 Jupiter 23;40	Sagittarius
Virgo	Libra 10	Saturn 4 Scorpio

10

24;40, Venus in Aries 27;20, Mercury in Aries 7;20. The terminus (taken) from the ascendant of the nativity (was) Sagittarius, but from midheaven Libra. The lord of the terminus (sign taken) from the ascendant (was) Jupiter, it being together with Mars in the sign of | the terminus (taken) from the midheaven of the nativity. Venus and Mercury were in opposition to (that) sign, and Venus is the lord of the year (taken) from midheaven. It passed opposite Mars

entering combust state. The positions of the planets in this transfer indicate a praiseworthy condition or the contrary, especially regarding the indication of Venus, which is the lord of the terminus (taken) from the original midheaven, and since Saturn had already returned unto its original position and was in a beneficent situation in its original position, I mean at the nativity, indicating a renewal of beneficial affairs and a happy culmination.

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| The First Lunar Eclipse Was in Day(light)

Saturn was in midheaven, and the eclipse at its original place, and Mars at the ascendant of the eclipse, and the cardine of ultimate fate (‘āqiba) of the original. Jupiter was not with Saturn in the (same) sign. The two maleficent ones spoil the two signs, the origin

- ٣٧ و /والعاقبة معاً . فدلّ ذلك على الإضرار بأهل البيت وخروج الأمر عن أيديهم إلى غيرهم من قريش ، سيّما والقران قران عودة وهو الدليل على الدول . ولتفرد زحل في برج العقرب دون المشتري ، ومكان المريخ في طالع الكسوف، دلّ على حروب تكون بينهم واضطراب في الأصل ، وهي حروب الردّة . إلا موضع الزهرة والمشتري في برج الانتهاء ، والزهرة صاحبة البرج ، وكانت قويّة في الأصل ، دلّ على صلاح الأمر وقوّة ولايته ٥ واستقامة أمور العرب من بعد ذلك ، وظهورهم بالعجم وغلبيتهم على بلدانهم . وكذلك يدلّ الكسوف الشمسي الثاني لأنّه كان في برج عاقبة الأصل ، في بيت الطالع في آخر الكسوف ، وموضع المريخ في الكسوف القمريّ - وهو أيضاً موضع كسوف القيام - والمريخ يقابل برج الأصل ، وهو العقرب ، وفيها زحل ، وفي آخرها المشتري ، بعيد من زحل ، قد شارف الخروج منها ، وزحل صاحب الكسوف - وهو برج موضع الكسوف - فكانت دلالة ١٠ النحسين في هذا الكسوف أوكد من الأوّل . إلا أنّ مكان الزهرة التي هي صاحبة الانتهاء في الدلو ، مشرّقة عن موضع الكسوف مه ، وهي راجعة وترتفع المريخ ، تدلّ على صلاح الأربعد الفساد . ولأنّ المريخ في الثور الذي تنسب إليه بلاد فارس مع الزهرة ، وهو مفسد الثور والزهرة بحلوله في الثور وتربيعه الزهرة ، دلّ ذلك على هلاك ملك فارس ، وكثرة القتل فيهم في هذا القران . ولأنّ العقرب برج العرب ، ١٥ ولها الشام أيضاً ، دلّ على حروب بين العرب . ولمشاكله المريخ لهم مع العقرب ، دلّ على صلاح حالهم وكثرة القتل بالشام وخروجها عن أيدي الروم وغلبة العرب

f.37r

and the ultimate fate, indicating harm to the (Prophet's) family, the departure of the (control of) affairs from their hands unto others of the Quraysh, especially since the conjunction is the conjunction of return. That is the indicator of government. The isolation of Saturn in the sign of Scorpio without Jupiter, and the position of Mars in the ascendant of the eclipse indicates that there will be wars between them, and confusion in the original (base of religion), they being the wars of the defectors. Except that because
 5 the position of Venus and Jupiter in the sign of | the terminus, Venus being the lord of the sign, and being strong in the origin (*aṣl*), that indicates a good state of affairs and the strength of its authority, and the recuperation of the affairs of the Arabs after that, and their overwhelming of the foreigners and the conquest of their lands.

Similarly the second, solar eclipse, because it was in the sign of ultimate fate of the original in the house of the ascendant toward the end of the eclipse, and the position of Mars in the lunar eclipse – it being also the position of the eclipse of the accession. Mars was (also) in opposition to the sign of the original, it being Scorpio with Saturn in it and Jupiter towards its
 10 end, distant from Saturn, almost | exiting from it (the sign), Saturn being the lord of the eclipse, that is the sign of the position of the eclipse, hence the indication of the two maleficent planets at this eclipse is more certain than the first. Except that because Venus was the lord of the terminus in Aquarius, east of the position of the eclipse, retrograde in quartile with Mars, thus indicating the amelioration of affairs after their having been spoiled.

Because Mars was in Taurus, to which the land of Fārs is related (together) with Venus, it (Mars) being the spoiler of Taurus and Venus, by
 15 virtue of being in quartile with Venus, thus indicating the | destruction of the kingdom of Fārs, and excessive killing among them during this conjunction. Because Scorpio is the sign of the Arabs and of the lands of Shām as well, this indicates wars between the Arabs. Since Mars is in such a configuration with them with Scorpio, it indicates the amelioration of their (the Arabs) condition and much killing in (the lands of) Shām, its extraction from the grasp of the Byzantines, the victory of the Arabs, and

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/واتفاق أمورهم . وكانت جملة قيام النبي ، صلى الله عليه وسلم ، بالمدينة منذ هاجر إليها إلى [أن] قُبض عنها تسع سنين قمرية وأحد عشر شهراً واثنين وعشرين يوماً . وقبض ، عليه السلام ، يوم الاثنين وقت الضُّحى ، الخامس والعشرون من أيَّار ، سنة ظمَج . وكانت الشمس في هذا اليوم في الجوزاء هـكه . والقمر في الجوزاء يا . زحل في العقرب كز . المشتري في الجدي ال .

- ٥ المريخ في الحوت يه ل . الزهرة في السرطان يه م . عطارد في السرطان آ . وكان تحويل هذه السنة من المولد ، وهي سنة اثنتين وستين : الطالع الميزان د ، وسط السماء السرطان د ، الشمس في الثور هكه ، القمر في الدلو يه ك ، زحل في العقرب كط ك ، المشتري في الجدي جـك ، المريخ في الدلو يح م ، الزهرة في الجوزاء جـي ، عطارد في الحمل كز .
- ١٠ فساد القمر وفساد درج الانتهاء ، مع دلالة الأصل ، على وفاته في هذه السنة . فلما صار

السنبله	الميزان د	زحل كطل العقرب
الأسد		القوس
السرطان د		الجدي د المشتري دي
الزهرة يدي الجوزاء الثور الشمس هكه	عطارد كز الحمل د	الدلو المريخ يدل القمر يح الحوت

المريخ في الحوت ، وهو برج الشهر الثاني من التحويل ، قبض فيه في اليوم الثامن منه ، الذي برجه الجوزاء ، وفيها الشمس والقمر معاً ، خارج عن المحاق يريخ المريخ ، وصاحب البرج عطارد ، وهو في موضع المريخ في المولد ، قُبض في هذا اليوم والطالع الأسد ، وهو ثامن طالع المولد ،

- ١٥ وموضع القمر فيه في الأصل ، مع دلائل كثيرة نلغي ذكرها تجنباً للإطالة . ففيما ذكرنا كفاية .

١ - أن: كلمة نقترح إضافتها ٢١ - اثنين : اثنان ٣١ - أيَّار : أذار ١٧ - للإطالة : تجنبنا الإطالة ، وهي إما تجنب الإطالة أو تجنباً للإطالة كما أثبتناها هنا | (في الصورة) زحل كطل ل: (في النص) كط ك | المشتري دي: (في النص) جـك | المريخ يدل ل: (في النص) يح م | القمر يح: (في النص) يه ك | الزهرة يدي: (في النص) جـي .

f.37v

the stabilization of their affairs. The total (time of) residence of the Prophet, the prayers of God upon him and peace, in Medina, from when he emigrated there until he died, was nine lunar years, eleven months, and twenty-two days. He, upon him peace, died on a Monday in the morning of the twenty-fifth of Ayyār of the year 943. On this day the sun was in Gemini 5;25, the moon in Gemini 11, Saturn in Scorpio 27, Jupiter in Capricorn 1;30, | Mars in Pisces 15;30, Venus in Cancer 15;40, Mercury in Cancer 1.

The transfer of this year was the sixty-second year from the nativity; the ascendant (was) Libra 4, midheaven Cancer 4, the sun in Taurus 5;25, the moon in Aquarius 15;20, Saturn in Scorpio 29;20, Jupiter in Capricorn 3;20, Mars in Aquarius 18;40, Venus in Gemini 3;10, Mercury in Aries 27. The terminus sign of the ascendant of the transfer (was) Aquarius, and in it the moon with Mars, it being in opposition to the position of the moon at the birth, thus the | corruption of the moon and the corruption of the terminus degree, together with the indication of the origin, (these) indicate his death during the year. Since Mars came to be in Pisces, it being the sign of the

second month from the transfer, he died in it on its eighth day, the sign of which was Gemini, having in it the sun, with the moon just becoming visible in quartile with Mars, the lord of the sign being Mercury, | in the position of Mars at the nativity, hence he died on this day, while the ascendant (was in) Leo, the eighth house in the horoscope of the nativity, with the position of the moon in it at the original (time), together with numerous other indications which we omit to mention in order to avoid

excessive detail. What we have mentioned thus far is sufficient.

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Scorpio Saturn 29;30	Libra 4	Virgo
Sagittarius		Leo
Capricorn 4 Jupiter 4;10	Horoscope 12	Cancer 4
Aquarius Mars 14;30 Moon 13	Mercury 27	Gemini Venus 14;10
Pisces	Aries 4	Sun 0;25 Taurus

٣٨ و / وإن قيل إن المدة من وقت مبعثه ، الذي هو أربعون سنة من عمره ، والبيعة التي وقعت له عند ذلك ، إلى وقت وفاته تكون إحدى وعشرين سنة شمسية ، وإنها غاية ما يملك ملوكهم بالتقريب فكان ذلك أيضاً موافقاً لأعمار الملوك .

قيام أبي بكر الصديق

- ٥ وكان الكسوف الذي دلّ على وفات النبيّ ، صلى الله عليه وسلم ، وقيام أبي بكر ، كسوفاً شمسيّاً في سنة ظمجد . طالعه الدلو ك ، وسط السماء هـ ، الشمس والقمر في الدلو ط ك ، زحل في العقرب كط ك ، المشتري في القوس كجـ ، المريخ في القوس يزل ، الزهرة في الدلو كجـ ك ، عطارد في الدلو ك ك ، برج الانتهاء في وقت الكسوف العقرب ، وهي برج الأصل ، وفيها زحل ، فدلّ على وفاة النبيّ ، صلى الله عليه .
- ١٠ لما تحولت السنة إلى القوس في الشهر الثالث من هذا الكسوف ، وفيه المريخ نفسه ، المشتري بالمقارنة ، أعني في القوس ، وهو صاحب القوس الذي الانتهاء إليه من كسوف الأصل ، وكان هذا الكسوف في موضع كسوف القيام ، ولما كان في البرج الرابع من الشمس ، وهو شكل مذموم - لأنه على تربيعها - ويتصل بالمريخ ، فدلّت لأبي بكر في هذه الحال على مقدار ثمن سنيتها الصغرى . فكانت خلافته سنتين وثلاثة أشهر
- ١٥ وثمانية أيام . وتوفي في اليوم العاشر من آب سنة ظمه ، وهي السنة التي تنتهي من كسوف قيامه ، وهو الوند الذي اجتاز به النيران قبل الكسوف . وليست في شيء من حظوظها دلّت على صلاحه . وإنه ليس بالقوي .

f.38r

If it were said that the duration from the time of the assumption of his mission, which was when he was forty years old, and the oath of allegiance sworn to him at that time, until the time of his death will be twenty-one solar years, it being the maximum (duration) of their rule approximately, and that was also in accordance with the lives of kings.

The Accession of Abū Bakr al-Ṣiddīq

- 5 | The eclipse which indicated the death of the Prophet, the prayers of God upon him and peace, and the accession of Abū Bakr was a solar eclipse during the year 943. Its ascendant (was) Aquarius 20, the midheaven [Sagittarius] 5;5, the sun and moon in Aquarius 9;21, Saturn in Scorpio 29;20, Jupiter in Sagittarius 23, Mars in Sagittarius 17;30, Venus in Aquarius 23;20, Mercury in Aquarius 20;20. The sign of the terminus at the time of the eclipse was Scorpio, it being the original sign.
- 10 Saturn in it indicates the death of the Prophet, the prayers of God upon him. | Since the year-transfer was to Sagittarius in the third month from this eclipse, Mars itself being in it (Sagittarius), Jupiter being in conjunction with it, I mean in Sagittarius, it being the lord of Sagittarius, to which the terminus (point) of the original eclipse (reached, and since) this eclipse was at the position of the accession eclipse, and (since) it was in the fourth sign from the sun, a bad configuration, because it (the eclipse) was in quartile with it (the sun) in aspect with Mars, hence it indicated in this situation the amount of an eighth of the small years [*sinī-hā al-ṣugrā*] (be granted to) Abū Bakr.
- 15 So his caliphate was two years, three months, | and eight days, and he died on the tenth day of Āb, year 945, this being the terminus year (reckoned) from his accession eclipse, (counted from) the cardine which had just been crossed by the two luminaries before the eclipse. In it (the configuration) none of its fortunes indicate an improvement. Furthermore, it is not strong.

٣٨ ظ /قيام عمر بن الخطاب . وكان الكسوف الذي دلّ على وفاة أبي بكر ، وقيام

عمر، كسوف قمريّ صغير في الليلة السابعة عشرة من حزيران سنة ظمه . الطالع الثور
ي، وسط السماء الدلو هـ، الشمس في الجوزاء كز مز، القمر في القوس كزك ، زحل في القوس
يزك ، المشتري في الحوت يد، المريخ في الحمل كال، الزهرة في الثور يال ، عطارد

٥ في الجوزاء ي، برج الانتهاء الدلو، وأحد أوتاد الأصل، وبرج كسوف قيام

أبي بكر. وانتهت السنة منه إلى الحمل، وفيه المريخ
وهو برج الانتهاء من طالع النبي ، صلى الله عليه وسلم .

فدلّ على وفاة أبي بكر كما ذكرنا . ولأنّ

زحل في سابع الشمس ، وشكله عندها شكل

١٠ وهو شكل غير محمود، إلّا أنّها قد تجاوزت
درجة المقابلة التي هي على نصف الفلك ،

الشمس كز مز عطارد بج الجوزاء السرطان	الثوري	المريخ كال الحمل الحوت المشتري يد
الأسد هـ		الدلو هـ
السنبلة الميزان	العقرب	الجددي القوس القمر كزك زحل يزك

والمشتري على تربيعها ، أعطت نصف سنّيها الصغرى . وزادها المشتري ، لانصرافها

عنه وقد بعدت منه ، نصف سنّيها الصغرى شهوراً . فكانت خلافته عشرين سنين

وستة أشهر وتسعة عشر يوماً . وتوفي ليومين مضياً من تشرين الثاني سنة

١٥ ظنو ، وهي السنة التي تنتهي من كسوف قيامه إلى موضع زحل في كسوف وفاته .

ولأنّ الزهرة كانت في طالع كسوف قيامه ، وهو الوند المطلوب ، وهي قويّة في بيتها

وموضعها الأصليّ دلّت على صلاحه وقوته في سلطانه وشهامته وما أجرى

f.38v

The Accession of ‘Umar Ibn al-Khaṭṭāb

The eclipse which indicated the death of Abu Bakr and the accession of ‘Umar was a small lunar eclipse on the night of the seventeenth of Ḥazīrān, year 945. The ascendant (was) Taurus 10, midheaven Aquarius 5, the sun in Gemini 27;47, the moon in Sagittarius [2]7;20, Saturn in Sagittarius 17;20,

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Gemini Sun 27;47 Mercury 13	Taurus 10 [Venus 11;30]	Aries Mars 21;30
Cancer	Horoscope 14	Jupiter 14 Pisces
Leo 5		Aquarius 5
Virgo	Scorpio	Capricorn Moon 27;20 Saturn 17;20 Sagittarius
Libra		

terminus sign of the ascendant of the Prophet, the prayers of God upon him and peace. That indicated the death of Abū Bakr, as we remarked. Because Saturn is in the seventh (sign from) the sun, and its configuration with respect to it (the sun) in that form is | an unfavorable aspect, except that it (the sun) had just crossed the degree of opposition, which is halfway (around) the heaven, Jupiter being in quartile with it (the sun), hence it (the sun) gave half its small years. However, Jupiter increased

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them by virtue of its (the sun's) receding from it to the extent of half its (Jupiter's) years (counted) as months. Therefore his caliphate was ten years, six months and [seven]teen days. He died when two days had passed of Tishrīn II, year | 956, it being the year [in which the *intihā*] of his accession eclipse ended at the position of Saturn in the eclipse of his death. And because Venus was in the ascendant of his accession eclipse, that being the required cardine, and it (Venus) being strong, in its house and its original position, thus indicating improvement, strength in rulership, his chivalry, and whatever

٣٩ و /الله تعالى على يده من الفتوح . وقد كان قبل هذا الكسوف الذي قام فيه بنصف شهر قمري كسوف شمسي كبير . الشمس والقمر في الجوزاء يب ج ، وطلعه القوس د ، وسط السماء كج . ودلالته مثل دلالة الكسوف القمري الذي بعده .

قيام عثمان بن عفان

- ٥ وكان الكسوف الذي دل على وفاة عمر [و] قيام عثمان كسوف قمري في اليوم السابع والعشرين من أيار بالنهار . الطالع الأسد ز ط ، وسط السماء الثور يح ، الشمس في الجوزاء ز ما ، زحل في الحمل كج م ، المشتري في الجدي ول ، المريخ في الجوزاء يح م ،

السنبله	الأسد ط	السرطان
الميزان		الجوزاء الشمس ز ما عطارد ك ك الثور يح و الزهرة ط
العقرب يح		زحل كج م الحمل الحوث
القوس	الدلو ط	
الجدي القمر ز ما	المشتري ول	
الزهرة في الثور ط ، عطارد في الجوزاء ك ب ك ، برج الانتهاء القوس ، والقمر في وسط السماء في آخر الكسوف ، وبرج الانتهاء والمريخ قبالتة ، فدل على وفاة عمر . ولأن الشمس في وسط السماء وزحل في الحادي عشر منها ، على تسديسها ، وهو شكل غير		

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- ١٥ محمود ، إلا أنها تسير إلى درجة التسديس والمريخ مع الشمس تابع لها مستعمل عليها ، وبينها وبين مقارنته أحد عشر جزءاً بالتقريب ، تكون بمطالع الفلك المستقيم التي هي مطالع موضع الشمس قريباً من أحد عشر جزءاً وثلاثي درجة ، فدل على مثل ذلك من السنين ، سيما والمريخ المنحس للشمس في وسط السماء ، وهي صاحبة الحيز ، فدل على أن الميتة تكون قتلاً

٣ - ودلالته : ودلاله ١١١ - قبالتة : قبالة له ، وقد صححت على الهامش وألحقت بعلامة المراجعة «صح» ١٥١ - مقارنته : مقارنته (في الصورة) الأسد ط : (في النص) ز ط القمر ز ما : (في النص) سقطت

f.39r

God, be He exalted, may vouchsafe him by way of victories. Before this eclipse of his accession by half a lunar month, there had been a big solar eclipse; the sun and the moon were in Gemini 12;3 the ascendant in Sagittarius 4, midheaven (sic) 23. The indications were like the indications of the lunar eclipse which came after it.

The Accession of ‘Uthmān b. ‘Affān

5 | The eclipse which indicated the death of ‘Umar and the accession of ‘Uthmān was a lunar eclipse on the twenty-seventh day of Ayyār in the daytime. The ascendant (was in) Leo 7;9, midheaven Taurus 18, the sun in Gemini 7;41, Saturn in Aries 23;45, Jupiter in Capricorn 6;30, Mars in Gemini 18;40, Venus in Taurus 9, Mercury in Gemini 22;20. The terminus

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Virgo	Leo 9	Cancer
Libra	Horoscope 16	Taurus 18 Venus 9
Scorpio 18	Aquarius 9	Pisces
Sagittarius Moon 7;41	Capricorn Jupiter 6;30	Aries Saturn 23;45

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sign was Sagittarius, and the moon in midheaven | at the end of the eclipse, while Mars is in opposition to the terminus sign, hence indicating the death of ‘Umar. Because the sun was in midheaven and Saturn is eleven (signs) from it in sextile with it, it being an unfavorable configuration, except that it is approaching the sextile degree, and Mars is accompanying the sun following it from above, (the distance) | between it and their conjunction being eleven degrees approximately, (whereas) in right

ascension, which is the (right) ascension of the solar position (it is) close to eleven and two thirds degrees. That indicates a similar (number of) years, especially since Mars is maleficent toward the sun in midheaven, it (the sun) being the lord of (that) region (*al-ḥayyiz*), indicating that the death will be by

٣٩ ظ / ظاهرًا مكشوفًا . ولأنّ الوتد الذي اجتازت به الشمسُ الطالعُ ، وصاحبه الشمس ، والمريخُ

وعطارد معهما في البرج ، دلت على أمور مختلطة ، أولها أحمد من آخرها ، وعلى الترفع والترؤس ، لأنّ الشمس كانت في بعدها الأبعد من الأرض . فكانت خلافة عثمان إحدى عشرة سنة وأحد عشر شهرًا وتسعة عشر يومًا . وكان مقتله في السابع والعشرين من حزيران سنة

٥ ظسز وهي السنة التي صار الانتهاء فيها من الجوزاء، التي هي موضع الشمس بالنهار ، من أجل كون

الكسوف نهارًا ذلك اليوم ، وهو أحد أوتاد الأصل ، وموضع الشمس فيه ، وقباله زحل في كسوف العودة ، الذي هو الكسوف للقران الرابع . **وكان القران الخامس**

في السنة السادسة من خلافة عثمان وهي سنة ظسا لذي القرنين ، واتفق فيها كسوف قمرِيٌّ في اليوم السابع من تموز بالنهار والنيران على وتدين . الطالع الجدي ، وسط السماء

١٠ الميزان يب ، الشمس في السرطان يزك ، القمر في الجدي يزك ، زحل في السرطان

يد ، المشتري في السرطان يو ك ، المريخ في آخر السنبله وأول الميزان ، الزهرة في

الدلو	الجدي	القوس
الحوت	القمر يزك	العقرب
الحمل		الميزان الزهرة هـ كد
الثور	الشمس زك المشتري يو ك زحل يد السرطان	المريخ السنبله الأسد عطارد يدل

الجوزاء هـ كد ، عطارد في الأسد

يد ل ، برج الانتهاء الجوزاء . فكان هذا

القران الخامس مقابل الكسوف مع

١٥ الشمس في برج الانقلاب ، وهو أول

كسوف وقع على قطره القران بعد

القران الأول الذي كان فيه القران مع الكسوف

f.39v

a killing in public. Because the cardine which the sun passed was the ascendant, and its lord is the sun, Mars and Mercury are with it (the Sun) in the sign, that indicated variable affairs, their beginnings being better than their ends, elevation (in rank), and leadership, because the sun was at its greatest distance from the earth. Therefore the caliphate of 'Uthmān was eleven
 5 years, eleven months and nineteen days. His murder was on the twenty-seventh of Ḥazīrān of the year | 967, that being the year at which the terminus ended, (starting) from Gemini, which was the position of the sun during the day, because the eclipse was in the daytime of that day and was at one of the original cardines, the position of the sun being in it, in opposition to Saturn in the eclipse of the return, which was the eclipse of the fourth conjunction.

The Fifth Conjunction

was in the seventh year of 'Uthmān's caliphate, it being year 961 of the Two-Horned. In it occurred a lunar eclipse on the seventh day of Tammūz in the daytime. The two luminaries were in two cardines, the ascendant (being)
 10 Capricorn, midheaven | Libra 12, the sun in Cancer 17;20, the moon in Capricorn 17;20, Saturn in Cancer 14, Jupiter in Cancer 16;20, Mars at the end of Virgo and the first (point) of Libra, Venus in Gemini 5;24, Mercury in Leo 14;30.

The terminus sign is Gemini. So this fifth conjunction was in opposition to the eclipse, with | the
 15 sun in the solstitial sign, it being the first eclipse to occur diametrically (opposite) to the conjunction after the first conjunction, in which the conjunction was with the eclipse

Aquarius	Capricorn	Sagittarius
Pisces	Moon 17;20	Scorpio
Aries	Horoscope 17	Libra Venus 5;24
Taurus	Sun 7;20 Jupiter 16;20 Saturn 14	Virgo Mars Mercury 14;30
Gemini	Cancer	Leo

- ٥٤٠ / وزحل والمشتري مقترنان مع الشمس قد ابتدآ في التشريق عنها . وصاحب الكسوف زحل ، وصاحب الحدّ والشرف المريخ ، وزحل في برج الانقلاب والمريخ قد شارف برج الاعتدال . والكسوف في الطالع دائماً يظهر في آخره ويطلع ، والمريخ ، الذي هو أكثر استيلاء ، مغرب عن الشمس . فدلّ ذلك على سرعة تغيّر يقع في أمر الأوّل ، وعلى
- ٥ فتن وحروب تحدث ، خاصّة والمريخ في وسط السماء في أوّل الكسوف . وفي هذه السنة طغى الناس على عثمان وقالوا فيه . ولتشريق زحل وتغريب المريخ كان الوقت فيما ذكرنا من السرعة والإبطاء ، إلاّ أنّه إلى السرعة أميل . فابتدأت الفتنة بعد قتله [هـ] ، وكانت في السنة السابعة من القران ، وهي السنة التي انتهى فيها برج الكسوف ، وهو الجدي ، إلى موضع القران ، وموضع القران إلى برج الكسوف . وصار الأمر بعد
- ١٠ عثمان خارجاً عن الشريعة . وصارت الخلافة بعد عليّ بن أبي طالب ، عليه السلام ، ملكاً .
- وخرج الأمر إلى التغيّر الذي دلّ عليه الكسوف . ولكن لأنّه لم يكن قران عودة ، ولم تفسد أوتاد القران الأوّل وإنما فسد وتد هذا القران فقط بحلول المريخ في أوّل الميزان ومشارفته إيّاه ، ثبت الملك في بني أمية ولم يخرج عنهم إلى خلافة عليّ بن أبي طالب ، عليه السلام . **قيام أمير المؤمنين عليّ بن أبي طالب عليه السلام**
- ١٥ وكان الكسوف الذي دلّ على قتل عثمان وقيام عليّ بن أبي طالب ، عليه السلام ، كسوف قمريّ سنة طسز ، في الليلة الحادية والعشرين من تشرين الأوّل . الطالع الميزان د ، وسط السماء السرطان د ، الشمس في الميزان كط مج ، القمر في الحمل كط مج ، زحل في

١ - ابتداءً: ابتدا ١١١ - إلى التغيّر: إلى على التغيّر ، وقد اخترنا «إلى» مع أنّ «على» تصحّ أيضاً . ١٢١ - وتد: على الهامش ملحقة بعلامة «صح» ١٦١ - طسز: طس

f.40r

and Saturn and Jupiter conjunct with the sun, beginning to move eastward from it. The lord of the eclipse was Saturn; the lord of the term and the exaltation was Mars; Saturn was in the solstitial sign, and Mars was about to reach the equinoctial sign. The eclipse was in the ascendant, continually clearing and rising toward its (the ascendant's sign's) end. Mars, which is more dominant, is to the west of the sun, hence that indicates the speed of change in the first event, and the occurrence of | uprisings and wars, especially since Mars is at midheaven at the beginning of the eclipse. In this year the people opposed 'Uthmān and (unjustly) maligned him.

Since Saturn was to the east and Mars to the west, the time was both fast and slow, as we have mentioned, except that it was more inclined to speed. Hence the rebellion commenced after his murder, in the seventh year of the conjunction, that being the year in which the eclipse sign, which was Capricorn, ended at the conjunction position, while the conjunction position (ended) at the eclipse sign. After 'Uthmān, matters left the pale of law, and the | caliphate became a kingship after 'Alī b. Abī Ṭālib, upon him peace. Matters resulted in accordance with the change indicated by the eclipse. But because it was not a conjunction of return, it did not spoil the cardines of the first conjunction, but rather it spoiled the cardine of this conjunction only by the presence of Mars at the beginning of Libra, and its being easterly from it (the cardine), the kingship was then confirmed in the line of Umayya. It did not depart from them unto the caliphate of 'Alī b. Abī Ṭālib, upon him peace.

**The Accession of the Amir al-Mu'minīn 'Alī b. Abī Ṭālib,
Upon Him Peace**

| The eclipse which indicated the killing of 'Uthmān and the accession of 'Alī b. Abī Ṭālib, upon him peace, was a lunar eclipse in year 967 at night of the twenty-first of Tishrīn I. The ascendant was in Libra 4, midheaven Cancer 4, the sun in Libra 29;43, the moon in Aries 29;43, Saturn in

٤٠ ظ / السنبلة كج ، المشتري في القوس ي ، المريخ في الأسد يطك الزهرة في الميزان وك ، عطارد في العقرب وك ، برج الانتهاء العقرب ، وهو برج الأصل . واتفق عطارد في موضع كسوف الأصل وقرانه . المريخ الذي هو صاحب العقرب في وسط سماء العقرب . وموضع القمر في الدلو . والانتهاء من طالع المولد إلى برج الكسوف

٥	في آخر القران الخامس . وعطارد في حظوظ المريخ وتربيع المريخ وهو بالحال المذكورة . فدل ذلك على مقتل عثمان لأن زحل في ثاني عشر الشمس ، غير مرتبط بها ، وشكله عندها شكل رديء . ولكن الشمس في آخر برج هبوطها ، قد شارفت برج الكسوف	٥
١٠	١٠	١٠

الأصلي وقرانه ، والزهرة تطلع قبلها والمشتري على تسديسها بالبروج ، أعطت مقدار سنيها الصغرى . ولولا ما تهيأ مما ذكرنا لم تعط هذا المقدار لرداءة شكل زحل ومكانها من هبوطها . فكانت خلافة علي أربع سنين وتسعة أشهر . ولأن المريخ في طالع الكسوف ، ودرجة وسط سمائه موضع المريخ في الأصل ، والمريخ في موضع القمر في أصل المولد ووسط سماء العقرب ، دل على الفتن والحروب في خلافته والجناة وعلى أنه يموت بالسيف كالذي كان من ميته عمر . ولأن الزهرة كانت في طالع الكسوف ، وهو بيتها ، تتصل بالمشتري ، دل على الصلاح والدين وإحياء الأمر الأول ، أعني النبوة . ولكن

١٢ - لرداءة : لرداءة (في الصورة) الشمس كط يج : (في النص) كط مجا القمر كط يج : (في النص) كط مجا الزهرة ي ك : (في النص) وك

f.40v

Virgo 23, Jupiter in Sagittarius 10, Mars in Leo 19;20, Venus in Libra 6;20, Mercury in Scorpio 6;20.

The terminus sign is Scorpio, it being the original sign. Mercury happens to be at the position of the original eclipse and of its conjunction, Mars, which is the lord of Scorpio, is in the midheaven of Scorpio. The position of the moon is in Aquarius and the terminus from the ascendant of the nativity reaches the sign of the eclipse | at the end of the fifth conjunction. Mercury is

5

in the fortunes of Mars and in quartile with Mars, and it is in the condition remarked above. That indicates the killing of ‘Uthmān, because Saturn is in the twelfth (house) from the sun, not in any relationship to it. Its configuration with it is a bad configuration, but the sun is at the end of its | sign of dejection (*hubūʿ*) approaching the sign of the original eclipse and its conjunction. Venus rises before it (the sun), and Jupiter is in sextile with it (the sun) in the signs, thus giving the amount of its small years.

Scorpio Mercury 6;20 Jupiter 10 Sagittarius	Libra 4 Venus 10;20 Sun 29;13	Virgo Saturn 23 Mars 19;20 Leo
Capricorn 4	Horoscope 18	Cancer 4
Aquarius Pisces	Moon 29;13 Aries 4	Gemini Taurus

10

15

Had it not been arranged as we have stated, it would not have given this amount on account of the bad configuration with Saturn and its position with respect to its dejection (*hubūʿ*). Therefore the caliphate of ‘Alī is four years and nine months. And because Mars is in the ascendant of the eclipse and the degree of its midheaven is the position of Mars in the original (horoscope), and Mars is in the position of the moon at the original nativity, | and is in the midheaven of Scorpio, it indicates rebellion, wars, and acts of murder during his caliphate, and that he will die by the sword, as was the case at the death of ‘Umar. Because Venus was in the ascendant of the eclipse, it (the ascendant) being its (Venus’) house, in aspect with Jupiter, thus indicating improvement, faith, and the revival of the first subject, I mean the subject of prophecy. But

٤١ و /المكان الوند ، الذي اجتازه القمر قبل كسوفه وسط السماء ، وهو موضع المريخ في الأصل ، وصاحبه القمر ، وهو منكسف ، والمريخ على تربيع الأصل ، دلّ على اضطراب الأمر عليه وفساد سلطانه وعلى الحروب والمنازعة . وكان الانتهاء في هذه السنة التي قبض فيها من برج الكسوف، الذي هو أول الثور بالتقريب ، إلى السنبله ، موضع ٥ زحل في كسوف قيامه ، ومقابلة المريخ في كسوف وفاته . وكانت وفاته في ٥ الرابع والعشرين من كانون الآخر سنة ظعب .

قيام معاوية بن أبي سفيان

وكان الكسوف الذي دلّ على وفاة عليّ بن أبي طالب ، عليه السلام ، وقيام معاوية كسوف قمريّ

في اليوم الثاني والعشرين من كانون الأول بالنهار سنة ظعب . طالعاه الثور

١٠ ك ، وسط السماء الدلو ح ، الشمس في الجدي د و ، القمر في السرطان د و ، زحل في ١٠

العقرب كا ، المشتري في الثور كو ، المريخ في الحوت يب ، الزهرة في الجدي

كطل ، عطارد في الجدي ي ل ،

برج الانتهاء في وقت الكسوف الحملل . واتفق

زحل في برج الأصل في وتد المغرب والكسوف

١٥ مع موضع المريخ في الأصل ، وهو صاحب

الانتهاء . والنيران ينظران إليه في الكسوف .

فدلّ على وفاة أمير المؤمنين عليّ بن أبي طالب عليه السلام .

الجوزاء القمر د و السرطان	الثور ك	الحمل المريخ يب الحوت
الأسدح		الدلو ح
السنبله الميزان	زحل كا العقرب ك	الشمس د و الزهرة كطل الجدي القوس

١٥

f.41r

since the cardine which the moon had just crossed before its eclipse was the midheaven, that being the position of Mars in the original (horoscope), its lord being the eclipsed moon, with Mars in quartile with the original (horoscope), (these) indicate upheavals against him and spoiling of his rulership, and wars and quarrels. The terminus this year in which he died (calculated) from the sign of the eclipse, approximately the beginning of
 5 Taurus, arrives to Virgo, the position of | Saturn in the eclipse of his accession, and in opposition to it Mars in the eclipse of his death. His death was on the twenty-fourth of Kānūn II, year 972.

The Accession of Mu'āwiya b. Abī Sufyān

The eclipse which indicated the death of 'Alī b. Abī Ṭālib, upon him peace, and the accession of Mu'āwiya was a lunar eclipse on the twenty-second day of Kānūn I. in the daytime, year 972. The ascendant (was) Taurus | 20,
 10 midheaven Aquarius 8, the sun in Capricorn 4;6, the moon in Cancer 4;6, Saturn in Scorpio 21, Jupiter in Taurus 26, Mars in Pisces 12, Venus in Capricorn 29;30, Mercury in Capricorn 10;30, the terminus sign at the time of the eclipse was Aries. Saturn was in the sign of the original horoscope and in the descending cardine (of the present
 15 horoscope). The eclipse was | at the original position of Mars, it being the lord of the terminus. The two luminaries were in aspect with it during the eclipse, so that indicates the death of the Commander of the Faithful, 'Alī b. Abī Ṭālib, upon him peace.

Gemini	Taurus 20	Aries
Moon 4;6 Cancer	[Jupiter 26]	Mars 12 Pisces
Leo 8	Horoscope 19	Aquarius 8
Virgo	Saturn 21	Capricorn Mercury 10;30 Venus 29;30 Sun 4;6
Libra	Scorpio 20	Sagittarius

- ٤١ ظ / ولان زحل في الحادي عشر من الشمس ، وشكله عندها شكل محمود والمشتري في طالع الكسوف وتود الأرض يتصل بزحل ، وهو على تثليث الشمس أيضاً ، وعطارد والزهرة مع الشمس في البرج ويطلعان بعدها ، فلذلك أعطت سنيتها الصغرى تامة . وكان ملك معاوية تسع عشرة سنة قمرية وثلاثة أشهر وخمسة وعشرين في
- ٥ اليوم الثلاثين من نيسان سنة ظعب . فلان صاحب التود الذي اجتازت به الشمس ٥ زحل ، وهو على تربيع البرج ، وعطارد يتصل بزحل ، والمشتري يقابله ، دل على الخلم والتأني ولطف الحيلة في الأمور وجودة الرأي والمكر والخداع وما أشبه ذلك . وكان الانتهاء في هذه السنة من موضع الشمس في كسوف قيامه إلى برج الكسوف فيه ، وهو برج الانتهاء من طالع المولد . واتفق فيه زحل ، في الكسوف الذي توفي فيه ، والشمس
- ١٠ أيضاً . وكذلك الانتهاء من كسوف القران السادس ، الذي كان في وفاته ، إلى الحمل ، ١٠ وهو موضع المريخ في كسوف وفاته . **وكان القران السادس في أيام معاوية** في سنة ظف . واتفق فيها كسوف قمرى في الليلة الثانية عشرة من كانون الثاني . طالع القوس ي ، وسط السماء السنبلة يو ، الشمس في الجدي كد يا ، القمر في السرطان كد يا ، زحل في الدلو كجل ، المشتري في الدلو كجيد ، المريخ في الجدي كط م ،
- ١٥ الزهرة في الجدي هـ ، عطارد في الجدي يجمز ، برج الانتهاء القوس ، وصاحبه ١٥ مقارن لزحل والبرج الذي وقع فيه القران ، وهو وتد من أوتاد الأصل وبيت زحل . وخرج القران في هذا الكسوف عن المثثة التي كان فيها وشارف المريخ

f.41v

Saturn was in the eleventh (house) from the sun, and its configuration with respect to it (the sun) is a good configuration. Jupiter is in the ascendant of the eclipse, the cardine of the earth (in the original horoscope) is in aspect with Saturn, also in trine with the sun, and Mercury and Venus are with the sun in the (same) sign, and the two of them rise after it (the sun). Hence it gave its small years, all of them. Therefore the rule of Mu'āwiya was
 5 nineteen lunar years, three months, and twenty-five (days), up to | the thirtieth day of Nīsān, year 972 (*sic*).

So the lord of the cardine which the sun passed is Saturn, it being in quartile with the sign (of the cardine), and Mercury is (also) in aspect with Saturn, which (itself) is in opposition to Jupiter, thus indicating considered judgment, patience, forbearance, resourcefulness, good judgment, conniving, swindling, and the like. The terminus this year is from the solar position at his accession eclipse up to the sign of the (accession) eclipse, it being the terminus sign (counting) from the nativity ascendant. It so happened that Saturn was in it (i.e the sign of the *intihā'* in the eclipse in which he died, and
 10 the sun | also. So was the terminus of the eclipse of the sixth conjunction, which was at his death, (counted) up to Aries, it being the position of Mars at the eclipse of his death.

The Sixth Conjunction

was during the days of Mu'āwiya in year 980. There occurred during it a lunar eclipse on the night of the twelfth of Kānūn II. Its ascendant was Sagittarius 10, midheaven Virgo 16, the sun in Capricorn 24;11, the moon in Cancer 24;11, Saturn in Aquarius 23;33, Jupiter in Aquarius 23;14, Mars in
 15 Capricorn 29;40, | Venus in Capricorn 0;5, Mercury in Capricorn [1]3;47.

The terminus sign was Sagittarius, and its lord was in conjunction with Saturn and the sign in which this conjunction occurred, it being one of the original cardines and the house of Saturn. In this eclipse the conjunction went out of the triplicity in which it had been, and Mars approached

في الشمس كد يا في المريخ كط م في الجدي كج د زحل الدلو	القوس ي	العقرب
الدلو		الميزان
الحوت يو		السنبله يو
الحمل	الجوزاء ي	الأسد
الثور		القمر كد يا السرطان

٤٢ و

٥

/ أول الدلو الذي هو أحسد أوتاد الأصل .

فدلّ على خروج الأمر عن البيت الذي كان [فيه]

وتغلب غيرهم عليه ، وكان من أمر مروان

ابن الحكم وعبد الله بن الزبير ما كان .

٥ ولكن لأن قران العودة الذي يتلو لهذا

القران يعود في وقت كسوفه إلى المثأثة

التي كان فيها ، أعني مثأثة العقرب ، ولأن المريخ لم يتمكن في الدلو كما تمكن في

كسوف القران الرابع ، يدلّ على رجوع الأمر إلى بني أمية ، وفساد سلطان

ابن الزبير وانتقضائه . فعاد إلى بني مروان ، سيّما والكسوف ليس بكسوف قران

١٠ عودة يُنظر منه في أمور الدول . وكان الانتهاء من هذا الكسوف في السنة

العاشرة إلى الحمل ، وفيه المريخ في كسوف وفاة معاوية .

قيام يزيد بن معاوية

وكان الكسوف الذي دلّ على وفاة معاوية وقيام يزيد ابنه كسوف في الليلة الثانية

والعشرين من كانون الأوّل سنة ظصا . وطالعه آخر العقرب ، وسط السماء

١٥ أوّل السنبله ، الشمس في الجدي دهـ ، القمر في السرطان دهـ ، زحل في السرطان يدك ،

المشتري في القوس كط مهـ ، المريخ في الحمل كـ ، الزهرة في الجدي يبـ ، عطارد

في الجدي كبـ ، برج الانتهاء العقرب ، وهو برج الأصل ، والكسوف

(في الصورة) المشتري كز يد: (في النص) كج يد

f.42r

5

<p>Capricorn Sun 24;11 Saturn 23;33 Jupiter 27;14 Aquarius</p>	<p>Sagittarius 10</p>	<p>Scorpio Libra</p>
<p>Pisces 16</p>	<p>Horoscope 20</p>	<p>Virgo 16</p>
<p>Aries Taurus 6</p>	<p>Gemini 10</p>	<p>Leo Moon 24;11 Cancer</p>

the beginning of Aquarius, it being (also) one of the original cardines. So it indicated the departure of matters from the house (family) where it had been, and it was overtaken by others, thus resulting in what took place involving Marwān b. al-Ḥakam, and ‘Abdallāh b. al-Zubayr. | But because the conjunction of the return, which followed this conjunction, returns at the time of the eclipse to the triplicity in which it was, I mean the Scorpio triplicity, and because Mars was not well within Aqua-

rius, as it was during the eclipse of the fourth conjunction, that indicates return of the rule to the Banū Umayya, and the dissolution of the authority of Ibn Zubayr and its obliteration. So it returned to the Banū Marwān, especially since the eclipse was not itself an eclipse of a | return conjunction, from which one considers the affairs of government. The terminus from this eclipse, in the tenth year, was in Aries, (having) Mars in it at the eclipse of Mu‘āwiya’s death.

The Accession of Yazīd b. Mu‘āwiya

The eclipse which indicated the death of Mu‘āwiya and the accession of Yazīd his son was a nocturnal eclipse on the twenty-second of Kānūn I, year 991. Its ascendant was at the end of Scorpio, midheaven the | beginning of Virgo, the sun in Capricorn 4;5, the moon in Cancer 4;5, Saturn in Cancer 14;20, Jupiter in Sagittarius 29;45, Mars in Aries 20, Venus in Capricorn 12, Mercury in Capricorn 22. The terminus sign was Scorpio, it being the original sign, and the eclipse (was at) the

15

- ٤٢ ظ / موضع المريخ في الأصل . والمريخ في تربييع برج الكسوف وتربييع درجة طالع المولد . وزحل في برج الكسوف والشمس تقابله . فدلّ على وفاة معاوية . ولأن الكسوف في برج الانقلاب ، وصاحبه في برج الانقلاب أيضاً ، وشكل زحل عند الشمس شكل رديء للمقابلة ، وهي سائرة إلى درجة المقابلة ، والمريخ في تربييع برج الشمس وزحل ، أعطته مقدار خمس سنتها الصغرى . ولولا مكان الزهرة مع الشمس ، وطلوعها بعدها ، ومقابلتها زحل ، لم تقو على العطيّة . فكان قيام يزيد بن معاوية ثلاث سنين وثلاثة أشهر . وتوفي في اليوم الحادي عشر من تشرين الآخر سنة ظصه . وكان انتهاء الكسوف في قيامه إلى الميزان ، قبالة المريخ فيه . ولأن صاحب الوند الذي اجتاز به القمر عطارد ، وهو برج الانقلاب
- ١٠ أيضاً ، في تربييع المريخ ، دلّ على الشرّ والخروج عن الشريعة وما يشاكل ذلك . من أحوال المريخ وعطارد .

انقضت الرسالة والحمد لله مستحق الحمد

f.42v

position of Mars in the original (horoscope). Mars was in quartile with the sign of the eclipse, and (also) in quartile with the degree of the nativity ascendant. Saturn was in the sign of the eclipse, and the sun, in opposition to it, indicates the death of Mu'āwiya. And because the eclipse was in the solstitial sign, and its lord is also in the solstitial sign, the configuration of Saturn with respect to the sun is a bad configuration because of the
5 opposition, it (the sun) travelling to the degree of opposition, Mars in | quartile with the sun's sign and Saturn, thus giving it the amount of a fifth of its small years. Had it not been for the position of Venus with the sun, and its rising after it, and Saturn being in opposition to it, it (the sun) would not have been able to grant the gifts. So the accession of Yazīd b. Mu'āwiya lasted three years and three months, and he died on the eleventh day of Tishrīn II, year 995. The terminus of the eclipse at his accession ended at
10 Libra, in opposition to Mars in it (the horoscope). And because the lord of the cardine which the moon crossed was Mercury, it (the sign) being also a solstitial sign | in quartile with Mars, it indicated evil, departure from religious precepts, and suchlike things pertaining to the conditions of Mars and Mercury.

The treatise is finished, praise unto God, the One deserving praise.

Commentary

27v:1 Invocation, giving the author's name as Muḥammad b. Jābir al-Battānī.

27v:3 The treatise begins with the author's statement that the noblest of the branches of astrology is the art of drawing inferences concerning religious and political events and the lives of rulers. Most of the contemporary astrologers do so by the use of year transfers, vernal equinoxes of years in which a conjunction occurs. The horoscope for that time is cast, and its interpretation supplies the requisite predictions. Battānī states that there is no justification for the use of year transfers. He prescribes instead that the planetary configurations should be investigated at the time of an eclipse during or near a conjunction.

In fact, of the twenty-one horoscopes in the treatise, fifteen are of eclipses, twelve lunar and three solar. So the author is carrying out his own precepts.

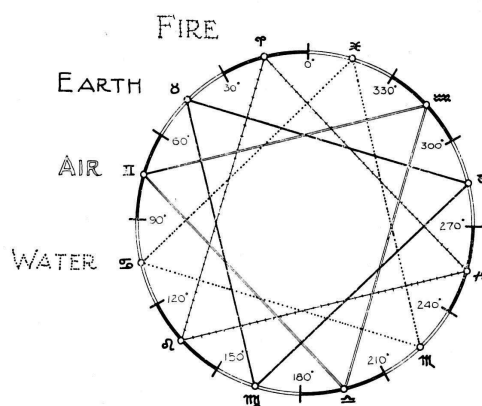
This, Battānī says, was the attitude of Ptolemy (fl. 150), who was pre-eminent in the art of astrology. He goes on to advocate the use of Ptolemy's *Tetrabiblos* as a reference for particular astrological judgments. This book was, and remains, the basic text of horoscopic astrology.

Saturn-Jupiter Conjunctions, Triplicities, and their Shifts

27v:12 As these two planets are the slowest of the seven, their successive conjunctions occur at longer intervals than those of all the others. The little known branch of astrology developed from these conjunctions is applied throughout Battānī's work. It is therefore necessary to develop it in detail. See *Kennedy 1, Pingree, Kennedy & Pingree, Labarta, Labarta & Mestres, Yamamoto & Burnett*.

The twelve zodiacal signs are divided into four sets, triplicities, of three signs each. They are associated with the four equilateral triangles formed by joining midpoints of the three signs which constitute each triplicity (see the figure on the following page, from *Kennedy*, p. 40). Note that the three signs which make up each triplicity are separated from each other by 120°. Each triplicity is given the name of one of the four Aristotelian elements. Thus the first, fire, consists of Aries, Leo and Sagittarius; the second, earth, includes Taurus, Virgo, and Capricorn; the third, air, contains the signs Gemini, Libra, and Aquarius; the fourth, water, the signs Cancer, Scorpio, and Pisces.

The mean period of Saturn is about thirty years, and that of Jupiter about twelve. So, starting from a conjunction of the two planets, after twenty years Saturn will have advanced through two thirds of the ecliptic, 240° , or eight signs. Jupiter will have completed an entire rotation, and in the eight years remaining from the twenty, will continue for an additional two thirds of the ecliptic. There it will catch up with and pass Saturn, accomplishing another conjunction with it. These successive 20-year mean Saturn-Jupiter conjunctions then tend to recur, each one about 240° (twice 120°) farther along the ecliptic than its predecessor. They will therefore usually be in the same triplicity.



If, however, parameters more precise than the thirty and twelve year periods are adopted, it turns out that each mean conjunction is slightly farther forward in its sign than its predecessor. More precise calculations of this kind can be carried out by means of a *zīj*, a document which contains the numerical tables sufficient to enable an astrologer, or astronomer, to solve the standard problems of his profession. One of the only very few surviving *zīj*es from before Battānī's time is the *Mumtaḥan Zīj*; compiled c. 830 in Baghdad by the astronomers of the caliph al-Ma'mūn (see *Vernet, van Dalen 1, Yaḥyā ibn Abī Maṣṣūr*). With *Mumtaḥan* parameters, the gain per mean conjunction is $242;59^\circ$, close to eight zodiacal signs plus three degrees. Assuming that a conjunction occurs at the beginning of a particular sign, twenty years later the next conjunction will be about three degrees into the preceding sign of the same triplicity. The next will be at six degrees, and so on. By the time of the tenth ($30^\circ / 3^\circ$) conjunction, they will have crossed the entire sign. This conjunction will have entered the first point of the next sign, hence the next triplicity. This event is called a shift of triplicity. The same cycle of crossing, of course, is repeated with the second sign, and so on. The time between shifts, with *Mumtaḥan* parameters, is the product of the twenty years between successive conjunctions, times the ten conjunctions per shift. This is about two centuries ($200^y = 20^y \times 10$).

The text states that there are twelve conjunctions per shift of triplicity (27v:16). Using the parameters from the *Mumtaḥan Zij* or Battānī's *zīj* we find that the shift of triplicity takes place with the eleventh conjunction. But the theory of Saturn-Jupiter conjunctions was rooted in Indian and Sasanian astronomy (cf. *Pingree*). Using the *zīj* of al-Khwārizmī (see *Suter* and *Neugebauer*), which uses Indian parameters, we indeed find that the shift of triplicity takes place only with the twelfth conjunction. This being the case, the time between shifts should be about 240 ($= 12 \times 20$) years. As there are four triplicities, in something like 960 ($= 4 \times 240$) years the conjunctions should cover all four. The text (at 27v:17) gives a more accurate number for this period, namely 953 Julian years, which is in agreement with the mean motions of Saturn and Jupiter in al-Khwārizmī, the *Mumtaḥan Zij*, as well as Battānī.

If the series of conjunctions commences at the first point of Aries, then, after progressing slowly through all four triplicities to the end of Aries in 953 years, the next conjunction will appear at the beginning of Virgo, the fifth sign from Aries and the second sign of the first triplicity. This is what Battānī is saying at 28r:1.

Then, after another cycle and a total of 19[0]6 ($= 953 \times 2$) years (in the text a scribe has erroneously written 1,966 instead of the correct 1,906), the next conjunction will appear at the beginning of the ninth sign (Sagittarius), the third sign of the first triplicity. Finally, the third 953 years will bring it back to its original sign, after a total span of 2,859 ($= 953 \times 3$) years (28r:2). As stated at 28r:3, this will involve 144 ($= 12 \times 3 \times 4$) conjunctions, there being twelve conjunctions per sign, three triplicities, and four signs per triplicity.

However, this result was obtained after assuming that at the start of the period a conjunction was at the first point of a particular sign. But there are twelve signs, and all should be treated alike. Therefore the one-sign span should be multiplied by twelve to produce 34,308 ($= 2,859 \times 12$) years, which the text rounds to 34,300 at 28r:5. (Just how a conjunction is to find itself at the first point of a particular sign is not explained.) To perform this through all twelve signs will require 1,728 ($= 144 \times 12$) conjunctions. This, Battānī claims, is close to a stellar cycle that he has previously mentioned. The cycle, however, is not given in this text.

Astrological Indications

28r:6 Mars is more powerful than the inferior planets, Venus and Mercury. Whenever Saturn and Jupiter are in conjunction, countries associated with them will become powerful, and will conquer their neighbours.

28r:15 - 28v:3 This paragraph discusses the relations between religious sects, governments, and kings. Both sects and governments vary in strength. In particular, a government without a sect grows weak. Similarly, a sect without a government grows weak and fades away.

28v:3 Saturn, Jupiter, and Mars are preferred over the other planets if they are placed in the same sign as an eclipse. Their influence will depend upon whether they are lords of (1) the zodiac, (2) exaltations¹, (3) the triplicities, (4) the terms², and (5) their participation in the configuration. The share of influence of each planet will be determined by these and other considerations.

28v:12 - 29r:6 As for the fixed stars, if they rise or culminate simultaneously with the eclipse, the indications are to be inferred from the characteristics of the sign in which the eclipse happens to occur. The magnitudes of the fixed stars are also to be considered, as well as the signs and temperaments of the participating planets.

29r:8 If a planet is in an equinoctial sign, it indicates what will happen to the revenues of places of worship. But if it is in a solstitial sign, the indication is a change in style of worship.

Should the planet be in the ascendant, its indications affect youthful persons. But if in midheaven, it affects the middle-aged. If the planet is westerly, it affects old people.

29r:17 If a constellation related to the evening is in a sign where there is a lunar eclipse, this indicates a multiplicity of evening events. In like manner, coincidence of a constellation related to morning events with a solar eclipse indicates a multiplicity of morning events.

29v:2 If it (the eclipse?) is in opposition to the sun the number of events will be halved.

¹ "Exaltations" (*sharaf*, pl. *ashrāf*) are degrees of the zodiac in which a particular planet reaches its maximum power and influence. The degrees in which a planet reaches its minimum power are called "fall" or "cadence" (*hubūf*). See *Bīrūnī*, p. 258.

² "Terms" (*ḥadd*, pl. *ḥudūd*) are different unequal divisions of the zodiacal signs associated with the seven planets. The planet associated with each term is considered to be its lord. See *Bīrūnī*, pp. 265-266. Battānī makes use of the Ptolemaic terms (as opposed to the Egyptian or Indian ones).

29v:3-12 If during a lunar eclipse a morning constellation is visible, or during a solar eclipse an evening constellation is visible, the indicated event will be unimportant.

If the eclipse is near the eastern part of the horizon it indicates high speed, but if it is in midheaven it indicates medium speed.

If either a solar or a lunar eclipse occurs in the evening it indicates slowness.

When the eclipse is east of midheaven and approaching it, the indicated event will be important. But if the eclipse is descending toward the western horizon, the indicated event will be trivial.

29v:13-15 If either Venus or Mercury is visible in the evening they indicate high speed, but their appearance in the morning indicates slow speed.

29v:16 - 30r:9 Each one of the five planets has its own attributes. Saturn is maleficent, and in particular causes death. Jupiter is beneficent, causing all manner of good things. Mars causes wars, slavery, and the abandoning of religious law. Venus is beneficent, its attributes resembling those of Jupiter. Special to it is the promotion of love between the sexes. Mercury, if associated with another planet, takes on the attributes of the associate. But it has its own interests, in matters as varied as highway robbery and the revenue of temples.

30r:11 The text associates the planets with colors of eclipses as follows:

<i>Planet</i>	<i>Eclipse Color</i>
Saturn	black, sometimes tending toward green
Jupiter	white
Mars	red
Venus	brown
Mercury	variegated

30r:17 - 30v:6 Comets and related phenomena are named, presumably because of their rarity. Whenever they appear they take over the indications usually provided by the maleficent planets Mars and Mercury, their indications being conflagrations and earthquakes. Returning to comets, the direction and duration of their indication is determined partially by the direction of the comet's tail, and partially by the length of time the comet is visible.

If either of these planets appears in the evening, the event indicated will be slow; if the appearance is in the morning, the event will be fast.

30v:7 - 31r:3 The indication for the strength of an event is arrived at by considering the positions of eclipses and conjunctions at the beginning, say,

of a shift of triplicity. These combinations will only recur after many years. Hence the event it portends must be of great importance. It is claimed that changes take place after about 340 years, confirmed by examination (*miḥna*). Two other such periods, of 337 and 377 years, also exist.

The section above entitled **Astrological Indications** which begins at 28r:6 and ends at 31r:3 may not have been written by Battānī. It deals with relative trivia, such as: if a planet is in the ascendant it affects young people. However, in the first page of his book, Battānī implies that it was the combination of a rare astronomical event, an eclipse, with a planetary conjunction, which coincided with the appearance of a new world religion, that of Islām.

The Format of Battānī's Horoscopes

The principal tool of the astrologer is the horoscope. The backbone of our text consists of a sequence of twenty-one horoscopes, dated largely in chronological order. These we have numbered in the order in which they appear in the text.

But before presenting any of the numbered horoscopes of our text, it is necessary to give a formal definition of the horoscope, and describe two ways of displaying it.

A horoscope is a table which lists, for the time the horoscope has been cast:

1. The *ascendant*, the longitude of the ecliptic point rising across the eastern horizon.
2. The longitude of midheaven.
3. The longitude of the sun.
4. The longitude of the moon.
5. The longitude of Saturn.
6. The longitude of Jupiter.
7. The longitude of Mars.
8. The longitude of Venus.
9. The longitude of Mercury.

Occasionally the horoscope will give in addition the longitudes of other celestial objects, such as the Lunar Node.

In the following we will display each horoscope of Battānī's treatise as a table with two or more columns. The first column names the nine celestial objects shown above. The elements of the second, third, etc. columns are

always numbers. They are the longitudes in degrees, of the object named opposite each one in the first column. The entries in the second column give the longitudes as reported in the text. Those of the third column have been obtained by recomputation using the *Mumtaḥan* parameters. The longitudes in the fourth column are based upon Battānī's parameters. For the most part, the longitudes are to one fractional sexagesimal place. For the sake of convenience we list all longitudes with their numbers of degrees reckoned from the vernal equinox (for example, 17° Libra will be reproduced as 197°). Whenever necessary, we will also mention the form with signs within a zodiacal sign which is used throughout the Arabic text and the horoscope diagrams. All recomputations were carried out by means of a DOS program *Historical Horoscopes* designed by Benno van Dalen that makes use of lists of planetary parameters from actual *zīj*es (cf. Appendix A).

Horoscope Diagrams

Battānī usually lists the ascendant, midheaven and the longitudes of the planets for each horoscope in the text, but for fifteen of the horoscopes in his treatise he provides horoscope diagrams, an elegant graphical method of displaying most of the information contained in any horoscope. See, for instance, the copy of Battānī's Horoscope 1 below. The entirety of the diagram is laid out in the interior of a square. The four sides of the square are trisected by two points each. Inside the square, two horizontal lines join the two pairs of trisection points which are opposite each other on the vertical sides of the square. In like manner, two vertical lines join the two pairs of trisection points which are opposite each other on the horizontal sides of the square. These four lines divide the square into nine congruent small squares, each side of which is a third of the side of the original square.

Of the nine small squares, the one in the middle of the large square may serve as a name plate, to announce, by inscriptions, the number of the particular horoscope, an astrologically

Capricorn	Sagittarius 6	Scorpio Saturn 2;30 Jupiter 2 Moon 4;5
Aquarius		Libra
Pisces 13	Horoscope 1	Virgo 14
Aries Mercury 14;20 Node 6;30 Sun 6;5 Venus 18;7	Gemini 6	Leo Mars 14
Taurus 6		Cancer

significant astronomical event, an eclipse, for example, or an important political event such as the accession of a caliph.

The eight squares which border the original square may now be considered. The twelve signs of the zodiac play a central role in determining the indications of any horoscope. Hence twelve places must be found in the diagram for displaying the names and longitudes of the several planets at the time for which the horoscope was cast.

Consider the two diagonals of the original large square. These two lines bisect the four corner squares, converting them into four pairs of right-angled triangles. The eight triangles thus created, when added to the four squares between each pair of triangles, yield a total of twelve compartments or cells, one for each zodiacal sign.

For any horoscope one compartment, either a square or a triangle, is assigned to each sign. For example, in our Horoscope 2 (33v:9-14) the sign Aquarius has been assigned to the triangle in the upper left-hand corner of the large square.

For any horoscope, the indications provided by the ascendant are the most important. Hence it is appropriate that the compartment occupied by the ascendant be the upper center small square of the large square. For our example, Horoscope 2, it is the sign Capricorn.

Since upper midheaven is invariably west of the ascendant, it is displayed in the small square in the middle of the right side of the large square. Neither the ascendant nor midheaven is named in the horoscope diagrams. They are recognized by their positions. The remaining zodiacal signs are now accordingly assigned to the other middle small squares and the right-angled triangles. The positions of the planets are indicated with their symbol and their degrees and minutes of longitude within the signs in which they are positioned.

31r: 4 The advent of the Prophet Muḥammad

31r:5 Muḥammad's mission began 40 years after his birth, which corresponds, approximately, to the year $571 + 40 = 611$ (Horoscope 4, dated 15 March 610, corresponds to the beginning of his prophetic mission), which leaves about ten years for his preaching in Mecca before his migration to Medina in 622. On the topic of 40 years corresponding to maturity in human life, see *Conrad*.

31r:6-10 The text seems to refer to the next Saturn-Jupiter conjunction with change of triplicity, after the conjunction of Horoscope 1. This took

place 238 years after 571, which corresponds to the year 809 AD. Using Battānī's parameters the conjunction took place in $241;12^{\circ}$ (Sagittarius, sign of fire) on 19 September, 809 at 22-24 hours after midnight. If we use *Mumtaḥan* parameters the date is the 22nd September of the same year at 3-7 hours after midnight. This result does not agree with Battānī's remarks: Saturn and Jupiter should be in more than half of the sign, the conjunction in opposition to the eclipse (if he is referring to the lunar eclipse of 571 in $214;5^{\circ}$). Another possibility is that al-Battānī refers to the lunar eclipse on 25 December, 809 (in $8;34^{\circ}$ Cancer at $21:16^h$ after midnight) roughly opposite from the conjunction. At this time, Saturn and Jupiter were already 10° away from each other, Jupiter in fact being in the last third of Sagittarius, but Saturn in the second third. The *Mumtaḥan Zīj* gives this same eclipse in $8;36^{\circ}$ Cancer at $21:41^h$. Assuming that Battānī is referring to the time of the eclipse and not to the moment of the Saturn-Jupiter conjunction, the moon is obviously in opposition to the sun (in $8;34^{\circ}$ Capricorn), but the sun is not in the last degree of the sign, as Battānī states.

31v:12 The Conjunction that Indicated the Advent of the Prophet

The first horoscope presented is astronomically most unusual because it has a true Saturn-Jupiter conjunction occurring simultaneously with a lunar eclipse, two rare astronomical events. For this reason Battānī (at 31v:14) calls it the mightiest of all lunar eclipses. He asserts that it indicates the advent of the Prophet Muḥammad, founder of the world-religion of Islam, and the rule of the Arabs. For a devout Muslim like Battānī it is not unreasonable that he should regard this terrestrial event as the most important in the history of the world.

The birth of the Prophet is said (at 31v:13) to have been at the time of the shift from the triplicity of Libra (air) to that of Cancer (water). The Saturn-Jupiter conjunction concerned appeared at the beginning of the second sign of the latter, namely Scorpio, and is the first of the series of six conjunctions presented by Battānī.

The date of the lunar eclipse is given in the text as the "night whose morning was" 26 Nisān, 882 Byzantine = 26 April, 571. *Oppolzer*, p. 352 lists lunar eclipse 2,746 on 25 April, 571, at $17:43^h$. (In order to obtain the corresponding local time at Mecca, approximately $2:40^h$ should be added to the universal times given by Oppolzer.) Battānī here mentions explicitly that the horoscope for the eclipse was calculated with *Mumtaḥan* parameters for Mecca. As can be seen from the longitudes in the horoscope, the lunar

eclipse occurred within a distance of four degrees from the Saturn-Jupiter conjunction, making the whole event even more unique.

Horoscope 1 is the only horoscope for which the longitudes of the planets are not given in the text. Instead, the planetary latitudes for the time of the horoscope are presented, which we have not attempted to recompute. Since the quality of our copy of Horoscope 1 is not very good, several of the readings are not entirely certain.

Horoscope 1: 32r:1-6 (no planetary longitudes are given in the text)

Lunar eclipse / Saturn-Jupiter Conjunction indicating advent of the Prophet

Recomputed for Saturday, 25 April, 571, 20:36 hours after midnight

<i>planet / cardine</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	246°	246°	246°
Midheaven	164°	161°	161°
Sun	36; 5°	36;13°	36; 4°
Moon	214; 5°	216;27°	216;27°
Saturn	212;30°	212;27°	212;27°
Jupiter	212°	212;18°	212; 0°
Mars	104°	95;13°	95; 8°
Venus	8; 7° *	48; 7°	48;30°
Mercury	14;20°	14;24°	14;53°
Lunar Node	36;30°	36;55°	36;50°

* The longitude of Venus is 8;10° Taurus in the edited horoscope, but can be read as 18;7° Taurus in the manuscript.

Since the eclipse took place after sunset on Saturday, the indication in the text “the night whose morning was [Sunday] the 26th” is correct. The agreement of the data in this horoscope is not as good as that for most of the other horoscopes for eclipses. According to the *Mumtaḥan Zīj*, the eclipse took place at 20:10 hours with the moon in 216;12°; according to Battānī's *Šābi' Zīj*, at 19:54 hours with the moon in 216;2°. In spite of the small discrepancies, it seems that the lunar position in this horoscope should be corrected to 216;5°. Also the longitude of Mars can be assumed to contain a scribal error.

32r:1-14 Battānī gives an analysis of the dignities of the seven planets in the horoscope:

Jupiter is the lord of the ascendant (6° Sagittarius), because this sign is the domicile of Jupiter in daytime (in spite of the fact that the horoscope is cast

for a time after sunset). Jupiter is also the lord of the triplicity of fire, in which we find Sagittarius, and its *ḥadd* (term) begins in 8° Sagittarius.

Mercury is the lord of upper midheaven (house X), in 14° Virgo; this sign corresponds to its domicile (in daytime) and exaltation (15° Virgo). 13° Virgo is the beginning of the term of Venus. The sign also corresponds to the triplicity of earth governed by Venus (in daytime) and the moon (at night).

The sun is in 4;5° Taurus and Taurus is the night domicile of Venus, 8° Taurus being the end of the term of Venus. The exaltation of the moon is in 3° Taurus. The sign of Taurus, as well as Virgo, corresponds to the triplicity of earth.

The moon is in 4;5° Scorpio, and this sign is the domicile of Mars during the day. Scorpio belongs to the triplicity of water governed by Mars in daytime. The term of Scorpio governed by Mars ends in 6° Scorpio. 2° Scorpio is the place of the Saturn-Jupiter conjunction.

Both Saturn and Jupiter have northern latitudes and, as they are in 2° Scorpio, they are in the term of Mars as well as in its domicile.

Mars is in 14° Cancer (according to the text), and in the 28th degree of this sign we find the degree of its cadence (*hubūf*). The star at the head of the Twins is α Geminorum, the longitude of which is 94;30° according to Battānī's star table (see *Battānī*, vol. 2, p. 157). This confirms that the longitude of Mars should be corrected to about 95°. Another possibility is to imagine that Battānī refers to β Geminorum (long. 97;50°), which, according to *Ptolemy* (I, 9), has the same quality as Mars.

Venus is in 18° Taurus and has a northern latitude. It is in its own domicile (by night) and it governs the triplicity of earth (Taurus, Virgo, Capricorn) in daytime.

Mercury is in 14;20° Aries. Its term ends in 21° Aries. Aries belongs to the triplicity of fire governed by Jupiter at night.

The star which ascends with the moon before the eclipse is *Rijl al-Faras* (the horse's foot, α Centauri). Its longitude is 199;30° according to *Battānī* (vol. 2, p. 174). *Ptolemy* (I, 9) states that the stars of Centaurus which are in the horse's body have the same temperament as Venus and Jupiter.

32r:14-17 The text concludes that eclipse and conjunction, according to the doctrine of Ptolemy, imply the rise of the Arab state. Both events take place in the sign of Scorpio, which is called the sign of the Arabs. The association of the sign of Scorpio with Arabia, and especially the Ḥijāz, appears in many sources like *Bīrūnī* (p. 220).

32v:1-12 Mars is said to be the lord of the house (XII, in which both the conjunction and the eclipse take place), term, triplicity, eclipse, and conjunc-

tion. Mars is in trine with (i.e., at a distance of 120° from) the position of the eclipse, indication of a change of religion and its propagation. The text has Mars at longitude 104° , hence in the sign of Cancer (the same holds for our corrected value 95°). For this lunar eclipse the moon is at $214;5^\circ$, in the sign of Scorpio. These two signs are indeed in trine aspect. The difference of longitudes is almost exactly 120° if we correct the position of Mars to 95° .

A further indication is of the contention between the Prophet and his clan, and his eventual control of all the Arabs.

The eclipse being at the complete (shift?) indicates the duration of the religion. The eclipse, ascending from the east towards midheaven, indicates the power of the religious community and spread of the faith.

32v:12-17 Mars, configured with Scorpio of the Arabs, the administrator of the eclipse, the indication is valor, chivalry, fighting, success, and victory. We have already seen that both the eclipse and the conjunction take place in the domicile of Mars *in daytime*, in trine aspect with the position of the planet, and that Mars governs both the triplicity of Scorpio (*at night*) and its term.

The moon, after the eclipse, was in aspect with Venus (it will be in opposition to Venus about one day after the eclipse), strong, in evening appearance, the lord of the solar house (the sun is in $4;5^\circ$ Taurus and the moon has its exaltation in 3° Taurus) and its (solar) term (?). Its triplicity is Scorpio, in which the conjunction and the eclipse take place. The triplicity of water is governed by Venus in daytime and by Mars at night, the moon being its associate planet, thus indicating prophecy, divine matters, purity, love of women, and perfume.

33r:1 Here the text implies that Venus, together with Scorpio of the Arabs (32v:13), has sovereignty over the country. Scorpio begins at 210° and ends at 240° . In the eclipse the conjunction occurs at 212° , inside Scorpio. A necessary condition for a lunar eclipse is that the sun and the moon be in opposition. In this eclipse the moon is at $214;5^\circ$, also in Scorpio. The presence of Scorpio in the eclipse and in the conjunction would seem to indicate the sovereignty of the Arabs.

33r:2 Since Jupiter rules over the cardine preceding the position of the eclipse (in Scorpio), namely the ascendant (in Sagittarius, which is Jupiter's daily domicile), and was conjoint with the eclipse, because of its moderate temperament when with Saturn, both indicating good fortune, the indications include piety, honor, and the pursuit of the highest.

33r:4-5 The planets, being northern, and Saturn, the highest, being related to Mecca (Arabia in *Bīrūnī*, p. 242) with Libra (*Bīrūnī*, p. 220), the indication is honor for the Meccans over the other Arabs and the other nations.

33r:7-15 This passage consists entirely of astrological indications. Mars is cadent (*fī hubūṭi-hi*) because it is in 5° Cancer and its exaltation (*sharaf*) is in 28° Capricorn. The same can be said, more precisely, about the moon (4° Scorpio, its exaltation being in 3° Taurus), in house XI. The period of 25 years corresponds to the short years of the moon (*Abū Ma'shar*, pp. 82-83). Mercury's dignities are unimportant in the horoscope, which implies the illiteracy of the Prophet. Mars is in Cancer, in house VIII, but Battānī says that the sign of Cancer is the ninth sign from the sign of the eclipse (Scorpio), so he interprets the situation as if Mars were in house IX, the house of religion. Mars is also a nocturnal planet (*Bīrūnī*, p. 234) and it is above the earth at night. According to *Bīrūnī* (p. 308) these are the conditions that allow us to consider that Mars is in its *ḥalb*. In order to consider it to be in its *ḥayyiz* we should add to the previous conditions the fact that Mars, being a masculine planet (*Bīrūnī*, p. 234), should also be in a masculine sign (*Bīrūnī*, p. 211), something which does not seem to be the case because Cancer is a feminine sign. On *ḥalb* and *ḥayyiz*, see *Bīrūnī*, p. 208.

The Birth of the Prophet

With Horoscope 1 Battānī exhibits a very rare astronomical event which, astrologically, is a powerful indication of the Prophet's birth. He now sets himself the task of producing a second horoscope, this one cast for the time of the actual birth. To be plausible, this must satisfy at least two requirements. Its date must be in the close vicinity of the indication, Horoscope 1, and the birth must accord with a local tradition that it was nocturnal. Any additional astronomical distinction would clinch the matter. As can be seen from Horoscope 2 below, Saturn and Jupiter were at this time already in conjunction.

33r:16 - 33v:3 The birth of the Prophet, Battānī says, was six days before the eclipse of Horoscope 1, the night of Monday, 20 Nīsān, 882 Byzantine (20 April, 571). Tradition asserts he was born at night. As an additional astronomical condition, Battānī asserts that at the time of birth Saturn and Jupiter, being in conjunction, crossed the meridian, i.e., their longitudes coincided with upper midheaven.

Horoscope 2: 33v:4-7*Birth of the Prophet*

Recomputed for Monday, 20 April, 571, 0:09 hours after midnight

<i>planet / cardine</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	290°	290°	290°
Midheaven	[213°]	213°	213°
Sun	30;25° *	30;35°	30;26°
Moon	122°	138;47°	138;50°
Saturn	213°	212;55°	212;55°
Jupiter	213°	213; 4°	212;46°
Mars	92°	91;54°	91;49°
Venus	41;30°	40;57°	41;20°
Mercury	7°	6;55°	6;59°
Lot of Fortune	38° *		

* The solar longitude is given as 16;13° in the triangle for Taurus (= 46;13°) in the diagram. In the text it may also be read as 5;25° Taurus, but since both here and in Horoscopes 7, 10, and 12 for nativity transfers of the Prophet it is clear that the correct value is 0;25° Taurus, we prefer this reading. The Lot of Fortune is only given in the text.

A serious error must have occurred in the calculation of the lunar position. The further agreement of the horoscope data with both recomputations is almost perfect. In particular, the ascendant of 290° is in full agreement with Saturn and Jupiter being in upper midheaven. The solar position, which should already have been reached four hours earlier according to the *Mumtaḥan Zij*, and to a lesser extent the longitude of Venus, suggest that the horoscope was more likely calculated on the basis of the *Ṣābi' Zij*.

33v:6 **Lot of Fortune.** The astrological literature contains numerous references to all manner of “lots”, among which the Lot of Fortune (*sahm al-sa'āda*) is probably the most important. However, in Battānī's treatise it is mentioned only this once, so its significance is marginal. There are many rules for calculating the longitude of the Lot of Fortune, most of them involving the operations of addition and subtraction upon three longitudes in a given horoscope: the ascendant, the sun, and the moon. We have used several of these rules to recompute the Lot of Fortune of our Horoscope 2. None, however, are remotely near the 38° of our text if the lunar longitude from the horoscope (122°) is used. But calculating with the correct lunar longitude at the time of the horoscope of approximately 138°, we can reproduce the given Lot of Fortune according to the most common rule, namely as

the elongation of the moon from the sun reckoned from the ascendant: $290^\circ + (138;50^\circ - 30;26^\circ) - 360^\circ = 38;24^\circ$ (in daytime the rule gives the Lot of Fortune as the elongation of the sun from the moon reckoned from the ascendant).

33v:7-9 The analysis of the dignities of the planets in this horoscope is very brief, for Battānī is mainly concerned here with the calculation of the length of life of the Prophet using *tasyīr* techniques. He merely says that Saturn is the lord of the ascendant, arguing that Saturn was the lord of the triplicity of the luni-solar conjunction (*ijtimā'*) which took place before the birth of the Prophet, Jupiter being in midheaven. Venus is in aspect with the ascendant (almost a trine, the difference of longitudes being $111;30^\circ$) and it is the lord of its triplicity: the ascendant is in Capricorn, which belongs to the triplicity of Earth, Venus being its lord in daytime.

33v:10-17 **The Prophet's Life-Span.** The text states that to obtain an indication of the subject's length of life (here the Prophet) by means of the method of *tasyīr* (see Schirmer, Viladrich & Martí, Yano & Viladrich, Díaz Fajardo), take the difference in oblique ascension between the degree of the ascendant, here 290° , and the quartile of Mars. Here Mars's longitude is 92° , hence its quartile is $92^\circ - 90^\circ = 2^\circ$. Since the oblique ascension at Mecca of 290° is $300;37^\circ$ and that of 2° is $1;32^\circ$, the difference in the direction of the zodiac is indeed $360^\circ + 1;32^\circ - 300;37^\circ \approx 61^\circ$.

A second procedure, which gives the same result, is the following. Take the degree of the conjunction, 213° , which is also the degree of midheaven, and make it the indicator. Then the difference between this and opposition to Mars, 272° , this time in right ascension, is again 61° : the right ascension of 213° is $300;46^\circ$ (measured from Capricorn, see Battānī, vol. 2, pp. 61-64); the right ascension of 272° is $2;11^\circ$; the difference between the two values is $61;25^\circ$. Finally, if the longitude of the moon, 152° is taken to be the indicator, then the difference between it and the longitude of Saturn (213°) or the trine of Mars (212°) is likewise 61° . Here Battānī uses a simple difference in longitude between the two indicators and it is clear that the lunar longitude here assumed is 152° , i.e. 2° Virgo, instead of 2° Leo as in the horoscope.

34r:2-3 *The Second Conjunction*

The second Saturn-Jupiter conjunction occurred in 902 Byzantine, i.e., some time between 1 October, 590 and 30 September, 591. The text states that during this year there was a lunar eclipse on 19 October, 590. This must have been Oppolzer, lunar eclipse 2,778, 18 October, 590 at $18:13^h$. Horoscope 3

below is of this event. The longitudes in the second column were obtained from the text and from the adjoining horoscope diagram.

Horoscope 3: 34r:3-6

Lunar eclipse near the second Saturn-Jupiter conjunction

Recomputed for Wednesday, 18 October, 590, 21;19 hours after midnight.

<i>planet / cardine</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	85°	85°	85°
Midheaven	344°	344°	344°
Sun	207; 4° *	207;14°	207;8°
Moon	27; 4°	27;31°	27;31°
Saturn	97°	97; 5°	97;14°
Jupiter	104°	103;51°	103;48°
Mars	232°	231;25°	232; 5°
Venus	247;30°	246;14°	246;32°
Mercury	222°	221;35°	222;17°

* The solar longitude is given as 13;7° Libra (=193;7°) in the diagram.

The agreement between text and recomputation is very good for both *zīj*es. The position of Venus may contain a scribal error (7° instead of 6° Sagittarius). There are no astrological indications, probably because Battānī found no important event in the life of the Prophet on or near 18 October.

The Intihā'

The *intihā'* is an astrological concept used to divide time into equal intervals like mean Saturn-Jupiter conjunctions. Since this unit apparently originated in Islamic times, we retain, in this commentary, the Arabic name instead of translating it into English *terminus*, as we have done in the translation. The first appearance of the *intihā'* in a horoscope of our text is in Horoscope 4 below. There are four varieties of *intihā'āt*, but since our text uses only the small *intihā'*, we will confine our attention to it. *Pingree*, p. 60, states that the small *intihā'* moves one zodiacal sign per year. *Pingree*, p. 79, further states that, according to al-Sijzī, the *intihā'* was in Sagittarius on 19 March (Ādhār), 571, which was the day of the vernal equinox of that year. This starting point for the computation of the *intihā'* seems to have been correctly used in Horoscope 4, while the further *intihā'āt* in horoscopes 6, 8, 9, 14, 16, 17, 18, 19 differ consistently by one zodiacal sign from those obtained from al-Sijzī.

There is, furthermore, a certain number of *intihā'āt* calculated with other zodiacal signs as the starting point, such as the sign of the ascendant of the Prophet's nativity (Horoscope 2) in Horoscopes 6, 10, 12, 14, 18, 19; the sign of midheaven of nativity in Horoscopes 6 and 10; the signs of the eclipses of Horoscope 4 (in Horoscope 6), 6 (in Horoscope 6), 17 (in Horoscope 17), 18 (in Horoscope 18), 20 (in Horoscope 20), 21 (in Horoscope 21) and, finally, the sign of the sun in Horoscope 19 (in Horoscope 19). It seems clear, therefore, that more than one type of *intihā'* can be used in a single horoscope, according to the necessities of the prediction.

It is usually understood that when the *intihā'* is involved, the year commences with the vernal equinox (although this assumption is not always evident in the *intihā'āt* which use the different starting signs mentioned above). Indeed, in the horoscope which accompanies al-Sijzī's announcement of the *intihā'* (*Pingree*, p. 79) the solar longitude is given as 0;0°, implying a vernal equinox. Hence 571 may be taken as the year-number. The date of our Horoscope 4 below is 15 March, 610. This is some four days before the equinox, hence the number of the preceding year, 609, must be used for reckoning the integer years elapsed since the vernal equinox given by al-Sijzī. This results in $609 - 571 = 38$. Since there are twelve zodiacal signs per year, and since $(3 \times 12) + 2 = 38$, it follows that, having started from Sagittarius, the *intihā'* will rotate three times around the ecliptic and advance an additional two signs, ending in Aquarius, as in the text.

34r:7-9 The Third Conjunction

During the year the third conjunction occurred, the Prophet first preached, and there was a daylight lunar eclipse on 15 March, 610. This is Oppolzer lunar eclipse 2,808, 15 March, 610, at 8:31^h after midnight. Horoscope 4 below was cast for this eclipse.

Horoscope 4: 34r:10 - 34v:2

Lunar eclipse near the third Saturn-Jupiter conjunction

Recomputed for Sunday, 15 March, 610, 10:47 hours after midnight

<i>planet / cardine</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	79°	79°	79°
Midheaven	337° *	337°	337°
Sun	357;30°	356;37°	356;30°
Moon	177;30°	176;36°	176;39°

Saturn	322° *	322;11°	322;12°
Jupiter	322° *	320;51°	321;43°
Mars	11°	10;36°	11;14°
Venus	40°	41;37°	41;11°
Mercury	17°	16;21°	16; 0°
<i>intihā'</i>	Aquarius		

* Midheaven is indicated in the diagram as 13° instead of 7° in Pisces. The longitudes of Saturn and Jupiter are entered in the diagram as 22° in Pisces instead of in Aquarius. As usual, the *intihā'* is only given in the text, not in the diagram.

Since the solar position at the time of the opposition is 356;37° according to the *Mumtaḥan Zīj* and 356;30° according to Battānī's *Zīj*, the text's 357;30° can be assumed to be a scribal error for 356;30°, and consequently the moon's 177;30° can be corrected to 176;30°. Note that, as for the majority of the eclipse horoscopes, the solar longitude is more accurately reproduced by the *Šābi' Zīj*. The same holds for the position of Jupiter, and therewith for the Saturn-Jupiter conjunction. The text positions of Venus and Mercury are in error by around 1°.

34v:2-4 The conjunction takes place in the sign of Aquarius (triplicity of air), while the previous one (Horoscope 1) was in Scorpio (triplicity of water). Aquarius is also the *intihā'* of the year and falls under the power of Saturn, for it is the night domicile of the planet. Saturn is also the lord of the triplicity of air in day time, while Mercury is its lord at night: this implies a partnership between the two planets. To this Battānī adds that Saturn was in one of the cardines of the horoscope of the conjunction. This remark seems to refer to the conjunction of Horoscope 3, where Saturn is in the ascendant.

34v:4-5 Mercury is in a powerful position regarding the eclipse (in 27;30° Virgo) because its daily domicile is in Virgo, its exaltation in 15° Virgo, and it is in the sign of Aries, an equinoctial sign.

34v:5-6 Mars is the indicator (*dalīl*) of the eclipse in its original (*aṣl*) position, meaning Horoscope 1, in which the lunar eclipse occurs in the sign of Scorpio (domicile of Mars in daytime). This is the first instance in which Battānī uses a radical position identified with Horoscope 1 (conjunction and eclipse announcing the advent of Islam), which appears in Horoscopes 4, 6, 7, 8, 13, 14, 16, 18, 19 and 21. Another common radix is Horoscope 2 (the Prophet's nativity), which is used in Horoscopes 6, 8, 9, and 12. Horoscope 13 (eclipse of the death of the Prophet) is used as the radix in Horoscope 14, and Horoscope 19 (accession of Mu'āwiya) is the radix of Horoscope 20. As

in the case of the *intihā'*, we can find more than one *aṣl* used in the same horoscope.

34v:6-7 Venus is in the same position as in the radical horoscope: in Horoscope 1 it was in 18° Taurus, in its domicile, governing the triplicity of earth (Taurus, Virgo, Capricorn), in which we also found the sun (4;5° Taurus). In Horoscope 4 Venus is also in Taurus (10°). Battānī's reference to Venus being the lord of the triplicity of the sun should be interpreted as referring to the triplicity of earth (Taurus, Virgo, Capricorn), governed by Venus, because the sun was in Taurus in Horoscope 1. Venus is also governing the exaltation (*sharaf*) of the sun (19° Aries) because the term (*hadd*) of Venus is comprised between 14° and 21° Aries. The sun is considered to be the indicator (*al-dalīl*) because it is above the earth.

34v:7-8 The predominance of Mercury and Venus in this horoscope indicates a change in the affairs related to temples (*hayākil*), revelation, and prophecy.

34v:8-9 A third planet, Mars, is also in a position of power in Horoscope 4. Battānī has already referred to it in 34v:5-6 and now he states that Mars is the planet associated with Venus and the moon in the government of the triplicity of earth, which, as we have seen, is the triplicity of the sun.

34v:10-13 From this horoscope Battānī inferred that during this year the Prophet would announce his mission, at the age of forty. The Tihāma is a long and narrow region on the coast of the Red Sea, south of Mecca. The group of Arabs who claimed prophecy are, probably, the pseudo-prophets Musaylima, al-Aswad and Ṭulayḥa (see *s.v.* in the *Encyclopaedia of Islam*, new edition), who were active toward the end of the life of the Prophet Muḥammad.

34v:14 - 35r:1 In Mecca the Prophet was maltreated, so that on 20 September, 622, he accomplished the Hijra to Medina. The Hijri date is given as 8 Rabī' I, 1 Hijra (= 20 September, 622), a Monday. This checks with *Battānī*, vol. 2, p. 4. The text also gives an elapsed time from the Hijri epoch of 0^y 2^{mo} 8^d.

Horoscope 5: 35r:1-4 (no diagram)

Arrival of the Prophet in Medina

Recomputed for Monday, 20 September, 622, 11:00 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	Sagittarius	249°	249°
Midheaven	-	165°	165°

Sun	179°	179; 6°	179; 0°
Moon	302°	302;15°	302;17°
Saturn	129°	129; 9°	129;14°
Jupiter	337°	330;27°	331;49°
Mars	215°	214;19°	214;54°
Venus	215°	214; 9°	214;28°
Mercury	Virgo	164;37°	165; 8°

We have chosen the time to a full hour so that both the ascendant and the lunar position are correct. The text longitude for Jupiter could be a scribal error for either 330° or 332°. Note that the calculated positions of Mercury fall precisely in the middle of Virgo. Both *zīj*es produce a conjunction of Mars and Venus, the *Ṣābi' Zīj* making it slightly closer to the longitudes indicated in the text. Notice that the recomputed ascendant is close to the midpoint of Sagittarius, of which Battānī (35r:1-2) remarks that it is the ascendant of Horoscope 1 (6° Sagittarius).

This is followed by astrological indications which confirm the event.

35r:3-4 Mars and Venus are lords of the administration for they are conjunct in 5° Scorpio, very near the position of the Saturn-Jupiter conjunction (2° Scorpio) and the corresponding lunar eclipse (4;5° Scorpio) in Horoscope 1. As stated in the latter horoscope and in the corresponding commentary, both the sign of Scorpio and Venus are related to Arabia and, especially, to the Ḥijāz.

35r: 5 Mercury (in Virgo) is in the sign of the lunar eclipse of Horoscope 4 (27;30° Virgo).

35r:8 *The Rise of the Prophet*

35r:9-11 Before the oath of allegiance, and before the Hijra, there was a nocturnal lunar eclipse on 2 February, 622. This is Oppolzer lunar eclipse 2,828, dated 1 February, 622, time 21;48^h after midnight. The longitudes given by the text, together with a recomputation, are displayed below as Horoscope 6.

In order to check the text's designation of the *intihā'* as Capricorn, note that the date of the eclipse, 2 February, 622 is before the vernal equinox. Hence, when computing with integer years commencing at the equinox, the year-number of this year should be taken as 621. The nearest preceding horoscope in the text with a checked *intihā'* is Horoscope 4, dated 15 March, 610, with *intihā'* at Aquarius. Here also the date is before the equinox, so

that the year-number should be taken as 609. The integer years separating the two horoscopes are $621 - 609 = 12$. Hence in this interval the *intihā'* advances twelve zodiacal signs, i.e., it should return to the same sign. The text position, Capricorn, is therefore not consistent with the *intihā'* of Horoscope 4. However, all remaining *intihā'āt* conform to that of Horoscope 6, so they apparently depend on a different system from that of al-Sijzī.

Horoscope 6: 35r:11-15

Lunar eclipse before the Hijra

Recomputed for Tuesday, 1 February, 622, 23:46 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	221°	221°	221°
Midheaven	132°	132°	132°
Sun	315;28°	315;32°	315;27°
Moon	135;28°	135;15°	135;16°
Saturn	114;30°	113;40°	113;49°
Jupiter	315;28°	315;13°	316; 2°
Mars	114;30°	115;18°	114;24°
Venus	293;30°	291;35°	291;58°
Mercury	293;30°	292;24°	293;11°
<i>intihā'</i>	Capricorn		

In general the degree of agreement is excellent. From the analysis of this horoscope in Appendix B it can be seen that the *Šābi' Zij* produces the lunar eclipse precisely in the degree and minute of the ecliptic in which the horoscope also places it. However, for the time of the eclipse as found from Battānī, 5 minutes past midnight on February 2, the ascendant at Mecca is 225° and upper midheaven 137°. The *Mumtaḥan Zij* gives a slightly better agreement for Jupiter, but the *Šābi' Zij* does so for Mars. The conjunction of Venus and Mercury is not reproduced exactly by either source. According to the *Mumtaḥan Zij* it takes place on 30 January at an ecliptical longitude of 288;25°, according to the *Šābi' Zij* on 29 January at 287;40°. Note that the horoscope also displays exact conjunctions of the sun and Jupiter and of Saturn and Mars, which according to the two *zījes* took place some days earlier or later.

The indications for this horoscope appear later, after Horoscope 7.

35r:16-17 The Nativity Transfer of this Year

The text implies that Horoscope 7 was cast for the time of the nativity-transfer of the Prophet during year 622. The nativity-transfer of a person during any year subsequent to his birth is the instant during that year when the sun attains the same longitude it had at the actual nativity.

Applying this definition, Battānī notes that at the Prophet's nativity, in year 571, the solar longitude was 30;25° (33v:6, cf. Horoscope 2). Since 622 – 571 = 51, Horoscope 7 was to be cast for such a time during the Prophet's fifty-first solar year of life that the solar longitude was again 30;25°. No date is given in the text, but the recomputation below shows that the horoscope was cast for 19 April, 622.

Horoscope 7: 35r:16-35v:2 (diagram at 35v:3-8)

Nativity transfer of the Prophet during the year of the Hijra

Recomputed for Monday, 19 April, 622, 6:50 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	Taurus	51°	50°
Midheaven	Aquarius	309°	308°
Sun	30;25° *	30;35°	30;28°
Moon	73;30°	58;27°	58;30°
Saturn	112;20°	112;15°	112;21°
Jupiter	341;15° *	332; 0°	332;58°
Mars	123°	121;49°	121;37°
Venus	26; 7°	26; 8°	26;31°
Mercury	38;20° *	41;16°	38;46°

* The sun is indicated in the diagram with its Persian name *aftāb* and without a longitude. The solar longitude given in the text may also be read as 35;25°. The longitude of Mercury is omitted from the diagram.

As the analysis in Appendix B shows, no optimal agreement exists between the data in this horoscope. We have presented our recomputation for the time at which, according to Battānī's *zīj*, the lunar longitude is equal to a plausible correction of the possible scribal error in the text (28;30° Taurus instead of 13;30° Gemini). For this time also the ascendant and upper midheaven are in the required zodiacal signs. Again, the solar longitude is in better agreement with Battānī than with the *Mumtaḥan Zīj*. The longitude of Jupiter (11;15° Pisces) is probably a scribal mistake for 1;15° or 1;55°. Note

that the longitude of Mars is correctly recomputed by neither of the *zīj*es, whereas for Mercury, which is in retrograde motion at the time of the horoscope, the *Ṣābi' Zīj* produces a much better fit.

The astrological interpretation of this horoscope discerns misfortune and calamity in general, but specifically the Prophet's death about ten and a half years after the eclipse.

35v:2 Here, for the first time, Battānī uses *intihā'āt* with different starting points from the standard one (Sagittarius in 571 according to al-Sijzī). He states that the sign of the *intihā'* reckoned from the ascendant of the Prophet's nativity (Horoscope 2, Capricorn) is Pisces and the one reckoned from its midheaven (Scorpio) is Capricorn. It seems clear that this statement (like the others in this passage) corresponds to Horoscope 6 (1 February 622), cast for a date before the equinox. Thus we calculate the elapsed years since Horoscope 2 as $621 - 571 = 50$, which implies that the *intihā'* will have completed four revolutions plus two signs and will thus indeed be in the two aforementioned signs.

35v:2-3 The eclipse [of Horoscope 6] (in $15;28^\circ$ Leo) occurred at midheaven (given in the same horoscope as 12° Leo), and the moon (in Leo) was at the same position as during the nativity (2° Leo). The expression *yuqābilu wa-huwa ṣamīmī ma'a al-shams* has been interpreted as being in exact opposition to the sun, in spite of the fact that *ṣamīmī* usually means that a planet is at a distance from the sun which does not exceed 16 minutes (*Abū Ma'shar*, pp. 36-37).

35v:4-6 Venus and Mercury are in Capricorn in Horoscope 6, Capricorn being also the *intihā'* at that time and the ascendant of Horoscope 2 (nativity). The statement "Mercury is the lord of the term (*ḥadd*) of the eclipse" refers to the eclipse of Horoscope 6 (in $15;28^\circ$ Leo) and the remark is accurate, for the term of Mercury extends from 13° Leo to 19° Leo (*Bīrūnī*, p. 265).

35v:6-8 In Horoscope 6 Mars and Saturn are conjunct in $24;30^\circ$ Cancer in opposition to Venus ($293;30^\circ$), Mercury ($293;30^\circ$) and the ascendant (290°) of the radical horoscope (*al-ṭālī' al-aṣṭī*), which is in this case the nativity horoscope (Horoscope 2).

35v:8-9 In Horoscope 6 the sun is in $15;28^\circ$ Aquarius, this sign being the domicile of Saturn at night; besides, midheaven (also in Horoscope 6) is in 12° Leo and the eclipse in $15;28^\circ$ Leo, Leo being the domicile of the sun.

35v:9-13 There is a bad configuration between Saturn and the sun. We have already seen that Saturn and Mars are conjunct in Cancer, while the sun is in Aquarius and there are six signs from Aquarius to Cancer, including

both signs in the count. The small years of the sun are 19, its half being 9 years and a half, to which one should add the small years of Jupiter (12) (*Abū Ma'shar*, pp. 88-89) expressed in months: the death of the Prophet will take place about ten and a half years after the eclipse. The 12 extra months given by Jupiter are due to the fact that the planet and the sun are conjunct (in 15;28° Aquarius) in a cardine (house IV). This computation tries to be more precise than the prediction based on Horoscope 2 (for the birth of the Prophet on 20 April 571), which considered that Muḥammad would live for 61 years. The actual death of the Prophet took place, according to Battānī, on 25 May 632 (Horoscope 11), while the date predicted here corresponds, approximately, to July of the same year.

35v:13-16 The sovereignty of the third conjunction (Horoscope 4), during which the Prophet rose, corresponds to the sign of Virgo because the eclipse of that horoscope took place in 27;30° Virgo, and 14° Virgo was the position of midheaven in Horoscope 1. Virgo (instead of Aquarius) is, then, taken as the *intihā'* of Horoscope 4 and it is used as a starting point for the *intihā'* ten and a half years later (death of the Prophet), a value which is rounded to 11; the result is 11 signs after Virgo, which corresponds to Cancer (including both signs in the count). The harmful effect of the situation is confirmed by the fact that Saturn and Mars are conjunct in 24;30° Cancer in Horoscope 6, which corresponds to the eclipse of the accession.

35v:17 - 36r:1 If the *intihā'* is calculated from the sign of the eclipse of Horoscope 6 (in 15;28° Leo) the result will be Gemini at the solar eclipse of the death of the Prophet (Horoscope 13, 27 January 632). At that time Mars was in 27;30° Sagittarius, in opposition to the sign of Gemini.

36r:1 Next Battānī considers the nativity transfer of this year (622), at which the *intihā'* from the ascendant of the nativity is Pisces (see 35v:2), the domicile of Jupiter at night. Jupiter is a benefic planet and it is in a strong position. Unfortunately Saturn (24;30° Cancer in Horoscope 6) is in opposition to the nativity ascendant (20° Capricorn), Cancer being the dejection (*wabāl*, the sign opposed to the domicile) of Saturn. Saturn is also the lord of the ascendant of the radical horoscope: Battānī here refers to the ascendant of the nativity (Horoscope 2: 20° Capricorn, this sign being the domicile of Saturn during the day). The difficulties of this year and the Prophet's need to migrate from his own city are also indicated by the *intihā'* calculated from midheaven of the nativity horoscope, which corresponds again to Capricorn (see 35v:2).

36r:6 *The Fourth Conjunction*

According to *Tuckerman*, p. 333, this conjunction occurred on 18 November, 630. According to the text, the closest eclipse to the conjunction was a lunar eclipse on 28 August, 630. This must have been Oppolzer lunar eclipse 2,843 on this date, at 12:49^h after midnight. The horoscope of this eclipse appears below. The second column of the table lists the longitudes given in the text for this horoscope. As usual, both the horoscope diagram and the text proper have been used to obtain this information. However, Venus is not mentioned in the text, so its longitude is taken from the diagram. The reference of the text to the two malefic ones being at the two cardines corresponds to Mars in the ascendant and Saturn in midheaven, although the horoscope diagram seems to present these two planets displaced from their position.

To check the *intihā'*, use the nearest horoscope preceding this one which has a checked *intihā'*. It is Horoscope 6, with *intihā'* at Capricorn. The date of Horoscope 8 is 28 August, 630. This date is after the vernal equinox. Hence in calculating with integer years, its year-number is taken as 630. The date of Horoscope 6 is 2 February, 622, which is before the vernal equinox. Hence its year-number is taken as 621. The integer years separating the two horoscopes are $630 - 621 = 9$. The small *intihā'* moves one zodiacal sign per year. So, starting from Capricorn, move forward nine signs along the ecliptic to arrive at Libra. This is indeed the *intihā'* of Horoscope 8.

Horoscope 8: 36r:9-12

Lunar eclipse near the fourth Saturn-Jupiter conjunction

Recomputed for Tuesday, 28 August, 630, 15:34 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	291;10° *	291;22°	291;15°
Midheaven	213; 5° *	214;15°	214; 9°
Sun	156;37°	156;43°	156;36°
Moon	336;37°	336;38°	336;43°
Saturn	213;30°	213;29°	213;26°
Jupiter	206;30° *	206;42°	206;25°
Mars	313;30° *	312; 5°	315;38°
Venus	187;30°	187; 3°	187;24°
Mercury	147°	143;20°	143;59°
<i>intihā'</i>	Libra		

* In the diagram the ascendant is given as 291°, midheaven is displayed in Libra instead of Scorpio and the longitude of Jupiter is indicated as 207;30°. For Mars the degrees of longitude in Aquarius have been omitted from the diagram.

Although the time of the eclipse according to both *zīj*es is not in optimal agreement with the ascendant and upper midheaven, the correspondence between text and recomputation is generally good. As for most horoscopes, the solar position is better reproduced by the *Šābi' Zīj* than by the *Mumtaḥan Zīj*. For Mars, the two *zīj*es err in opposite directions. The longitude of 147° (27° Leo) for Mercury may be a scribal error for 144° (less probably 143°).

36r:12-36v:2 Battānī states that there was a “nocturnal solar eclipse” after the fourth Saturn-Jupiter conjunction. This is the first mention of a solar eclipse, in contrast to the numerous lunar eclipses already encountered.

He then gives the planetary positions of Horoscope 9 (for which there is no diagram). These are shown in the first column of numbers in the table below. Note that the sun and the moon are reported as having identical longitudes, which is the necessary condition for a solar eclipse. At 36v:1 Battānī dates this eclipse as the night of 22 Shubāt, 941 Byzantine = 22 February, 631. But a recomputation for 22 February, 631, 21^h, hence late at night, gave longitudes of 336;9° and 162;51° for the sun and moon respectively. The difference between these longitudes being 173;18°, a solar eclipse on this date is clearly out of the question.

In *Oppolzer*, p. 176, the nearest solar eclipse to 22 February, 631 is on 7 February, 631, 1:13^h, listed as Solar 4,382. The two dates differ by only fifteen days. Therefore our attempts at recomputation centered around the latter date. Oppolzer's Chart 88 shows that this eclipse was definitely not visible in Mecca. This is confirmed by a modern recomputation using the freeware programme *Planetary, Lunar and Stellar Visibility (PLSV)*, version 3.1, designed by Rainer Lange and Noel Swerdlow (<http://www.alcyone.de>).

Horoscope 9: 36r:13 - 36v:2 (no diagram)

Solar eclipse after the fourth Saturn-Jupiter conjunction

Recomputed for Thursday, 7 February, 631, 3:23 hours after midnight

<i>planet</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>Batt. 14 / 22 February</i>
Sun	327;27°	320;32°	320;27°	327;27° / 335;25°
Moon	327;27°	320;23°	320;27°	43;53° / 152; 9°
Saturn	230°	229; 7°	229; 4°	229;14° / 229;20°
Jupiter	239;30°	238; 5°	238; 2°	238;44° / 239;23°

Mars	41°	26;16°	26;42°	31; 2° / 36; 1°
Venus	315°	340;55°	338;15°	335; 0° / 330;23°
Mercury	339;30°	335; 7°	335;51°	345;50° / 353; 7°
<i>intihā'</i>	Libra			

Since no precise ascendant and midheaven are given for this horoscope, we have determined its date and time on the basis of the true conjunction as found from the parameters of the *Ṣābi' Zīj*. The text (at 36r:13-14) states that at the end of the eclipse the sun was in the house of the ascendant. In fact, the ascendant entered Aquarius at 5:10 hours after midnight. The identical solar and lunar positions in the horoscope contain an obvious scribal error, since the date when the sun reaches 327;27°, 14 February, is a long way from the date of the actual conjunction, 7 February, and from the erroneous date given by Battānī, 22 February. Since Battānī's *zīj* places the conjunction at 320;27° and confusion of 27 and 20 is not uncommon, we suggest that both positions in the text be corrected to 327;27°. Therefore the solar eclipse is perfectly reproduced by the *Ṣābi' Zīj*. Since the eclipse was not visible in Mecca, it is not surprising that it is the true conjunction (without correction for parallax) that is given in the horoscope.

The remainder of the horoscope certainly was not computed for the time of this solar eclipse, nor, as can be seen from the last column (computed for Battānī's parameters and the same time of the day), for either of the other dates mentioned above. For March 2, 631, the horoscope positions for Saturn, Jupiter and Mars are roughly correct, but those for Venus and Mercury are still completely off. The recomputation therefore remains unsatisfactory.

The *intihā'* in the sign of Libra is the same as that mentioned in Horoscope 8 (28 August 630). As 7 February 631 (Horoscope 9) precedes the spring equinox, both dates correspond to the same solar year if its beginning corresponds to the spring equinox of year 630. Besides, both *intihā'*s agree with the sign mentioned in Horoscope 6 which, as we have seen, is not consistent with the *intihā'* of Horoscope 4.

Horoscope 10: 36v:3-8

Nativity transfer for the year of the fourth Saturn-Jupiter conjunction

Recomputed for Thursday, 19 April, 630, 4:37 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	10°	10°	10°
Midheaven	276° *	277°	277°

Sun	30;2[5] ^o *	30;34 ^o	30;27 ^o
Moon	38;30 ^o	38;54 ^o	38;57 ^o
Saturn	214 ^o retr.	214;56 ^o retr.	214;54 ^o retr.
Jupiter	203;40 ^o retr.	203;22 ^o retr.	202;57 ^o retr.
Mars	294;40 ^o *	292; 9 ^o	293;38 ^o
Venus	27;20 ^o *	26;43 ^o	27; 6 ^o
Mercury	7;20 ^o	7; 8 ^o	6;47 ^o

* Midheaven is given in the diagram as 277°. The solar longitude is given as 30;20° in the text and 30;10° in the diagram; we have corrected it to the value found in the horoscopes for the Prophet's birth (no. 2) and the other nativity transfers (nos. 7 and 12). Both the text and the diagram place the longitude of Mars in the sign Libra (204;40°) instead of Capricorn. The longitude of Venus is indicated as 27;20° in the text and 27;9° in the diagram, 9 being a common scribal mistake for 20.

This nativity transfer is for “the year in which the eclipse [of horoscope 9] took place”, i.e., the transfer preceding that eclipse and the fourth Saturn-Jupiter conjunction. The 6° in the longitude of midheaven (9° 6°) could easily be a scribal mistake for the 7° found in the diagram and produced by recomputation. As we have already seen in Horoscopes 2 and 7, the solar longitude at the time of birth of the Prophet must be corrected to 30;25°. Both the solar and lunar longitude in the horoscope are correctly reproduced by Battānī's *zīj* for 3:46 hours after midnight, but at that time the ascendant and upper midheaven at Mecca are in different zodiacal signs. The positions of Jupiter and Mercury are reproduced slightly better by the *Mumtaḥan Zīj* than by the *Ṣābi' Zīj*. The text position of Mars (6° 4;40°) is presumably a mistake for 9° 4;40° or 9° 3;40°. On the basis of the recomputation it cannot be decided whether the correct longitude for Venus is 27;20° as in the text or 27;9° as in the diagram.

36v:7-10 The *intihā'* counted from the ascendant of the nativity (Horoscope 2 dated 20 April 571) is Sagittarius, according to the text. This is correct given that the ascendant of Horoscope 2 is 20° Capricorn and that almost 59 solar years have elapsed between 20 April 571 and 19 April 630: the *intihā'* of the ascendant has completed 5 revolutions (5 x 12 = 60) minus 1 sign and, therefore, will be in Sagittarius (one sign before Capricorn). The same argument can be applied to the *intihā'* counted from midheaven of Horoscope 2, which is Scorpio and, therefore, has reached Libra after 59 years. Jupiter is the lord of Sagittarius and Venus of Libra, because both planets have their domiciles in the respective signs. Jupiter is in Libra in Horoscope 10 (203;40°) and has just left Libra in Horoscope 2 (213°). The

reference to Mars is not clear because it was in 2° Cancer in Horoscope 2 and is in 24;40° Capricorn in Horoscope 10, so it is not near Jupiter in these horoscopes. One could consider the possibility of an error of the Arabic text in which Mars could have been written instead of Saturn: Saturn in Horoscope 2 was in conjunction with Jupiter in Horoscope 2 and it is placed near the latter planet in Horoscope 10.

36v:10-11 Venus and Mercury are both in Aries (in Horoscope 10) and, consequently, in opposition to Libra. Venus is at a distance of 8;5° from the Sun, which means that it is entering in combustion (*iḥtirāq*). The reference to Mars is more difficult to justify because Venus (27;20°) and Mars (294;40°) are not in opposition, but the Arabic sentence should be understood in the past: Venus has passed the opposition to Mars (*wa-qad jāwazat muqābalat al-Mirrikh*).

36v: 11-14 Battānī seems to consider the situation favourable with restrictions (*maḥmūda wa ghayr maḥmūda*) due to the good situation of Venus and to the fact that Saturn (214° in Horoscope 10) has returned to its initial position (213° in Horoscope 2), which was benefic because it was the lord of the ascendant, which was in trine aspect with Venus.

36v:15 The First, Lunar Eclipse was during the day

36r:16-37r:6 Astrological indications from this eclipse, Horoscope 8 above, imply wars involving the Prophet's tribe, but the eventual military success of the Arabs.

36r:16 Saturn (213;30°) is in midheaven (213;5°). The lunar eclipse of Horoscope 1 (*al-aṣḥ*) took place in 214;5°.

36r:16-17 Mars (313;30°) is in the house of the ascendant (291;10°) of Horoscope 8 and also in the house of the ascendant (290°) of Horoscope 2: Battānī seems to refer here to the ascendant of the nativity when he says that Mars is in the cusp of the ultimate fate of the radical horoscope (*watad 'āqibat al-aṣḥ*) (see below 37r:7).

36r:17 - 36v:4 Jupiter is in Libra (206;30°) and Saturn in Scorpio (213;30°): Battānī seems to consider that, as they are not in the same sign, the benefic influence of Jupiter cannot counterbalance the bad influence of Saturn. Thus both Saturn (midheaven) and Mars (ascendant) occupy positions of power in the horoscope and, furthermore, Saturn is very near the position of the Saturn-Jupiter conjunction (212°) in Horoscope 1. The conjunction of the return (*qirān al-'awḍa*) is the Saturn-Jupiter conjunction of year 630, which took place, again, in Scorpio, the sign of the conjunction of Horoscope 1.

36v:4-6 In Horoscope 8 both Venus (187;30°) and Jupiter (206;30°) are in Libra, which is the sign of the *intihā'* corresponding to year 630, Venus has its domicile in Libra, in daytime, and in Horoscope 1 (*aṣl*) Battānī insisted on the importance of the position of this planet: this diminishes the bad influence of Saturn and Mars.

37r:7 The second of the two eclipses given above is solar.

Here are astrological and political indications from Horoscope 9, which comprise the destruction of the kingdom of Fārs, and Arab military success against the Byzantine Empire. Some sentences in the text are difficult to explain, for instance, the statement that the solar eclipse “was in the sign of ultimate fate of the original (*fī burj 'āqibat al-aṣl*), in the house of the ascendant, toward the end of the eclipse”. The eclipse’s position is in 27;27° Aquarius and we can calculate the position of the ascendant for 7 February 631, at 3;23 hours after midnight and a latitude of Mecca of 21°. The result is 3;41° Capricorn, and 27° Aquarius will not be the ascendant until many hours later. There is, however, the possibility of interpreting *al-aṣl* as Horoscope 2 (birth of the Prophet), where the ascendant is 290°, within reach of 279;58,41° in less than one hour. But it does not seem that the sign of Aquarius has any relevance in Horoscopes 1 or 2 that would allow this sign to be the *burj 'āqibat al-aṣl*.

37r:8-9 Battānī states that the position of Mars at the time of the lunar eclipse (Horoscope 8: 13;30° Aquarius) is the same as the position of the eclipse in the horoscope of accession (*qiyām*). This does not make sense for Horoscope 6 (*qiyām*), in which the eclipse is in 15;28° Leo, and the only eclipse of the series placed in the sign of Aquarius is the solar eclipse of Horoscope 9 (27;27° Aquarius). Besides, Battānī states that Mars is in opposition to the sign of the radical horoscope (*burj al-aṣl*), which is Scorpio. The reference is, here, to the position of Mars in Horoscope 9 (11° Taurus), and the radical horoscope is Horoscope 1 (eclipse in 4;5° Scorpio).

37r:9-11 Saturn (230°) and Jupiter (239°) are also in Scorpio, with Jupiter almost leaving the sign. Saturn governs the [solar] eclipse of Horoscope 9 (in Aquarius) because Aquarius is its domicile at night. The two malefic planets are, here, in a position which is stronger than in “the first one”; this might refer to the first eclipse (Horoscope 8) or to Horoscope 1, in which Battānī insisted that the bad influence of Saturn was counterbalanced by that of Jupiter, and that of Mars by Venus.

37r:11-13 Venus is in 15° Aquarius, in quartile aspect with Mars. Venus is also the lord of the *intihā'* (Libra) because Libra is its domicile in daylight.

This planet is also eastern in respect to the eclipse and in retrogradation. This implies a good influence that will improve the situation after the period of corruption.

37r:13-15 The sign of Taurus (position of Mars) and the planet Venus are related to the land of Fāris. There is no clear allusion to the relation between Taurus and Fāris in *Bīrūnī* (p. 365) or *Abū Ma'shar* (pp. 14-17), but the connection is clearly stated in the *Kitāb al-amṭār wa l-as'ār* by the Moroccan astrologer (beginning of the 15th c.) Abū 'Abd Allāh al-Baqqār (*Guesmi*, p. 173). Taurus is, as previously said, the domicile of Venus at night. As Mars is spoiling both the sign of Taurus (its position) and the benefic influence of Venus (due to the quartile aspect), the "prediction" is the destruction (*halāk*) of the king of Fāris (Yazdajird III, who reigned until the end of 632 or beginning of 633) as well as many killings during this conjunction.

37r:15-16 Battānī has already established (Horoscope 1) the relation of Scorpio with the land of the Arabs, but a specific connection with Syria (*Shām*) is explicitly stated by al-Baqqār (*Guesmi*, p. 174).

37v:1-2 Here the duration of the Prophet's residence in Medina is reckoned as 9^y 11^{mo} 22^d in the lunar calendar, in agreement with *Battānī*, vol. 2, p. 4. A computation involving 8 Rabī' I, 1 Hijra as the date of the Prophet's arrival in Medina (see 24v:15-17) and 25 May, 632 (37v:1-3), i.e., 28 Šafar, 11 Hijra (civil), as the date of his death produces a duration of 9 lunar years, 11 months, and 20 days, two days too short.

Death of the Prophet

37v:1-3 Concerning the date and time of day when the Prophet died, the manuscript states that the event took place towards forenoon (*duḥā*) on a Monday, 25 Adhār, 943 Byzantine = 28 Dhū l-Ḥijja, 10 Hijra = 25 March, 632, which was a Wednesday. This is why, in the edited text, the month has been changed to Ayyār, for 25 Ayyār, 943 Byzantine = 29 Šafar 11 = 25 May, 632 Julian was a Monday. This is confirmed by Battānī's reference to the duration of the Prophet's residence in Medina (37v:1-2), as well as by the recomputation of the horoscope.

The Prophet's death is generally agreed to have been on a Monday. F. Buhl and A. T. Welch (*Encyclopaedia of Islam*, new edition, vol. VII, p. 374b) assert that his death-date was 13 Rabī' I, 11 A.H. = 8 June, 632.

Horoscope 11: 37v:3-5 (no diagram, ascendant mentioned in 37v:16)*Death of the prophet*

Recomputed for Monday, 25 May, 632, 9:30 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	Leo	122; 0°	121;52°
Midheaven	-	28;22°	28;12°
Sun	65;25°	65;45°	65;36°
Moon	71°	71;11°	71;15°
Saturn	237°	236;30°	236;28°
Jupiter	271;30°	270;56°	271;33°
Mars	345;30°	344;11°	345;27°
Venus	105;40°	105;36°	105;48°
Mercury	91°	90; 8°	90;21°

The time for this recomputation has been chosen in such a way that the ascendant is in Leo and the moon is in 11° Gemini. Note that the solar and lunar position cannot be simultaneously correct according to either *zīj*: the *Mumtaḥan Zīj* produces a lunar longitude near 69° when the solar longitude is equal to 65;25°, and the *Ṣābi' Zīj* a lunar longitude near 67°. The agreement between text and recomputation is generally very good. The position of Mars is recomputed somewhat better using Battānī's parameters.

Horoscope 12: 37v:5-9 (diagram at 37v:11-16)*Nativity transfer of the Prophet in the year of his death*

Recomputed for Saturday, 18 April, 632, 16:24 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	184°	184°	184°
Midheaven	94°	94°	94°
Sun	30;25° *	30;35°	30;27°
Moon	315;20° *	316;33°	316;35°
Saturn	239;20° *	239;15°	239;13°
Jupiter	273;20° *	273; 1°	273;32°
Mars	318;40° *	317;42°	318;54°
Venus	63;10° *	62;56°	63;13°
Mercury	27°	26; 9°	27;18°
<i>intihā'</i>	Aquarius		

* Both in the text and in the diagram the solar longitude may also be read as 5;25° Taurus. The edited diagram gives the lunar longitude as 318°, the longitude of Saturn as 239;30°, the

longitude of Jupiter as 274;10°, the longitude of Mars as 314;30°, and the longitude of Venus as 74;10°.

As we have already seen in Horoscopes 2, 7 and 10, the solar longitude at any nativity transfer of the Prophet is 30;25°. The agreement of the lunar longitude can only be improved upon at the expense of the ascendant and midheaven, which are in complete agreement with the text and each other. For Mars and Mercury, the recomputation on the basis of the *Ṣābi' Zij* gives a somewhat better agreement.

37v:9 Here the *intihā'* is computed from the ascendant of the nativity and it is considered to be Aquarius. This is correct as the ascendant of the nativity of the Prophet (Horoscope 2) was 20° Capricorn on 20 April, 571. Sixty-one complete solar years have passed between the spring equinoxes of 571 and 632; this means that the *intihā'* has passed through five complete revolutions plus one sign.

37v:9-10 The moon is in 15;20° Aquarius and Mars in 18;40° Aquarius, both in opposition to the moon at the nativity (2° Leo according to the text for Horoscope 2). Mars seems to be corrupting both the sign of the *intihā'* and the benefic influence of the moon; this, together with the indication of the origin (*dalālat al-aṣl*) indicates the death of the Prophet. This latter element may refer to the opposition of the moon of the nativity or to the calculation of the number of years of the life of the Prophet, using *tasyīr* techniques, as carried out in Battānī's commentary to Horoscope 2.

37v:10-13 Mars is moving towards Pisces and it will be in this sign at the moment of the death of the Prophet (345;30° in Horoscope 11). Pisces is also the sign of the month after April, in which the *intihā'* of the ascendant of the transfer was Aquarius: as the *intihā'* progresses at a rate of one sign per month, it will be in Pisces in May.

37v:13-14 The sun (65;25°) and the moon (71°) will be in Gemini at the moment of the death (Horoscope 11), the moon being at its first visibility (4;45° from the sun) and in quartile with Mars (the difference of longitudes is 85;30°).

37v:14-17 Mercury is the lord of Gemini because it has its domicile in this sign at night, and it is in 1° Cancer, very near the position of Mars (2° Cancer) in the nativity (Horoscope 2). The text states that the ascendant at the moment of the Prophet's death was in Leo, the eighth sign reckoned from the ascendant of the nativity (6° Sagittarius). Furthermore, it indicates that the position of the moon in the nativity (122°) was likewise in Leo.

38r:1-3 The passage concludes with the statement that the period of time between the Prophet's advent and the swearing of allegiance to him and his death was twenty-one solar years. Battānī is thus apparently counting from about year 610, when the Prophet began to preach (see Horoscope 4).

38r:4 *The Accession of Abū Bakr*

38r:5-6 A solar eclipse during the year 632 indicated the death of the Prophet and the simultaneous accession of Abū Bakr. The text gives no precise date, but our recomputation shows that it was on 27 January, 632. This is confirmed by *Oppolzer*, p. 176, solar eclipse 4,384, which occurred at 6:43^h. *Oppolzer's Chart 88* indicates that this eclipse was annular in the southern part of the Arabian peninsula. A modern computation by means of the program *PLSV* (see p. 101) shows that in Mecca 84% of the solar disk was eclipsed.

Horoscope 13: 38r:6-9 (no diagram)

Solar eclipse indicating the death of the Prophet

Monday, 27 January, 632, 7:05 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	320°	320°	320°
Midheaven	240; 5°	240;18°	240;14°
Sun	309;21°	309;24°	309;19°
Moon	309;21°	308;32°	308;35°
Saturn	239;20°	239;19°	239;16°
Jupiter	263°	263;50°	264; 7°
Mars	257;30°	257;11°	257;57°
Venus	323;20°	322; 4°	322;28°
Mercury	320;20°	327; 5°	327;26°
<i>intihā'</i>	Scorpio		

The time for our recomputation has been determined on the basis of the consistent text values for the ascendant and upper midheaven. According to the *Mumtaḥan Zīj* the true conjunction of sun and moon took place at 8:46 hours at an ecliptical longitude of 309;28°. According to the *Šābi' Zīj* it took place at 8:30 hours at an ecliptical longitude of 309;22°. We have not investigated whether the differences from the horoscope data may be due to the fact that we have not considered parallax. The horoscope position of Jupiter

may contain a scribal error (confusion of 23° and 24°); that of Mercury contains the common scribal error of 20° for 27°. The given *intihā'* is consistent with the one in Horoscopes 8 and 9, whose dates are separated by only one vernal equinox from the date of the present horoscope.

38r:9 Scorpio is considered to be the “original sign” (*burj al-aṣl*), which should be identified with Horoscope 1, in which it was the sign of the Saturn-Jupiter conjunction and the lunar eclipse. In Horoscope 13 Saturn is in this sign (239;20°), and this indicates the death of the Prophet.

38r:10-15 In March 632 the year transfer (*taḥwīl al-sana*) will take place coinciding with the spring equinox at which the *intihā'* will move to the sign of Sagittarius. Mars is in Sagittarius (257;30°), progressing towards a conjunction with Jupiter (263°), which is the lord of the sign because it has its domicile in it in daytime. Sagittarius was also the *intihā'* at the time of the eclipse of Horoscope 1 (see above the commentary on Horoscope 4). It is difficult to understand why Battānī says that “this eclipse [Horoscope 13 in 9;21° Aquarius] was at the position of the accession eclipse” [the lunar eclipse of Horoscope 6 in 15;28° Leo], although it is clear that the sun is in Aquarius in both Horoscopes 6 and 13 and that the eclipse of Horoscope 13 (Aquarius) is in the fourth sign from the sun in Horoscope 1 (Taurus), in quartile aspect (distance from 309;21° to 34;5°, which amounts to 84;44°). On the other hand the eclipse of Horoscope 13 (309;21°) is almost in sextile with the position of Mars in the same horoscope (257;30°), the distance being 51;51°. This implies, according to Battānī, that the caliphate of Abū Bakr will last an eighth of the small years of the sun, which number 19: 19 years / 8 = 2 years, 4,5 months, although the actual result mentioned in the text (2 years, 3 months and 8 days) is slightly smaller.

38r:14-15 The duration of the caliphate of Abū Bakr was $2^y 3^{mo} 8^d$ (lunar). This is confirmed by *Battānī*, vol. 2, p. 4. Reckoning with the date of death of the Prophet, 28 Šafar, 11 Hijra (see 37v:1-3), and the below (38r:15-16) date of death of Abū Bakr, 9 Jumādā II, 13 Hijra, we find a duration of $2^y 3^{mo} 10^d$, two days too long. Note that this compensates for the two days that the stay of the Prophet in Medina was found to be too short. An alternative date of death of the Prophet which would make both durations in the text correct, Wednesday, 1 Rabī' I, 11 Hijra, is unlikely because all sources agree that he died on a Monday.

38r:15-16 Abū Bakr died 10 August, 634 = 9 Jumādā II, 13 Hijra (civil). According to W. Montgomery Watt (*Encyclopaedia of Islam*, new edition, vol. I, p. 111a), Abū Bakr died on 23 August, 634 (22 Jumādā II, 13 Hijra),

13 days later than the date given by Battānī. The last sentences of Battānī's text are not clear but he seems to allude to the sign of Aquarius (sign of the ascendant and of the eclipse in Horoscope 13), which will be reached by the *intihā'* at the spring equinox of 634. Aquarius is also the last cusp (ascendant) traversed by the two luminaries before the eclipse.

38v:1-2 *The Accession of 'Umar*

The text states that the lunar eclipse which indicated the death of Abū Bakr and the accession of 'Umar was on the night of 17 June, 634. *Oppolzer*, p. 353, lunar eclipse 2,849 is 16 June, 634, at 23:30^h after midnight. The horoscope of this eclipse is Horoscope 14 below.

Concerning the *intihā'* of this horoscope, its date is after the vernal equinox. Hence, when calculating with integer years its year-number is 634. The nearest horoscope with a checked *intihā'* before Horoscope 14 is Horoscope 13, dated 27 January, 632. It precedes the vernal equinox, hence its year-number is 631. The difference between the integer years is $634 - 631 = 3$, so the *intihā'* for the later horoscope, 14, is three zodiacal signs beyond that of the earlier. This puts it in Aquarius, as in the text below.

Horoscope 14: 38v:2-6 (diagram at 38v:6-11)

Lunar eclipse indicating the death of Abū Bakr and the accession of 'Umar
Recomputation for Friday, 17 June, 634, 2:21 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	40°	40°	40°
Midheaven	305°	300°	300°
Sun	87;47°	86;55°	86;47°
Moon	267;[47°]	266;53°	266;55°
Saturn	257;20°	259; 7°	259; 5°
Jupiter	344°	343;40°	344;50°
Mars	21;30°	20;48°	21;37°
Venus	41;30°	44;44°	44; 6°
Mercury	70° *	69;41°	70;21°
<i>intihā'</i>	Aquarius		

* The lunar longitude in both the text and diagram in the manuscript is 17;20° Sagittarius (=257;20°); this has been corrected to 267;20° in the edited text and diagram. The longitude of Mercury is given as 73° in the diagram.

The time of our recomputation has been based on the given ascendant. The longitude of midheaven in text and diagram, 5° Aquarius, may be a scribal error for 0° Aquarius. (If the time is adjusted in order to make midheaven correct, the ascendant becomes 36° .) Since the *Šābi' Zīj* places the eclipse at a longitude of $266;46^{\circ}$ at 2:06 hours after midnight, and the *Mumtaḥan Zīj* at a longitude of $266;56^{\circ}$ at 2:26 hours after midnight, the solar and lunar degrees in text and diagram are likely to be scribal mistakes for 86° and 266° . The erroneous horoscope positions of Saturn and Venus are more difficult to attribute to scribal errors. Note that the difference of 15 minutes between the true solar time ($2:21^{\text{h}}$) as found from the ascendant and midheaven in the horoscope and the mean solar time ($2:06^{\text{h}}$) of the lunar eclipse as found from Battānī's tables *cannot* be explained by the equation of time, since, according to the *Šābi' Zīj*, for a solar longitude of 87° the equation of time amounts to 4;30 equatorial degrees and hence the true time should be 18 minutes *less* than the mean time.

38v:5-8 Aquarius (the *intihā'*) is also the sign of the ascendant of Horoscope 13 (320°), considered here as the radical horoscope (*al-aṣḥ*), and the sign of the solar eclipse of the same horoscope ($309;21^{\circ}$). The *intihā'* will reach Aries after the spring equinox of year 636, but as Battānī wishes to use the latter sign, he computes a new *intihā'* from the ascendant of the Prophet's nativity (Horoscope 2) in April 571 (Capricorn). Since $634 - 571 = 63$, this *intihā'* has moved through five complete revolutions plus three signs, which takes us to Aries, in which we find Mars, the indicator of the death of Abū Bakr.

38v:9-14 Saturn ($17;20^{\circ}$ Sagittarius) is in the seventh sign from the sun ($27;47^{\circ}$ Gemini) if one includes both signs in the count, and the distance between the two, calculated from the sun to Saturn, is $190;27^{\circ}$. Thus, the sun has passed the point of exact opposition. As opposition corresponds to a distance equivalent to half a rotation, the sun will give to the subject of the horoscope half of its small years ($19:2 = 9,5$). On the other hand Jupiter, a benefic planet, is in quartile aspect (distance $107;47$) with the sun, and the latter has also passed the exact quartile. Consequently Jupiter increases the aforementioned period of time with half of its small years (12) counted as months. The final result, according to the prediction, is ten years, although Battānī states that 'Umar's caliphate was ten years, six months and nineteen days (but see below).

38v:13-14 According to the text the caliphate of 'Umar lasted $10^{\text{y}} 6^{\text{mo}} 19^{\text{d}}$ (lunar), although the number of days can easily be read as 17. The latter is in

agreement with *Battānī*, vol. 2, p. 4. Calculating with the date of death of Abū Bakr, 9 Jumādā II, 13 Hijra (38r:15-16), and that of ‘Umar found at 38v:14, 25 Dhū al-Ḥijja, 23 Hijra, we find a duration of $10^y 6^{mo} 16^d$. We cannot currently explain the remaining differences of three days and one day respectively.

38v:14-15 The death of ‘Umar was on 2 November, 644, corresponding to 25 Dhū al-Ḥijja, 23 Hijra (civil). G. Levi della Vida and M. Bonner give the date of ‘Umar’s murder as 3 November, 644 (26 Dhū al-Ḥijja, 23 Hijra) in the *Encyclopaedia of Islam*, new edition, vol. X, p. 820a.

38v:15 - 39r:1 Astrological indications from the accession eclipse. The first sentence is not easy to understand although the following interpretation is possible: in Horoscope 16, below, Saturn is in $23;45^\circ$ Aries, thus being in the same sign as the *intihā*’ of Horoscope 14 calculated from the ascendant of the Prophet’s nativity. Venus ($41;30^\circ$) was, in Horoscope 14, in the ascendant (40°), in a position of power because Taurus is its domicile at night and because the planet was also in 18° Taurus in Horoscope 1, here considered as the *aṣl*.

39r:1-3 This passage seems to say that half a lunar month before the eclipse indicating the accession of ‘Umar there was a solar eclipse. To obtain the date of this eclipse, recall that the date of the accession eclipse of ‘Umar was the night of 17 June, 634. Half a mean lunation is about 14.76 days. Subtracting this from 17 June we obtain 2 June, 634 for the date of the solar eclipse. *Oppolzer*, p. 176, reports solar eclipse 4,390 on 1 June, 634 at $13:43^h$. From his Chart 88 it can be seen that this eclipse was visible in parts of the Arabian peninsula. A modern computation by means of the program *PLSV* (see p. 101) indicates that 79% of the solar disk was eclipsed at Mecca.

For this event the text gives only the solar and lunar longitude, the ascendant, and an incomplete value for upper midheaven.

Horoscope 15: 39r:2-3 (no diagram)

Solar eclipse preceding the lunar eclipse indicating the accession of ‘Umar
Recomputed for Wednesday, 1 June, 634, 16:03 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	244°	218°	218°
Midheaven	? ^s 23°	129°	129°
Sun	72; 3°	72;13°	72; 5°
Moon	72; 3°	72; 2°	72; 5°

Saturn	260;20°	260;18°
Jupiter	342;35°	343;41°
Mars	9;48°	10;41°
Venus	36;56°	35;37°
Mercury	52;25°	51;45°

The rest of the horoscope is missing.

Since the longitude of the ascendant and what remains of the longitude of midheaven are not compatible (at Mecca possible combinations would be: 231° / 143°, 244° / 159°, 256° / 173°), this horoscope has been recomputed for the time of the true conjunction (not corrected for parallax) according to Battānī's parameters (according to the *Mumtaḥan Zīj* the true conjunction occurred at a longitude of 72;14° at 16:27 hours after midnight).

39r:4 *The Accession of 'Uthmān b. 'Affān*

39r:5-6 The daytime lunar eclipse indicating the death of 'Umar and the accession of 'Uthmān was on 27 May, 644. It is *Oppolzer*, p. 353, lunar eclipse 2,865, at 9:07^h after midnight. Horoscope 16 is of this eclipse.

Horoscope 16: 39r:6-9 (diagram at 39r:8-13)

Lunar eclipse indicating the death of 'Umar and the ascension of 'Uthmān

Recomputed for Thursday, 27 May, 644, 11:08 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	127; 9° *	145;50°	145;42°
Midheaven	48°	55°	55°
Sun	67;41°	67;50°	67;42°
Moon	247;41° *	247;38°	247;42°
Saturn	23;45°	24; 4°	24;10°
Jupiter	276;30°	276; 6°	276;47°
Mars	78;40° *	78;31°	78;41°
Venus	39°	39; 3°	39;22°
Mercury	82;20°	81;29°	82;31°
<i>intihā'</i>	Sagittarius		

* The ascendant is indicated as 9° Leo (129°) in the diagram. The lunar longitude is not mentioned in the Arabic text and has been taken from the diagram. The longitude of Mars is not mentioned in the diagram.

Since also in this horoscope the longitudes of the ascendant and upper midheaven are incompatible (at Mecca if the ascendant is 127;9°, midheaven should be 34°, whereas if midheaven is 48°, the ascendant should be 139°), the recomputation has been carried out for the time of the true opposition according to Battānī's parameters. Except for the ascendant and midheaven the agreement is excellent. The position of Mercury is recomputed slightly better by the *Šābi' Zīj* than by the *Mumtaḥan*. The *intihā'* is in agreement with the one in Horoscope 14.

39r:9-10 The moon (247;41°) is in Sagittarius, the sign of the *intihā'*; it does not seem possible to accept that it will be in midheaven at the end of the eclipse: it could be in house IV.

39r:11-12 Mars is in 18;40° Gemini, in opposition to Sagittarius (the *intihā'*), indicating the death of 'Umar. The sun is also in 7;41° Gemini and it is in midheaven (text 48°; recomputation 55°) although in the horoscope diagram it appears in house XI.

39r:11-13 Saturn is in 23;45° Aries, in the eleventh house from the sun, counting backwards, including both houses in the count and bearing in mind that, in the horoscope diagram, the sun is not in midheaven but in house XI. As Gemini is the third sign from Aries, it can be said that Saturn is approaching the sextile aspect with the sun (the difference of longitudes is 43;56°).

39r:14-17 The difference of longitudes between Mars and the sun is 10;59° (eleven degrees approximately). The right ascension of the sun (*Battānī*, vol. 2, p. 62) is 155;53° (measured from Capricorn) and that of Mars 167;40°. The difference between the two right ascensions is, therefore, 11;47° (close to eleven degrees and two thirds of a degree). This amount is used by Battānī to predict that the duration of 'Uthmān's caliphate will be eleven years and two thirds of a year: he is using a *tasyīr* technique in which the sun is the *haylāj* and Mars the *qāṭi'*. Mars is obviously malefic toward the sun, both celestial bodies being in midheaven (assuming midheaven to begin at 55°, house XI starts from 84;34°).

39r:17 - 39v:1 The sun is in its *ḥayyiz* (*wa hiya ṣāḥibat al-ḥayyiz*) for it is a diurnal and masculine planet, above the horizon (the eclipse takes place in daytime) and in a masculine sign (Gemini) (see *Bīrūnī*, pp. 234, 308, 311). The cardine which the sun passed was the ascendant (it was in the ascendant at sunrise): the ascendant at the moment of the eclipse was Leo, daily domicile of the sun. Therefore the sun is the lord of the ascendant.

39v:1-3 Mars and Mercury are also in the ascendant with the sun, which is near its apogee (82;17° according to Battānī).

39v: 3-4 Battānī concludes that ‘Uthmān would die violently in public, that there would be a rebellion, and that the duration of his caliphate would be $11^y 11^{mo} 19^d$ lunar. This is confirmed by *Battānī*, vol. 2, p. 4, to be the time interval between the accession of ‘Uthmān on 28 Dhū al-Ḥijja, 23 Hijra (after three days of deliberation), and the traditional date for the accession of ‘Alī to the Caliphate, 17 Dhū l-Ḥijja, 35 Hijra = 16 June, 656 (i.e., 11 days before ‘Uthmān’s purported date of death; see 39v:4 and L. Veccia Vaglieri in the *Encyclopaedia of Islam*, new edition, vol. I, p. 382b).

39v:4-5 ‘Uthmān was murdered on 27 Ḥazīrān, 967 Byzantine = 27 June, 656. This was a Monday, corresponding to 28 Dhū l-Ḥijja, 35 Hijra.

39v:5-7 As the murder of ‘Uthmān took place in June 656, the *intihā’* should be in Aquarius (it was in Sagittarius in Horoscope 16 (644), 14 years earlier). The reference to Gemini here (*wa hiya al-sana allatī šāra al-intihā’ fihā min al-Jawzā’*) seems to be related to the *intihā’* of the fifth conjunction (Horoscope 17, in 650), for which it is correct. The sun was in Gemini at the moment of the lunar eclipse of year 644 (Horoscope 16). The eclipse’s position was $7;41^\circ$ Sagittarius and the latter sign was the ascendant of Horoscope 1 (25 April 571), considered here as *al-aṣl*. The sun in $7;41^\circ$ Gemini is approaching an opposition to the place of Saturn in Horoscope 8 ($3;30^\circ$ Scorpio), which is the horoscope of the lunar eclipse of the Saturn-Jupiter conjunction of the return to the sign of the first conjunction (*qirān al-‘awda*).

39v:7-8 The Fifth Conjunction

The text states that the fifth Saturn-Jupiter conjunction occurred in the year 961 Byzantine, and that this was the sixth year of ‘Uthmān’s caliphate.

39v:8-9 According to the text, there was a lunar eclipse during the day on 7 Tammūz, 961 Byzantine = 7 July, 650. *Oppolzer*, p. 353, lists lunar eclipse 2,874 on 18 July, 650 at $21:40^h$, some eleven days later, so 7 July obviously cannot be correct. However, except for the moon, the planetary positions in the following Horoscope 17 are generally much better for a date near 7 July than for a date near 18 July. We should therefore assume that Battānī made an error in determining the time of the lunar eclipse and then calculated the horoscope for the erroneous date, simply making the lunar longitude equal to the solar longitude plus 180° . Note that according to the *Mumtaḥan Zīj* the eclipse would have taken place at a longitude of $297;34^\circ$ at 0:16 hours after midnight on 19 July, and according to the *Šābi’ Zīj* at a longitude of $297;25^\circ$ at 23:57 hours after midnight on 18 July. The recomputation below is such

that midheaven and the solar longitude are reproduced as accurately as possible. For that time the ascendant is in the very beginning of Capricorn. The Saturn-Jupiter conjunction itself had already occurred on 31 May according to the *Mumtaḥan Zīj* and on 2 June according to Battānī.

Horoscope 17: 39v:9-13

Lunar eclipse near the fifth Saturn-Jupiter conjunction

Recomputed for Thursday, 8 July, 650, 17:28 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	Capricorn	271°	271°
Midheaven	192° *	192°	192°
Sun	107;20°	107;43°	107;35°
Moon	287;20°	152;11°	152;14°
Saturn	104°	103;19°	103;24°
Jupiter	106;20°	106;42°	106;33°
Mars	180°	141;23°	141;28°
Venus	65;24° *	62;36°	62;30°
Mercury	134;30°	131; 8°	129;43°
<i>intihā'</i>	Gemini		

* The degree of midheaven is not given in the diagram. The longitude of Venus is displayed as 185;24° in the diagram (i.e., in Libra instead of in Gemini).

The position for Mars (indicated in the text as “at the end of Virgo and the beginning of Libra”) is certainly a mistake, whereas the longitudes of Venus and Mercury are here clearly less accurate than in nearly all the other horoscopes. The *intihā'* is in agreement with the ones in the preceding horoscopes.

39v:13 The *intihā'* is in Gemini: it was in Sagittarius in 644 (Horoscope 16), and six years later (650) it will have moved six signs, arriving in Gemini.

39v:13-17 The sixth conjunction was in Cancer and the lunar eclipse in Capricorn, in opposition to the conjunction and in the ascendant, moving towards its end.

40r:1 The sun is conjunct with Saturn and Jupiter in Cancer, but it is moving away from them towards the state of *tashrīq* (orientality), which means that they will be visible in the morning on the eastern horizon (*Bīrūnī*, pp. 63, 296) and are therefore stronger (*Bīrūnī*, p. 315). This is the first time (since Horoscope 1) that the eclipse occurs in opposition to the conjunction: in

Horoscope 1 the Saturn-Jupiter conjunction took place in 2° Scorpio, almost in exact conjunction with the lunar eclipse (4;5° Scorpio).

40r:2-3 Saturn has its domicile in daytime in Capricorn and, therefore, is the lord of the eclipse of Horoscope 17. 28° Capricorn is the exaltation of Mars which is also the lord of the term comprised between 25° and 30° Capricorn, not corresponding exactly to the term of the eclipse (17;20° Capricorn). Saturn is in Cancer, a solstitial sign. Mars is also in control (*shārafā*) of the equinoctial sign (for it is in the beginning of Libra according to the text).

40r:3 The eclipse (in Capricorn) is in the ascendant. [The eclipsed moon] will rise at the end of the eclipse.

40r:3-5 Mars is the planet governing (*istīlā*) the horoscope. It is to the west of the sun (*mugharrīb*), the distance between the two celestial bodies being about 73°, meaning that Mars will set after the sun. However, it does not seem to have reached *taghrīb* (occidentality) proper, in which it will attain a state of weakness. This implies rapid change, rebellions and wars, especially because Mars was in midheaven at the beginning of the eclipse.

40r:5-7 According to the text, in this year (650) began the accusations against 'Uthmān. This agrees with traditional historiography which places the beginning of the Caliph's misgovernment in 30 Hijra / 650-51 AD (cf. G. Levi della Vida and R.G. Khoury in *Encyclopaedia of Islam*, new edition, vol. X, p. 948a). The bad situation was a result of the strength of Saturn (very near its *tashrīq*) and the weakness of Mars (attaining, later, *taghrīb*) which leads to a period in which events are both fast (Saturn) and slow (Mars), although more inclined to speed (Saturn).

40r:7-9 The revolt began after the murder of 'Uthmān. The text refers to the seventh year from the conjunction (650), which we must interpret as 656 because in this year the *intihā*' counted from the sign of the eclipse (Capricorn) will be the sign of the conjunction (Cancer) and the *intihā*' counted from Cancer will be Capricorn.

40r:9-13 In this year (after 'Uthmān's death in 656) began the period of civil wars (the battle of Şiffīn took place in 657). The result was not a complete catastrophe because the conjunction was not a conjunction of return to the sign of the first conjunction, the cardines of which were not affected by the situation: only the cardines of the present conjunction were spoiled by Mars, near midheaven, and by the control (*mushārafā*) the planet had on it.

40r:14 The Accession of 'Alī b. Abī Ṭālib

40r:15-16 According to the text, the killing of 'Uthmān and the accession of 'Alī b. Abī Ṭālib was indicated by a lunar eclipse on the night of 21 October, 655. This is Oppolzer lunar eclipse 2,883 on 21 October, 655, 0:35^h after midnight. The following horoscope is for this eclipse.

Horoscope 18: 40r:16-40v:2 (diagram at 40v:5-10)

Lunar eclipse indicating the killing of 'Uthmān and the accession of 'Alī b. Abī Ṭālib

Recomputed for Wednesday, 21 October, 655, 4:27 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	184°	184°	184°
Midheaven	94°	94°	94°
Sun	209;43° *	209;52°	209;48°
Moon	29;43° *	30;13°	30;16°
Saturn	173°	173;22°	173;22°
Jupiter	250°	249;56°	250; 8°
Mars	139;20°	139;14°	139;10°
Venus	186;20° *	200;21°	200;45°
Mercury	216;20°	216; 0°	216;58°
<i>intihā'</i>	Scorpio		

* The solar longitude is given in the diagram as 209;13°, the lunar longitude as 29;13°. The longitude of Venus is indicated in the diagram as 10;20° Libra (instead of 6;20° in the text).

Although the time of the lunar eclipse as reproduced by either *zīj* does not fully conform with the ascendant and midheaven, the further agreement is almost complete. Both the text and the diagram value for the longitude of Venus may be scribal mistakes for the much more accurate 6^s 20;20°. The *intihā'* is in agreement with that in the preceding horoscopes, and Battānī remarks that the sign of the *intihā'* (Scorpio) was also the sign of the radical horoscope (*burj al-aṣl*), meaning that it was the sign of the lunar eclipse and of the Saturn-Jupiter conjunction in Horoscope 1.

40v:2-4 Mercury is also in 6;20° Scorpio. Mars (19;20° Leo) has its domicile in Scorpio and, thus, is the lord of the sign. It would be in midheaven if the ascendant happened to be in Scorpio.

40v:4 Battānī's remark about the position of the moon in Aquarius is difficult to understand: the moon is in 29;43° Aries.

40v:4-5 The ascendant of Horoscope 2 (20 April 571) was 20° Capricorn and Battānī calculates a new *intihā'* from it for the end of the fifth conjunction, which should correspond to year 669 (the sixth conjunction took place in January 670; see below). As $669 - 571 = 98$, the *intihā'* of the ascendant of the revolution will have passed through 8 complete rotations + 2 signs. This takes us to the sign of Pisces while the lunar eclipse of Horoscope 18 is in Aries and that of Horoscope 20 (12 January 670) is in 24;11° Cancer. A good guess is that Battānī considered year 670 (instead of 669) as the end of the fifth conjunction, in which case the corresponding *intihā'* would be in Aries.

40v:5-6 Mercury is in 6;20° Scorpio and the sign of Scorpio is the domicile of Mars; furthermore it is in the first decan of Scorpio, which belongs to Mars, and both planets are in quartile aspect (the difference of longitudes is 77°).

40v:7-11 In Horoscope 18 the sun is in the ascendant and Saturn in house XII, and so there is no relation between the two celestial bodies; on the other hand, the sun is in the end of the sign of Libra (29;43°), the sign of its dejection (*hubūṭ*) in 19° Libra. The sun is almost in the sign of Scorpio, which was the sign of the lunar eclipse and the Saturn-Jupiter conjunction of Horoscope 1. All this indicates the murder of 'Uthmān, due to the bad influence of Mercury, Mars and Saturn, which is not counterbalanced by the sun.

40v:11-13 Venus (in the ascendant) rises before the sun and it is in sextile aspect with Jupiter (difference of longitudes 63;40°). It gives 'Alī's caliphate its (Venus's) eight small years (*Abū Ma'shar*, pp. 88-89), which does not agree with Battānī's "prediction" according to which the caliphate lasted 4 years and 9 months; maybe the original text read "half of its small years". This is due to the favorable conditions mentioned above. Otherwise, it would not have reached this length of time because of the bad configuration of Venus and Saturn (they are in opposition) and the situation of Venus (6;20° Libra) very near the degree of its dejection (27° Libra).

40v:13 'Alī's caliphate lasted 4 years and 9 months (lunar), in agreement with *Battānī*, vol. 2, p. 4. 'Alī's accession to the caliphate took place on 17 Dhū l-Ḥijja, 35 Hijra (see above), and he died (see 41r:6) on 17 Ramaḍān, 40 Hijra. The difference between these two dates is indeed precisely 4^y 9^{mo}.

40v:13-16 Actually Mars is not in the ascendant of Horoscope 18 but in house XI instead; it is true, however that midheaven in this horoscope (94°) is in the house of Mars in Horoscope 1 (104°) near the position of the moon in

the nativity of the Prophet (Horoscope 2: 122°). Besides, the position of Mars (19;20° Leo) corresponds to midheaven if the ascendant is Scorpio.

40v:16-17 Venus (186;20°) is in the ascendant (184°) of Horoscope 18 and in its domicile in daytime (Libra), and it is in sextile aspect with Jupiter, which has benefic consequences for the religious situation.

40v:17 - 41r:3 During its daily rotation the eclipsed moon (29;43°) crossed midheaven (94°) before the eclipse, and Mars, in Horoscope 1, was in 14° Cancer, which corresponds to midheaven of Horoscope 18; this sign is also the moon's domicile, which implies that the moon governs it. Besides, the position of the moon in Horoscope 18 (29;43°) is in quartile aspect with the position of Mars in Horoscope 1 (104°), because the difference of longitudes between the two planets is 74;17°, which means that Mars (Horoscope 1) is in the third sign from that of the moon (Horoscope 18). All this implies a position of power for Mars and allows Battānī to "predict" wars and quarrels.

41r:3-6 Battānī adds to this a new *intihā'*, computed from the position of the eclipse (29;43°), which he considers to correspond approximately to the sign of Taurus, although he actually calculates the advance from Aries. By the time of 'Alī's death (14 January 661), five years will have elapsed from the date of the eclipse (21 October 655). This means that the *intihā'* will have progressed five signs and reached the sign of Virgo. Virgo corresponds to the position of Saturn (173°) in the eclipse of 'Alī's accession (Horoscope 18), which is in opposition to the position of Mars (342°) in the eclipse of 'Alī's death (Horoscope 19), the difference of longitudes between the two amounting to 169°.

41r:5-6 'Alī died on 24 January, 661, corresponding to 17 Ramaḍān, 40 Hijra (civil).

41r:7 *Death of 'Alī and Accession of Mu'āwiya*

41r:8-9 Horoscope 19 is for a lunar eclipse which indicated the assassination of 'Alī, and the simultaneous accession of Mu'āwiya b. Abī Sufyān to the caliphate. The date of this eclipse is given as 22 December, 660. Since the actual assassination, according to the text (41r:5,6), was on 24 January, 661, there were only thirty days from the alleged prediction to the actual murder.

Horoscope 19: 41r:9-13

Lunar eclipse predicting the assassination of 'Alī

Tuesday, 22 December, 660, 14:24 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	50°	50°	50°
Midheaven	308°	308°	308°
Sun	274; 6°	274;11°	274; 7°
Moon	94; 6°	94;14°	94;19°
Saturn	231°	232; 8°	232; 4°
Jupiter	56°	57;29°	58; 5°
Mars	342°	341;25°	342;22°
Venus	299;30°	299; 8°	299;31°
Mercury	280;30°	291;23°	290;21°
<i>intihā'</i>	Aries		

Small errors are found in the horoscope positions of Saturn and Jupiter, whereas that for Mercury (9^s 10;30°) seems to contain a scribal error (10° for 20°). The *intihā'* is in agreement with that in the preceding horoscopes.

The astrological indications follow. These infer, among other things, the rise of Marwān b. al-Ḥakam and 'Abdallāh b. Zubayr, and their subsequent displacement by the resuscitated Umayyads. The latter were in turn replaced by the Banū Marwān.

41r:14-17 Saturn (231°) is in the sign of Scorpio as in Horoscope 1 (212°), which is also the sign of the descending cardine (*watad al-maghrib*, VII, usually called *watad al-ghārib*) of Horoscope 19 (230°). The eclipse of Horoscope 19 is in the sign of Cancer (94;6°), which is also the sign of Mars in Horoscope 1 (104°), the planet being the lord of the *intihā'* (Aries) because it has its domicile in it during the day. The sun and the moon are in aspect with the position of Mars (in Horoscope 1) during the eclipse: the moon in conjunction and the sun in opposition. This indicates the death of Caliph 'Alī.

41v:1-4 Saturn is in Scorpio while the sun (274;6°) is in Capricorn; therefore Saturn is in the eleventh sign from the sun. They are in sextile aspect (difference of longitudes 43;6°), which is favorable. Jupiter (56°) is in the ascendant, and the cardine of the earth (*watad al-arḍ*, house IV) of Horoscope 19 (128°) is in quartile aspect with Saturn (difference of longitudes 103°). Jupiter is in trine aspect with the sun (difference of longitudes 141;54°), and both Mercury and Venus are in the same sign (Capricorn) as the sun and they both rise after the sun. As a consequence the sun gives to Mu'āwiya its small years (19).

41v:4-5 From the indications, the length of the reign of Mu'āwiya is inferred as $19^y 3^{mo} 25^d$ (lunar). This is confirmed by *Battānī*, vol. 2, p. 4. The text states that this span reaches to 30 Nīsān of a year that may in the manuscript be read as either 972 or 992 Byzantine. The further data in the text and the table in Battānī's *zīj*, however, indicate that the Byzantine year intended is 991, so the above date stands for 30 April, 680 = 24 Rajab, 60 Hijra. Also according to M. Hinds (*Encyclopaedia of Islam*, new edition, vol. VII, p. 264a), Mu'āwiya died in Rajab of the year 60 Hijra. Thus taking 24 Rajab, 60 Hijra as the death date of Mu'āwiya, and considering that, according to *Battānī*, vol. 2, p. 4, there was a period of 6 months and 3 days until Mu'āwiya was officially recognized as Caliph after 'Alī's death on 17 Ramaḍān, 40 Hijra (see 41r:6), the length of his reign becomes $19^y 4^{mo} 4^d$. This leaves a difference of only nine days from the text and Battānī's *zīj* which we cannot conclusively account for. It might be explained by assuming that the date in the text should be 21 instead of 30 Nīsān, 991 Byzantine, which corresponds to the date 15 Rajab, 60 Hijra given in *Battānī*, vol. 2, p. 4.

41v:5-6 The sun has passed midheaven (8° Aquarius), and the lord of the sign of Aquarius is Saturn because it has its domicile in it at night. Saturn is also in quartile aspect with the sign of midheaven (difference of longitudes 77°).

41v:6-7 Mercury is in sextile aspect with Saturn (difference of longitudes $49;30^\circ$), which is in opposition to Jupiter (diff. long. 175°); this favors the benefic influence of Jupiter.

41v:8-11 The final passage of Battānī's astrological commentary is difficult to understand. One can try to interpret its first sentence as meaning that the *intihā'* computed from the solar position of Horoscope 19 (Capricorn) reaches the sign of the eclipse in the same horoscope (Cancer). The problem is that Battānī does not specify which period of time he means. To this he adds that the *intihā'* counted from the ascendant of the nativity (Horoscope 2, Capricorn) reaches the same sign as the eclipse of Horoscope 19. The date of the Prophet's nativity is 20 April 571 and that of Horoscope 19 is 22 December 660. Assuming that the *intihā'* changes in the spring equinox, the number of years elapsed between the two dates will be $660 - 571 = 89$ years, during which the *intihā'* will have passed through seven complete rotations plus five signs and it will have reached the sign of Gemini, not Cancer. It is clear, however, that Battānī refers to the sign of Cancer, which is the sign of Saturn in the eclipse of Mu'āwiya's death (Horoscope 21) and the sign of the sun in Horoscope 19. From Cancer, now identified with the sign of the eclipse in Horoscope 20, we calculate the corresponding *intihā'* in Horoscope 20 (12

January 670), which corresponds to the lunar eclipse preceding the sixth conjunction of Saturn and Jupiter; as the latter date takes place before the spring equinox, the calculation is $669 - 660 = 9$, which implies that the *intihā'* has progressed nine signs from Cancer, thus reaching Aries, in which we find Mars in Horoscope 21 (the eclipse of Mu'āwiya's death).

41v:11-12 The Sixth Conjunction

The sixth conjunction occurred during the year 980 Byzantine in the lifetime of Mu'āwiya. According to *Tuckerman*, p. 353, it occurred on 27 January, 670 at longitude $329;53^\circ$ (in the air triplicity). The text says that during the conjunction there was a lunar eclipse in the night of 12 Kānūn II. On 12 January, 670, at $0:50^h$, *Oppolzer*, p. 354, reports lunar eclipse 2,905, which satisfies the requirements of Horoscope 20 below. For Kānūn II, 980 Byzantine to coincide with January 670 the Byzantine year would have to start with the month Adhār (March). This arrangement was less common, but was in fact used by Battānī in the tables of his *zīj* (see, for example, *Battānī*, vol. 2, p. 74). However, both at 34v:17 and in *Battānī*, vol. 1, p. 67 (corresponding to vol. 3, p. 100) Aylūl is mentioned as the first month of the year. It thus seems more plausible that the Byzantine year 980 in the text is a mistake for 981.

Horoscope 20: 41v:12-15 (diagram at 42r:1-6)

Lunar eclipse near the sixth Saturn-Jupiter conjunction

Recomputed for Friday, 12 January, 670, 3:22 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	250°	250°	250°
Midheaven	166°	166°	166°
Sun	$294;11^\circ$	$294;54^\circ$	$294;51^\circ$
Moon	$114;11^\circ$	$114;50^\circ$	$114;55^\circ$
Saturn	$323;33^\circ$	$327;26^\circ$	$327;27^\circ$
Jupiter	$323;14^\circ$ *	$326;21^\circ$	$327;16^\circ$
Mars	$299;40^\circ$	$298;38^\circ$	$299;36^\circ$
Venus	$270; 5^\circ$	$269;33^\circ$	$269;55^\circ$
Mercury	$283;47^\circ$	$282;10^\circ$	$283;17^\circ$
<i>intihā'</i>	Sagittarius		

* The longitude of Jupiter is indicated in the diagram as $327;14^\circ$.

The recomputation has been carried out for the time at which the ascendant and upper midheaven are in full agreement with the text. Since the *Ṣābi' Zīj* places the lunar eclipse at 114;51° and the *Mumtaḥan Zīj* at 114;55°, it seems possible that both the solar and the lunar position contain a scribal error (11' instead of 51'). The conjunction of Saturn and Jupiter implied by the horoscope is confirmed by the recomputations, but is positioned in the wrong degree of the ecliptic. This may also be attributed to a scribal error (23° for 26° or 27°), although this confusion is not very common. Both for Venus and for Mars the recomputation on the basis of Battānī's parameters is slightly better than that from the *Mumtaḥan Zīj*. The *intihā'* Sagittarius is *not* in agreement with that in the preceding horoscopes, according to which it should have been Capricorn. Since it is not in agreement with the system of al-Sijzī either, according to which it should have been in Aquarius, we may assume that it is a mistake, although it seems clear that Battānī's following argument is based on Sagittarius.

Calculating with the parameters from Battānī's *zīj*, the first to fifth true conjunctions are found to take place at the following dates and degrees:

First conjunction (25 April 571):	3;11° Scorpio
Second conjunction (17 July 590):	0;36° Cancer
Third conjunction (20 March 610):	22;43° Aquarius [air triplicity]
Fourth conjunction (5 November 630):	10;57° Scorpio
Fifth conjunction (2 June 650):	8;43° Cancer
Sixth conjunction (13 January 670):	27;38° Aquarius [air triplicity]
Seventh conjunction (3-4 March 690):	21; 9° Scorpio

41v:17 - 42r:10 Mars is in 29;40° Capricorn, almost in Aquarius, the sign of the conjunction and, as we have seen, midheaven of Horoscope 19. The situation implies war and a possible change of dynasty or of the governing family in relation to the nomination by Mu'āwiya of his son Yazīd as heir to the caliphate. Battānī mentions 'Abd Allāh b. al-Zubayr (d. 693), who did not belong to the Umayyad family, refused allegiance to Yazīd and proclaimed himself caliph after Yazīd's death (H.A.R. Gibb in *Encyclopaedia of Islam*, new edition, vol. I, pp. 54-55). The author also refers to a possible involvement in the affair of Marwān b. al-Ḥakam, the fourth Umayyad caliph, whose reign lasted only a few months (684-685) (C.E. Bosworth in *Encyclopaedia of Islam*, new edition, vol. VI, pp. 621-623). The rule, however, returned to the Umayyads (after the failure of the attempt of Ibn al-

Zubayr) because:

- 1) The next conjunction, called the conjunction of the return (*qirān al- 'awda*), returned to the sign of Scorpio, a sign belonging to the triplicity of water. Battānī here refers to the seventh conjunction of Saturn and Jupiter occurring on 3-4 March 690 in 21;9° Scorpio, with which the true conjunction returned to the triplicity of water (Cancer, Scorpio, Pisces), after the sixth had been in Aquarius (triplicity of air). Battānī also mentions an eclipse in connection with this conjunction, which was most likely the full lunar eclipse on 28 May 690, which took place in 7° Capricorn according to Battānī's *zīj*. At this time Saturn and Jupiter were already 3° away from each other but still in Scorpio.
- 2) As we have seen, in Horoscope 20 Mars is very near the beginning of Aquarius but not precisely in this sign, as it was (Aquarius 13;30°) in Horoscope 8 (eclipse of the fourth conjunction).

These two reasons invalidate the possibility of a change of dynasty represented by Ibn al-Zubayr.

42r:12-14 *Accession of Yazīd b. Mu'āwiya*

The nocturnal lunar eclipse which indicated the death of Mu'āwiya and the accession of his son Yazīd was on 22 December, 679. It is Oppolzer, lunar eclipse 2,920 on 23 December, 679, time after midnight 1:38^h. The last horoscope in Battānī's treatise is for this eclipse.

Horoscope 21: 42r:14-17 (no diagram)

Lunar eclipse indicating the death of Mu'āwiya and the accession of Yazīd

Recomputed for Friday, 23 December, 679, 4:01 hours after midnight

<i>planet / cusp</i>	<i>text</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant	239°	239°	239°
Midheaven	150°	153°	153°
Sun	274; 5°	274;10°	274; 6°
Moon	94; 5°	94;15°	94;19°
Saturn	104;20°	104;22°	104;29°
Jupiter	269;45°	271;21°	271;46°
Mars	20°	20; 1°	20;42°
Venus	282°	282; 1°	282;25
Mercury	292°	291;57°	292;20°
<i>intihā'</i>	Scorpio		

At Mecca, when midheaven is at 150° , the ascendant is 237° . Thus the positions indicated in the text, respectively “at the end of Scorpio” and “at the beginning of Virgo”, are in agreement. There seems to be an error in the horoscope position for Jupiter, but all other positions are accurate. The *intihā'* is in agreement with the one in Horoscope 19 and the preceding horoscopes, confirming that the incorrect *intihā'* given in Horoscope 20 was a mistake. Battānī remarks that Scorpio is the sign of the radical horoscope, meaning that it is the sign of the Saturn-Jupiter conjunction and of the lunar eclipse in Horoscope 1.

42r:17 - 42v:2 The lunar eclipse is in $4;5^\circ$ Cancer, which is the sign occupied by Mars (14° Cancer) in Horoscope 1. Mars (20° Aries) is in quartile aspect with the position of the eclipse ($4;5^\circ$ Cancer), both in Horoscope 21 (difference of longitudes $70;5^\circ$), as well as with the ascendant of the nativity horoscope (Horoscope 2: difference of exactly 90°).

42v:2 Saturn is in $14;20^\circ$ Cancer, which is the sign of the eclipse. The sun ($4;5^\circ$ Capricorn) is in opposition to Saturn, which, according to Battānī, indicates the death of Mu'āwiya.

42v:3 Cancer is a solstitial sign, and the moon, which has its domicile in this sign, is the lord which occupies this solstitial sign.

42v:3-5 The opposition of Saturn and the sun is harmful and the sun is progressing towards the degree of opposition which it will attain in about eleven days. The sun ($4;5^\circ$ Capricorn) is in quartile aspect with Mars (14° Cancer) and with Saturn ($14;20^\circ$ Cancer). This implies that the sun will give to the subject of the horoscope one fifth of its small years (19), which corresponds to 3 years, 9 months and 18 days. This is due to the favorable situation created by Venus (in 12° Capricorn), which is in the same sign of the sun and rises after it.

42v:6-7 According to the text, the reign of Yazīd would last $3^y 3^{mo}$ (lunar). Battānī, vol. 2, p. 4, has $3^y 8^{mo} 0^d$, which is apparently the correct value since Yazīd died on 15 Rabī' I, 64 Hijra (see below), whereas the end of the rule of his predecessor Mu'āwiya is given as 24 Rajab, 60 Hijra at 41v:4-5 (the exact time period between these dates is $3^y 7^m 21^d$) and as 15 Rajab, 60 Hijra, in Battānī's *zīj*. Although the number of months is written in words in the text, it seems possible that the error ultimately stems from a confusion of *abjad* 3 and 8.

42v:7-8 The death date of Yazīd is given as 11 Tishrīn II, 995 Byzantine = 11 November, 683 = 15 Rabī' I, 64 Hijra. This is confirmed by G.R. Haw-

ting (*Encyclopaedia of Islam*, new edition, vol. XI, p. 309b/310a), who states that he died in Rabī' I, 64 Hijra.

42v:8-11 Finally Battānī computes a new *intihā'* from the sign of the eclipse of Horoscope 21 (Cancer, 23 December 679), apparently for the date of Yazīd's death (11 November 683). If we assume that the change of sign of the *intihā'* takes place in the spring equinox of each year, the *intihā'* should be in Scorpio (not in Libra) in November 683. The situation changes, however, if the date of change corresponds to the moment of the eclipse of Horoscope 21 (December 679): in that case Libra would be correct. Whatever the case, Mars is, in this horoscope, in 20° Aries, in opposition to Libra. Venus has just crossed midheaven (0° Virgo), which is the domicile of Mercury in daytime, and this planet is in 22° Capricorn, a solstitial sign, in quartile aspect with Mars (the difference of longitudes being 88°), meaning that the evil influence of Mars is reinforced by Mercury.

42v:12 Colophon.

Appendix A: Recomputation of the Horoscopes

All horoscopes were recomputed with a DOS program *Historical Horoscopes* especially developed by Benno van Dalen in the year 2000.³ This program reads the base parameters of the desired *zīj* from a file and then computes the ascendant and midheaven as well as the longitudes of all planets and the lunar nodes for any given date and time. The program does not use actual historical planetary tables, but it does mimic historical calculations by using Ptolemaic interpolation for calculating the equation of anomaly. The geographical latitude as well as the longitude difference from the base locality of the *zīj* under consideration can be easily adjusted, and the date and time for which the horoscope is calculated can be changed by a year, month, day, hour or minute by single key presses. The results can be displayed to degrees, minutes or seconds and can be printed or saved into a file on disk.

³ Extensive use was also made of Van Dalen's DOS programs CALH (for the conversion of dates in more than ten different calendars used in Islamic astronomical works) and SCTR (for carrying out calculations in the sexagesimal system). DOS programs can still be run on most Windows system, if necessary in a DOS emulator such as DOSBox. All three programs may be obtained from Benno van Dalen at no cost.

The parameters used for the calculation of the horoscopes

At 31v:17 the text states clearly that the planetary positions in the horoscopes were determined “according to the Mumtaḥan computations”, i.e., presumably according to the tables in the *Mumtaḥan Zīj* by Yaḥyā ibn Abī Maṣṣūr (ca. AD 830). The recomputations presented here are therefore based on parameters explicitly found in, or extracted from, the extant recension of the *Mumtaḥan Zīj* in the manuscript Escorial ms. árabe 927. Although the value $23^{\circ}35'$ for the obliquity of the ecliptic has also been associated with astronomers belonging to the *Mumtaḥan* group, here we have used the value $23^{\circ}33'0''$ found in the declination table in the Escorial manuscript. All parameters used in the recomputations are listed in Appendix C. For comparison, the horoscopes were also recomputed for the parameters of Battānī's *Šābi' Zīj* (including the value $23^{\circ}35'$ for the obliquity of the ecliptic; note that we do not know whether Battānī's astrological history was written before or after the *Šābi' Zīj*).

For practical purposes, we will call a recomputed position “correct” if it differs by less than $30'$ from the horoscope value, even if the latter is given to an accuracy of minutes. For the slowest planet, Saturn, both the *Mumtaḥan Zīj* and the *Šābi' Zīj* produce correct positions for 14 out of 20 horoscopes (Horoscope 15 does not list the positions of the five planets) and almost identical positions for the remaining six; it seems plausible that in those cases the horoscope contains a scribal or possibly computational error. Also for Jupiter and Venus the two *zīj*es produce similarly good positions, although the number of deviations is somewhat larger. However, for Mars we find noticeable discrepancies in the recomputations: in only six out of 20 cases both *zīj*es produce the same position as found in the horoscope; in four cases they are both off by similar amounts. In seven of the remaining eight horoscopes Battānī's parameters for Mars produce a noticeably better fit. The situation is somewhat similar for Mercury, for which the *Šābi' Zīj* gives a better result in six cases, the *Mumtaḥan Zīj* in two (in the remaining nine horoscopes the produced positions are very close to each other). Since, as will be shown below, the solar longitudes and the positions at which solar and lunar eclipses take place are also more accurately produced by Battānī's parameters than by those of Yaḥyā, there is some reason to believe that Battānī in fact used the parameters from his own *zīj* for computing the horoscopes, in spite of what he writes in the text. Therefore we will present recomputed values for the *Mumtaḥan Zīj* as well as for the *Šābi' Zīj*. Cases in which the two *zīj*es yield clearly different planetary positions are mentioned in the remarks following

each recomputed horoscope. We have not recomputed the planetary latitudes that are given in the text for Horoscope 1.

Determination of the geographical latitude and longitude

Folio 31v, line 16 of the text connects the horoscope of the birth of the Prophet (Horoscope 1) with Mecca. Since all horoscopes are related to the life of the Prophet and the early history of Islam, it seems a reasonable assertion that they were all cast for Mecca. This can in fact be verified by estimating the geographical latitude underlying the ecliptical longitudes of the ascendant and midheaven presented for most of the horoscopes. This estimation is carried out here by means of the method described in *North*, pp. 17-20.

The table below lists, for each horoscope with the ascendant and midheaven given to an accuracy of at least degrees, the estimated geographical latitude plus a plausible interval for the latitude obtained by varying the ascendant and midheaven by a degree. Note that only four longitudes of ascendants and midheavens have an explicit number of minutes, but that these also appear to be rounded rather than computed exactly. In each case, the obliquity of the ecliptic was taken equal to the *Mumtahan* value $23^{\circ}33'$. If Battānī's value $23^{\circ}35'$ were used, the estimated latitude values would differ by at most $4'$ from those presented in the table. Note that, depending on the nearness of the ascendant and midheaven to multiples of 90° , the confidence interval may become very large.

Horoscope number	Ascendant in text	Midheaven in text	Estimated latitude	Plausible interval for the latitude
1	246°	164°	26;19°	21;59° – 30;22°
2	290°	-		
3	85°	344°	20;23°	16;16° – 24;16°
4	79°	337°	20;44°	16;36° – 24;38°
5	Sagittarius	-		
6	221°	132°	20;50°	13;55° – 27;25°
7	Taurus	Aquarius		
8	291;10°	213;5°	19; 0°	14;32° – 23;11°
9	-	-		
10	10°	276°	33;32°	10; 0° – 46;41°
11	Leo	-		
12	184°	94°	23;29°	23;27° – 66; 4°

13	320°	240;5°	19;40°	12;58° – 25;36°
14	40°	305°	0;44°	0;34° – 8; 4°
15	244°	? ^s 23°		
16	127; 9°	48°	17; 7°	11;40° – 22; 8°
17	Capricorn	192°		
18	184°	94°	same as	Horoscope 12
19	50°	308°	21; 0°	15;36° – 25;54°
20	250°	166°	20;39°	16; 9° – 24;56°
21	239°	50°	14;21°	9; 1° – 19;32°

In spite of the presence of various “outliers” and generally very large plausible intervals, it seems probable that the horoscopes were cast for Mecca, which occurs in the earliest Islamic geographical tables with latitude 21°0′, in later ones with 21°40′. Since the results of the estimation do not allow us to distinguish between these two values, we will recompute the longitude of the ascendant and midheaven in all horoscopes for the earlier value of the geographical latitude, namely 21°0′ (the difference of 40′ in the latitude leads to differences of at most 20′ in the ascendant).

The geographical longitude underlying the horoscopes cannot be determined with certainty. Since a change in geographical longitude is equivalent to a change in local time, we would need to know the exact times of day for which the horoscopes were cast in order to be able to determine the underlying geographical longitude. However, these times are never explicitly mentioned, and where they can be reliably determined from the longitudes of the ascendant and midheaven they are usually not in precise agreement with the remainder of the horoscope, in particular with the lunar longitude or the time of the connected conjunction or opposition. We will therefore simply assume that the horoscopes were calculated for the geographical longitude of Mecca, which, according to most Islamic geographical tables, lies 3° west of Baghdad, where the *Mumtaḥan* observations were made, and 1° east of Raqqa, the base locality of Battānī’s *Šābi’ Zīj*.

Determination of the time of day

As we noted above, the exact time of day for which each horoscope was cast is not indicated in Battānī’s text. However, in most cases the time can be determined with reasonable accuracy from the longitude of the ascendant or midheaven. If the two longitudes are not fully compatible with the latitude of Mecca, and hence the two times that are obtained from them are different,

preference will be given to the more important of the two, the ascendant. A few horoscopes for which the time cannot be reliably determined from the ascendant or midheaven will be recomputed for the time at which, according to the parameters of the *Šābi' Zīj*, the associated solar or lunar eclipse took place or the lunar position was in agreement with the horoscope.

For 14 of the 21 horoscopes, the time of day for which they were cast can be determined from the longitudes of the ascendant and/or midheaven as well as by calculating the exact moment of the associated true opposition or conjunction of sun and moon. We have performed these calculations not only on the basis of the *Mumtaḥan Zīj* and the *Šābi' Zīj*, but also using Ptolemy's *Almagest* and the *zīj* of Ḥabash al-Ḥāsib, another astronomer connected to the *Mumtaḥan* group. We were not able to find a relationship between the times for which Battānī most likely calculated his horoscopes and the times of the true oppositions and conjunctions found from any of these four astronomical works. The differences in time are typically of the order of half an hour, and the syzygies occur sometimes earlier and sometimes later than the times calculated from the ascendant and/or midheaven. Generally the differences are too large (and too unsystematic) to be explainable by the use of different geographical base localities. At first sight the divergences are also too irregular and too large to be caused by consideration of the equation of time, but we have not generally investigated this possibility in detail. In the three cases of solar eclipses we have not investigated whether Battānī included the lunar parallax in his computations.

Note that in calculating the time from the ascendant and / or midheaven it does not make a significant difference whether the *Mumtaḥan Zīj* is used or the *Šābi' Zīj* (the calculation involves the obliquity of the ecliptic and the true solar longitude, which vary only minimally between the two *zīj*es). However, the positions of the sun and the moon at the time of an opposition or conjunction are generally much better reproduced by Battānī's solar and lunar theory (typical errors of 0–2 minutes of arc) than by Yaḥyā's parameters (errors between 6 and 10 minutes of arc). As was mentioned above, for Mars and Mercury the *Šābi' Zīj* also produces a somewhat better fit with the longitudes in the horoscopes than the *Mumtaḥan Zīj*. All in all, it seems more likely that Battānī computed the horoscopes with his own *zīj* than with the *Mumtaḥan Zīj*.

The recomputations of the syzygies on the basis of the *Šābi' Zīj* have allowed us to correct a number of scribal errors in the solar and lunar positions; in all these cases the two positions differ by precisely 0° or 180° , but the recomputation shows that in all likelihood the lunar position was obtained

directly from the solar position or vice versa rather than by an independent computation. Note that, since in most cases we determine the time for which the horoscopes were cast from the longitudes of ascendant and/or midheaven rather than from the associated opposition or conjunction, the agreement of the solar and lunar positions with the recomputed values is usually not as good as it could have been. However, following this particular procedure we reach the best overall agreement of the horoscopes with the recomputation.

Other remarks

Oppolzer's canon of solar and lunar eclipses gives the times of the eclipses in "Weltzeit", i.e. Universal Time. Since Mecca has a longitude of nearly 40° east of Greenwich, this time can be converted to local time by adding 2^h40^m.

Appendix B: Analysis of the Horoscopes

In order to produce acceptable recomputations of the 21 horoscopes, we first analysed their most significant data. The most rapidly changing elements are the most useful for determining the exact time for which an horoscope was cast. These elements are the ascendant and midheaven, which revolve through 360° in a single day, and the moon (one full rotation in 27.3 days). The Sun, Venus and Mercury follow with one revolution per year. Special significance has also been attached to solar and lunar eclipses, since the times of true syzygies can be accurately determined from the tables in *zīj*es.⁴

Below we present the main data that we used to analyse the horoscopes, namely the times at which, or the intervals of time during which, the ascendant, midheaven, sun and moon have precisely the ecliptical longitude indicated in the horoscopes, and, in the case of a lunar or solar eclipse, the time and ecliptical position of the true opposition or conjunction. All these data were calculated from the *Mumtaḥan Zīj* as well as from the *Šābi' Zīj* by letting the computer program Historical Horoscopes step through time with successively smaller intervals until the desired positions were reached. For the *Mumtaḥan Zīj* the longitude difference from the base locality (Baghdad) was set to 3° west, for the *Šābi' Zīj* (Raḡqa), to 1° east; the latitude was taken to be 21° north for all horoscopes. Generally, intervals of time are only given

⁴ Note that for all horoscopes presented by Battānī an (approximate) date is already given in the text. If the date of an horoscope is entirely unknown, one would start by inspecting the slowest elements, namely the motions of Saturn and Mars, in order to find the rare occasions on which their longitudes are both approximately equal to those in the horoscope.

for the solar longitude, since the sun needs around 25 minutes to move through one minute of arc, and for the lunar longitude if it is given to degrees (the moon takes nearly two hours to travel through a degree). The ascendant and midheaven change by a whole degree in only four minutes, whereas the moon travels through a minute of arc in around two minutes of time. Note that we have assumed the use of modern rounding of the planetary longitudes. Thus, if, according to the horoscope, the sun is located in 4;5° Taurus (34;5°), the intervals given below are those for which, according to the two *zījes*, the unrounded longitude lies between 34;4,30° and 34;5,30°. For other types of rounding, trivial adjustments would be necessary.

Since it is beyond the scope of this publication to compare Yaḥyā's and Battānī's planetary theory with modern computations, the column "modern" only contains the times of solar and lunar eclipses. These were taken from Oppolzer's *Canon* and adjusted for the difference in geographical longitude between Greenwich and Mecca by adding 2:40 hours. Oppolzer's times differ by amounts up to 20 minutes from calculations based on the theory underlying, e.g., Tuckermann's tables.

Horoscope 1:

Saturday, 25 April, 571, 20:36 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 246°	20:36	20:36	
Midheaven in 164°	20:46	20:46	
Sun in 34;5° (scribal error?)	23 April, 15:30	23 April, 19:14	
Sun in 36;5°	17:13–17:37	20:58–21:22	
Moon in 214;5° (scribal error?)	16:33	16:34	
Moon in 216;5°	19:58	19:59	
Sun-Moon opposition: time	20:11	19:54	20:23
Sun-Moon opposition: long.	216;12°	216;2°	

Horoscope 2:

Monday, 20 April, 571, 0:09 hours after midnight (*birth of the Prophet*)

Times between 19:53 and 24:00 hours here refer to Monday, 19 April.

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant in 290°	0:09	0:09
Midheaven: not given		
Sun in 30;25°	19:53–20:17	23:34–23:58
Moon in 122° (scribal error?)	18 April, 16:10	18 April, 16:03

Moon in 152° (correction)	21 April, 1:25	21 April, 1:20
Venus in 41;30°	10:43–11:02	3:08–3:26

Horoscope 3:

Wednesday, 18 October, 590, 21:19 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 85°	21:19	21:19	
Midheaven in 344°	21:20	21:20	
Sun in 207;4°	17:09–17:32	19:29–19:52	
Moon in 27;4°	20:33	20:33	
Sun-Moon opposition: time	20:48	20:37	20:53
Sun-Moon opposition: long.	27;13°	27;6°	

Horoscope 4:

Sunday, 15 March, 610, 10:47 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 79°	10:47	10:47	
Midheaven in 337°	10:47	10:48	
Sun in 357;30° (scribal error?)	16 March, 8:19	16 March, 11:09	
Sun in 356;30° (corrected)	7:40–8:03	10:29–10:52	
Moon in 177;30° (scribal error?)	12:31	12:25	
Moon in 176;30° (corrected)	10:35	10:29	
Sun-Moon opposition: time	10:48	10:28	11:11
Sun-Moon opposition: long.	176;37°	176;29°	

Horoscope 5:

Monday, 20 September, 622, 11:00 hours after midnight (*Hijra*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant in Sagittarius	10:28–12:41	10:26–12:39
Midheaven: not given	-	-
Sun in 179°	19 Sept, 20:26– 20 Sept, 20:38	19 Sept, 22:59– 20 Sept, 23:10
Moon in 302°	9:36–11:29	9:32–11:25

Horoscope 6:

Tuesday, 1 February, 622, 23:46 hours after midnight (*lunar eclipse*)

Note that, for this horoscope, 24:07 indicates 0:07 on the following day, 2 February.

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 221°	23:46	23:46	
Midheaven in 132°	23:46	23:46	
Sun in 315;28°	21:48–22:11	23:51–24:14	
Moon in 135;28°	24:07	24:05	
Sun-Moon opposition: time	24:17	24:05	24:28
Sun-Moon opposition: long.	135;34°	135;28°	

Horoscope 7:

Monday, 19 April, 622, 6:50 hours after midnight (*nativity transfer*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant in Taurus	5:40–7:24	5:41–7:25
Midheaven in Aquarius	6:16–8:14	6:16–8:14
Sun in 30;25°	2:18–2:42	5:34–5:58
Moon in 73;30° (scribal error?)	20 April, 12:22	20 April, 12:17
Moon in 58;30° (correction)	6:56	6:50

Horoscope 8:

Tuesday, 28 August, 630, 15:34 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 291;10°	15:33	15:34	
Midheaven in 213;5°	15:29	15:30	
Sun in 156;37°	12:59–13:23	15:51–16:15	
Moon in 336;37°	15:31	15:22	
Sun-Moon opposition: time	15:43	15:18	15:29
Sun-Moon opposition: long.	336;43°	336;35°	

Horoscope 9:

Thursday, 7 February, 631, 3:23 hours after midnight (*solar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Sun in 327;27° (scribal error)	14 February	14 February	
Sun in 320;27° (corrected)	1:02–1:25	3:05–3:28	
Moon in 327;27° (scribal error)	17:24	17:16	
Moon in 320;27° (corrected)	3:31	3:23	
Sun-Moon conjunction: time	3:43	3:23	3:53
Sun-Moon conjunction: long.	320;33°	320;27°	

Horoscope 10:Thursday, 19 April, 630, 4:37 hours after midnight (*nativity transfer*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant in 10°	4:37	4:37
Midheaven in 276°	4:32	4:33
Sun in 35;25° (scribal error)	24 April	24 April
Sun in 30;25° (corrected)	0:29–0:53	3:41–4:05
Moon in 38;30°	3:52	3:46

Horoscope 11:Monday, 25 May, 632, 9:00 hours after midnight (*death of the Prophet*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Sun in 65;25°	0:57–1:22	4:29–4:53
Moon in 71°	8:08–10:09	7:59–10:00
Mars in 345;30°	27 May, 6:47	11:13–11:47
Venus in 105;40°	10:52–11:12	6:40–7:01
Mercury in 91°	16:20–26 May, 11:33	12:20–26 May, 8:36

Horoscope 12:Saturday, 18 April, 632, 16:24 hours after midnight (*nativity transfer*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>
Ascendant in 184°	16:23	16:24
Midheaven in 94°	16:23	16:24
Sun in 35;25° (scribal error)	23 April, 16:52	23 April, 20:07
Sun in 30;25° (corrected)	12:02–12:26	15:13–15:37
Moon in 315;20°	14:10	14:07

Horoscope 13:Monday, 27 January, 632, 7:05 hours after midnight (*solar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 320°	7:06	7:06	
Midheaven in 240;5°	7:04	7:04	
Sun in 309;21°	5:52–6:15	7:46–8:09	
Moon in 309;21°	8:33	8:28	
Sun-Moon conjunction: time	8:46	8:30	9:23
Sun-Moon conjunction: long.	309;28°	309;22°	

Horoscope 14:Friday, 17 June, 634, 2:21 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 40°	2:20	2:21	
Midheaven in 305°	2:43	2:43	
Sun in 87;47° (scribal error?)	18 June, 0:00	18 June, 3:34	
Sun in 86;47° (corrected)	16 June, 22:49	2:11–2:35	
Moon in 267;[47°] (scribal error?)	3:53	3:50	
Moon in 266;47°	2:11	2:08	
Sun-Moon opposition: time	2:26	2:06	2:10
Sun-Moon opposition: long.	266;56°	266;46°	

Horoscope 15:Wednesday, 1 June, 634, 16:03 hours after midnight (*solar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 244°	17:59	17:59	
Midheaven in [4 ^s] 23°	16:58	16:59	
Midheaven in [5 ^s] 23°	18:51	18:52	
Sun in 72;3°	11:30–11:54	15:02–15:26	
Moon in 72;3°	16:06	15:59	
Sun-Moon conjunction: time	16:27	16:03	16:23
Sun-Moon conjunction: long.	72;14°	72;5°	

Horoscope 16:Thursday, 27 May, 644, 11:08 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 127;9°	9:45	9:45	
Midheaven in 48°	10:38	10:39	
Sun in 67;41°	7:14–7:38	10:41–11:05	
Moon in 247;41°	11:14	11:06	
Sun-Moon opposition: time	11:33	11:08	11:47
Sun-Moon opposition: long.	247;51°	247;42°	

Horoscope 17:Thursday, 8 July, 650, 17:28 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in Capricorn	17:22–19:24	17:23–19:24	

Midheaven in 192°	17:27	17:28	
Sun in 107;20°	7:46–8:10	11:06–11:31	
Moon in 287;20°	18 July, 7:09	18 July, 7:06	
Sun-Moon opposition: time	19 July, 0:15	18 July, 23:58	19 July, 0:20
Sun-Moon opposition: long.	297;34°	297;25°	
Mars in 180°	5 September (!)	5 September (!)	
Venus in 65;24°	11 July	11 July	
Mercury in 134;30°	20 August (!)	20 August (!)	

Horoscope 18:

Wednesday, 21 October, 655, 4:27 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 184°	4:26	4:26	
Midheaven in 94°	4:26	4:27	
Sun in 209;43°	0:35–0:58	2:23–2:47	
Moon in 29;43°	3:33	3:27	
Sun-Moon opposition: time	3:47	3:31	3:15
Sun-Moon opposition: long.	29;51°	29;45°	

Horoscope 19:

Tuesday, 22 December, 660, 14:24 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 50°	14:24	14:24	
Midheaven in 308°	14:24	14:24	
Sun in 274;6°	12:21–12:44	13:43–14:06	
Moon in 94;6°	14:07	13:57	
Sun-Moon opposition: time	14:15	13:57	14:22
Sun-Moon opposition: long.	94;10°	94;6°	

Horoscope 20:

Friday, 12 January, 670, 3:22 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 250°	3:22	3:22	
Midheaven in 166°	3:21	3:21	
Sun in 294;11° (scribal error?)	11 Jan., 10:19	11 Jan., 11:44	
Sun in 294;51° (corrected)	1:53–2:16	3:19–3:41	
Moon in 114;11° (scribal error?)	2:04	1:53	

Moon in 114;51° (corrected)	3:24	3:13	
Sun-Moon opposition: time	3:32	3:11	3:30
Sun-Moon opposition: long.	114;55°	114;50°	

Horoscope 21:

Friday, 23 December, 679, 4:01 hours after midnight (*lunar eclipse*)

<i>phenomenon</i>	<i>Mumtaḥan</i>	<i>Battānī</i>	<i>modern</i>
Ascendant in 239°	4:01	4:01	
Midheaven in 150°	3:50	3:51	
Sun in 274;5°	2:02–2:25	3:15–3:38	
Moon in 94;5°	3:43	3:35	
Sun-Moon opposition: time	3:50	3:35	4:18
Sun-Moon opposition: long.	94;9°	94;5°	

Appendix C: Planetary Parameters

All calculations of planetary positions have been carried out on the basis of the following parameters. Some of these have been taken directly from the tables in the *Mumtaḥan Zīj* and the *Šābi' Zīj*, others have been derived from those tables in such a way that our calculations result in numbers as close as possible to those that would be obtained directly from the tables. Note that both *zīj*es use different epochs for the mean longitudes, centurms, and anomalies on the one hand and the apogees on the other.

<i>Zīj</i>	<i>Mumtaḥan Zīj</i>	<i>Battānī</i>
Base locality	Baghdad	Raqqa
Obliquity	23;33	23;35
Epoch for mean positions	16-6-632, 12 ^h 0 ^m	14-7- 622, 12 ^h 0 ^m
Epoch for apogee positions	9-9-829, 0 ^h 0 ^m	1-3-880, 12 ^h 0 ^m
Solar daily mean motion	0;59, 8,20,35,14,37,48	0;59, 8,20,46,52, 3
Solar mean position at epoch	87; 3, 0,56	113;58, 4
Solar apogee motion (days per °)	24090	24106.5
Solar apogee position at epoch	82;39	82;14
Solar eccentricity	2; 4,35	2; 4,45
Lunar daily mean motion	13;10,35, 1,47, 0, 4	13;10,35, 2, 7,16, 2
Lunar mean position at epoch	3;58,51, 2	119;43,46
Lunar daily mean anomaly	13; 3,53,56,17,51,52,42	13; 3,53,56,17,57, 2
Lunar mean anomaly at epoch	307;19, 1,29	106;30,40
Lunar eccentricity	10;19	10;19
Lunar epicycle radius	5;15	5;15
Daily motion of the lunar nodes	-0; 3,10,37,35,20,32,53	-0; 3,10,37,24, 6,17
Ascending node position at epoch	-65;38,11,20	-233;45,18

Saturn daily mean motion	0; 2, 0,36, 5,25,28,46	0; 2, 0,35,49,30
Saturn mean position at epoch	237;38,26,54	116;15
Saturn daily mean anomaly	0;57, 7,44,29,49, 9, 2	-
Saturn anomaly at epoch	209;23,34, 2	-
Saturn apogee position at epoch	244;30	244;28
Saturn eccentricity	3;25	3;25
Saturn radius of epicycle	6;30	6;30
Jupiter daily mean motion	0; 4,59,16,57,51,52, 4	0; 4,59,16,55,25
Jupiter mean position at epoch	273; 9,56,14	332; 3
Jupiter daily mean anomaly	0;54, 9, 3,37,22,50,58	-
Jupiter anomaly at epoch	173;53, 4,42	-
Jupiter apogee position at epoch	172;32	164;28
Jupiter eccentricity	2;45	2;45
Jupiter radius of epicycle	11;30	11;30
Mars daily mean motion	0;31,26,39,35,32,26,41	0;31,26,40,12, 4
Mars mean position at epoch	311; 2,27	211;48
Mars daily mean anomaly	0;27,41,40,59,44,13, 9	-
Mars anomaly at epoch	135;32,54, 5	-
Mars apogee position at epoch	128;50	126;18
Mars eccentricity	6; 0	6; 0
Mars radius of epicycle	39;30	39;30
Venus daily mean anomaly	0;36,59,30,25, 0, 1,58	0;36,59,29,27,11
Venus mean anomaly at epoch	118;49,27, 0	45; 7
Venus apogee position at epoch	82;39	82;14
Venus eccentricity	1; 2,30	1; 2,22,30
Venus radius of epicycle	43;10	43;10
Mercury daily mean anomaly	3; 6,24, 6,59,35,20,33	3; 6,24, 7,39,11
Mercury mean anomaly at epoch	170;40,52,51	73;23
Mercury apogee position at epoch	201; 0	201;28
Mercury eccentricity	3; 0	3; 0
Mercury radius of epicycle	22;30	22;30
Apogee motion (days per degree)	24090	24106.5

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