Gestation times correlated with lunar cycles. Ibn al-Kammād's animodar of conception across North Africa[1]

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Abstract: One of the subjects Arabic astrologers dealt with in the medieval era was the animodar of conception, which used lunar cycles to determine gestation times and to verify the degree of an ascendant, in accordance with one of the principles of Pseudo-Ptolemy's *Centiloquium*. This paper investigates Ibn al-Kammād's treatise on the animodar of conception edited and translated from Arabic manuscript 939 at the Real Biblioteca del Monasterio, San Lorenzo de El Escorial, Madrid. The special significance attached to the animodar by later astrologers had two consequences for Ibn al-Kammād's treatise. First, the treatise, which was initially one of several parts of a book, has arrived to us as a self-contained piece, probably because it was already regarded as such in medieval times. Second, the initial contents in Ibn al-Kammād's treatise gradually underwent a transformation due to the addition of a number of materials associated with the animodar.

Keywords: Ibn al-Kammād, Ibn Hilāl, Pseudo-Ptolemy, Vettius Valens, periods of gestation, lunar cycles, ascendant, animodar of conception.

1. Introduction

In the astrological anthology kept in manuscript nº 939[2] (Real Biblioteca del Monasterio, San Lorenzo de El Escorial, Madrid), the index (folio 1 recto) points out that folios 1 verso until 8 verso belong to the *Book of the Keys of the Secrets*

1. My time spent doing research at the Real Biblioteca del Monasterio (carried out with funding of the research project MEC: FFI2011-30092-C02-01 led by Miquel Forcada) was very profitable thanks to the collaboration of its director, José Luis del Valle Merino, and his staff. I express my gratitude to all of them, as well as to Julio Samsó for his assistance in the consecutive stages of the preparation of this paper, and the referees Charles Burnett and José Chabás for their suggestions.

2. Derenbourg and Rénaud 1941, vol. II, fascicle 3, 54; Samsó and Berrani 2005, 172.

(*Kitāb Mafātiḥ al-Asrār*) by Ibn al-Kammād[3] (flourished in Cordoba, *ca*. 1116). These folios, which are attributed to Ibn al-Kammād in numerous instances, contain six chapters (from the tenth to the fifteenth) grouped under the title *Discourse on the animodar for the rectification of the ascendants in nativities* (hereafter, treatise on the animodar of conception).

In some passages (paragraphs [11], [42] and [104][4] in this study), Ibn al-Kammād's work is identified as a treatise (*maqāla*). So the *Book of the Keys of the Secrets* was organized into several parts or treatises divided into chapters, of which, to our knowledge, only the treatise on the animodar of conception is preserved.

Animodar (a Latin adaptation from the Arabic *al-nīmūdār*) is a technique used to verify the degree of the ascendant in a nativity.[5]

The *Book of the Keys of the Secrets* was known outside al-Andalus, since it is cited in the works of both Ibn 'Azzūz[6] (d. Constantine, 1354) and al-Baqqār[7] (fl. Fez, *ca*. 1418). A variant in Ibn 'Azzūz's quotation, which mentions the title *Book of the Keys of the Celestial Secrets*, *Kitāb Mafātiḥ al-Asrār al-Falakiyya*, suggests that the book was the origin of several families of manuscripts.

In addition to the copy in manuscript 939, a second version of the treatise on the animodar of conception is preserved in the anonymous Tunisian compilation[8] (*ca*. 1281) of Ibn Isḥāq's (Tunis, fl. *ca*. 1193-1222) *zīj*.

3. Sánchez Pérez 1921, 55-56; Millás Vallicrosa 1942, 231-247; Millás Vallicrosa 1993 [first published 1943-1950], 201-203, 219; Vernet 1979, 276-278; Chabás and Goldstein 1994, 1-4; Mestres 1996, vol. I, 404; Goldstein and Chabás 1996; Samsó 1997; Calvo 2002; Comes 2007; Samsó 2011; Chabás and Goldstein 2015, 3-10.

4. To facilitate analysis, the manuscript has been split up into paragraphs identified by a number in brackets.

5. In the manuscripts, variants of animodar (*naymūdār*, *namūdār, namūdhār*, *namūdhar*) appear. According to Kennedy (1995/96, 139), this is a term of Persian origin meaning 'that which makes clear [the ascendant]'. The ascendant is the point of intersection between the ecliptic and the eastern horizon at a certain time and geographical place. This point is taken as the beginning of house I from which the other celestial houses are established to form a horoscope.

6. In *Kitāb al-fuṣūl fī jam' al-uṣūl*, manuscript 1110, f. 66r, al-Khizāna al-Ḥasaniyya (Rabat); Samsó 1999, 103.

7. In *Kitāb al-adwār fī tasyīr al-anwār*, ms. 916, f. 247v, Real Biblioteca del Monasterio (San Lorenzo de El Escorial, Madrid).

8. Chapter 37. The anonymous Tunisian compilation gathered fragments from compositions, mainly by Maghribī and Andalusī astronomers. Mestres 1996, vol. I, 406-407; Mestres 1999.

The fact that the treatise on the animodar of conception is recorded as having been separated from its book in two testimonies (manuscript 939 and the anonymous Tunisian compilation) might indicate that the treatise was significant in its own terms and became a free-standing book in its own right.

Manuscript 939 focuses on the animodar of conception, and seems to be a verbatim copy with additions. In comparison with manuscript 939, the anonymous Tunisian copy deals with other kinds of animodar, and the chapters related to the animodar of conception are arranged in a different order (twelve, thirteen, ten, eleven, fourteen and fifteen). Some chapters are not exact copies; either they are summaries or they include additions.

The treatise on the animodar of conception is a sample of Ibn al-Kammād's small body of writing in Arabic, his native language, and is the only known astrological composition by this astronomer.

In 1949, Juan Vernet concluded the first study on this treatise, which included a translation into Catalan.[9] Following Julio Samsó's suggestion, we think that a critical edition of manuscript 939 (ff. 1v-8v) together with the recalculation of the tables for gestation times may yield interesting new data. This is the purpose of the present paper.

2. Commentary

2.1. The animodar of conception

The animodar of conception correlates the moon with two points in the gestation period:

(a) Birth: the position of the moon at the moment of birth determines the period of gestation, and the date of conception can therefore be calculated.

(b) Conception: the position of the moon at the date of conception is taken from an astronomical table. Then, to verify the ascendant of birth, the following equality is applied: the position of the moon at the moment of conception is equal to the position of the ascendant at the moment of birth.

9. Vernet, reprinted in 1979, 283-287, 288-300. See also Chabás and Goldstein 2012, 224-225.

The animodar of conception is based on a principle of Pseudo-Ptolemy's astrology in *Centiloquium*,[10] sentence 51 (number 52 in the translation with commentary, *al-Thamara*, by Aḥmad b. Yūsuf al-Miṣrī, fl. *ca*. 900-905)[11] which says: 'the degree of the ascendant at the moment of birth is the same as the degree of the moon at the date of conception, and the degree of the ascendant at the date of conception is the same as the degree of the moon at the moment of birth'.

Thus, in order to verify the ascendant of birth, the animodar of conception uses the following variables: the position of the moon at the moment of birth, the period of gestation, the date of conception, and the position of the moon at the date of conception.

The positions of the moon were calculated with the help of astronomical tables, and the date of conception by means of an easy calculation, but how were gestation times obtained?

Around 160, in Graeco-Roman astrology, Vettius Valens[12] in Antioch resolved this issue as follows:

The 360 degrees of the zodiac circle or circle of the ecliptic (the apparent path of the Sun) are divided into twelve segments of thirty degrees each (a zodiacal sign). At the moment of birth, the position of the moon at two points of the ecliptic (in the descendent or house VII, 180 degrees away from the ascendant, and in the ascendant or house I), determines the three prime gestation times:

- minimum gestation: 258 days = when the moon is just after the descendent.
- mid gestation: 273^{d} = when the moon is in the ascendant.
- maximum gestation: 288^{d} = when the moon is in the descendent.

Vettius Valens used a solar year of 365 days and a solar month of 30 days approximately. Then, the difference between each prime gestation time is 15 days, and the increment each thirty degrees is 2 days and 12 hours.

The prime gestation times are obtained by multiplying a cycle or month by the number of gestation months. With a solar month of 30 days and 8 hours, and a duration for the gestation of eight and a half solar months, nine, and nine and a

10. Lammert and Boer 1961, 48-49; Hernández 1981, 174; Houlding.

11. Ms. 969, ff. 94r-94v, Real Biblioteca del Monasterio (San Lorenzo de El Escorial, Madrid).

12. In *Anthology* (Book I), see Riley 2010, 22-24; Bara 1989.

half solar months, the following values are obtained, close to the three prime gestation times listed above:

- minimum gestation: $30^{d}\ 8^{h} \times 8.5^{mth} = 257^{d}\ 20^{h}$.
- mid gestation: $30^{d}\ 8^{h} \times 9^{mth} = 273^{d}$.
- maximum gestation: $30^{d}\ 8^{h} \times 9.5^{mth} = 288^{d}\ 4^{h}$.

The date of conception is calculated by Vettius Valens in several ways. Here we give two of them:

(1) The period of gestation, expressed in days, is subtracted from 365 days; the result is counted in the order of months, beginning from the date of birth. For example: a birth on 1 September which had a mid gestation (273^{d}). We subtract 365–273 = 92 days, and count this result from 1 September to obtain the date of conception: 3 December (assuming months of 30 days).
(2) We count the period of gestation backwards, beginning from the date of birth.

Arabic manuscripts called this technique 'the animodar of conception' (*nīmūdār masqaṭ al-nuṭfa* and *nīmūdār masqaṭ al-mā'*). It is described by al-Khaṣībī[13] (Kufa, fl. 844), Ibn Hibintā[14] (fl. Iraq, *ca*. 950), Kūshyār ibn Labbān[15] (Gīlān, fl. *ca*. late tenth/early eleventh century), al-Bīrūnī[16] (fl. Gazna, 976-1052) and al-Kāshī[17] (fl. Samarkand, d. 1429) and there is a report by al-Sijzī[18] (fl. Shiraz *ca*. 1000) on a minimum gestation equal to 259 days.[19] Apart from Ibn al-Kammād's treatise, there are other references to the animodar of conception orig-

13. In *al-Mawālīd*, ms. 940, ff. 7r-7v, Real Biblioteca del Monasterio (San Lorenzo de El Escorial, Madrid).

14. In *al-Mughnī fī aḥkām al-nujūm*, ms. 'āmm 9354, pp. 50-51, Maktabat al-Ẓāhiriyya (Damascus), published in facsimile by Sezgin 1987, vol. I.

15. Yano 1997, 162-167.

16. Ramsay-Wright 1934, 329-331.

17. Kennedy 1995/96, 140-143.

18. Kennedy and van der Waerden 1983, 339.

19. Since al-Qabīṣī (Mosul, second half of the tenth century) wrote a book (apparently unpreserved) on animodars it could include material on the animodar of conception. See al-Qabīṣī in Burnett, Yamamoto and Yano 2004, 108-109 [3].

inating from al-Andalus, for example, in al-Istijī[20] (fl. Toledo and Cuenca, *ca*. the second half of the eleventh century).

Al-Khaṣībī[21] and Ibn Hibintā[22] followed the gestation times of Vettius Valens (minimum gestation: 258^{d}; mid gestation: 273^{d}; maximum gestation: 288^{d}), but most Arabic astrologers used a lunar month. For example, according to Kūshyār ibn Labbān:[23]

- minimum gestation: 259^{d} 13;20^{h}. [That is, 259 days 13 hours 20 minutes].
- mid gestation: 273^{d} 5;15,38^{h}.
- maximum gestation: 286^{d} 21^{h}.

The period of mid gestation agrees, approximately, with the one mentioned by al-Bīrūnī[24] (attributed to astrologers: 273^{d} 5^{h}) and al-Kāshī[25] (attributed to Hermes: 273^{d} 5;10,45^{h}).

With regard to these gestation times, the best approximation is obtained with a lunar month of 27 days 7 hours 43 minutes 12 seconds, and the following length of time for the gestation: nine and a half lunar months, ten, and ten and a half lunar months (that is, the wavering intervals for a nine-month gestation with the lunar month):

- minimum gestation: 27^{d} 7;43,$12^{h} \times 9.5^{mth} = 259^{d}$ 13;20,24^{h}.
- mid gestation: 27^{d} 7;43,$12^{h} \times 10^{mth} = 273^{d}$ 5;12^{h}.
- maximum gestation: 27^{d} 7;43,$12^{h} \times 10.5^{mth} = 286^{d}$ 21;3,36^{h}.

Two other procedures known as the animodar are recorded:[26]

20. Al-Istijī himself made a quotation of his unpreserved composition on the animodar. Samsó and Berrani 2005, 211.

21. *Al-Mawālīd*, ms. 940, ff. 7r-7v, Real Biblioteca del Monasterio (San Lorenzo de El Escorial, Madrid).

22. *Al-Mughnī fī aḥkām al-nujūm*, Maktabat al-Ẓāhiriyya (Damascus) ms. ʻāmm 9354, p. 50, Sezgin 1987, vol. I.

23. Yano 1997, 162-165.

24. Ramsay-Wright 1934, 330.

25. Kennedy 1995/96, 141.

26. According to Kūshyār ibn Labbān's classification in *al-Madkhal fī ṣinā'at aḥkām al-nujūm*, part III, chapter 3: Yano 1997, 160-169. The two procedures are described only briefly in this paper because they are not related to the animodar of conception.

(1) The animodar of the ruler planet: it is explained in *Tetrabiblos* (part III, chapter 2)[27] by Ptolemy (Alexandria, 2th century). It is based on the selection of the ruling planet (*al-kawkab al-mustawlī*)[28] in the degree of the conjunction or opposition of the sun and moon preceding birth. The astrologers who dealt with the issue include Ibn Hibintā,[29] al-Qabīṣī,[30] Kūshyār ibn Labbān,[31] al-Bīrūnī,[32] al-Kāshī,[33] al-Istijī[34] and Ibn al-Kammād (via the copy of the anonymous Tunisian compilation,[35] chapter 37).

(2) The animodar of prorogation: this uses prorogation (*tasyīr*), that is, the apparent progress of a celestial element through the circle of the ecliptic or the circle of the equator. This progression in degrees is equivalent to time. The animodar of prorogation appears in Zoroaster[36] and Kūshyār ibn Labbān.[37]

2.2. Analysis of Ibn al-Kammād's treatise

For the most part, the treatise is dedicated to methods for obtaining gestation times. This information can be classified in three different methods:

— The first method (section 2.2.1: chapters 10 and 11 and section 2.2.4: paragraphs [74]-[94] of chapter 14) is based on the position of the moon in the celestial houses and the zodiacal signs at the moment of birth; it is a method derived from Vettius Valens (*Anthology*). The gestation times are counted in lunar months expressed in days, hours and minutes; tables for gestation times are also presented.

27. Robbins 1980, 228-235.
28. On the astrological tables drawn to select the ruler planet, see Díaz-Fajardo 2013.
29. *Al-Mughnī fī aḥkām al-nujūm*, Maktabat al-Ẓāhiriyya (Damascus) ms. 'āmm 9354, pp. 48-49, Sezgin 1987, vol. I.
30. Burnett, Yamamoto and Yano 2004, 108-111.
31. Yano 1997, 160-163.
32. Ramsay-Wright 1934, 328-329.
33. Kennedy 1995/96, 140.
34. Samsó and Berrani 1999, 307-308; Samsó and Berrani 2005, 210-212, 238.
35. Mestres 1996, vol. I, 406-407; Mestres 1999.
36. Kennedy 1995/96, 139-144.
37. Yano 1997, 166-169.

— The second method (section 2.2.2: paragraphs [26]-[42] of chapter 12) is based on the new moon (a conjunction of sun and moon) and its ascendant preceding the birth, or else on the full moon (an opposition of sun and moon) and its ascendant preceding the birth. The gestation times are given generically in solar months, and congenital anomalies are indicated.
— The third method (section 2.2.3: paragraphs [43]-[52] of chapter 12, and chapter 13) is based on the relative distances between three moons (the moon a year prior to the birth, the moon a year after the birth, and the moon at birth). Gestation times are given in lunar months, together with hypothetical cases about the fetus, the new-born and the mother. Similar information is found in this and other treatises dealing with the animodar, for example in the one by Ibn Hibintā, who reproduces al-Kindī. While it seems that the animodar of conception was primarily a method to determine the gestation time and the date of conception in order to know the ascendant as precisely as possible, it was also used as a predictive tool, in order to contemplate the evolution of gestation and childbirth.

2.2.1. Determination of gestation time. First method

2.2.1.1. Nine-month gestation. Prime gestation times: the moon is in the descendent or in the ascendant

Paragraphs [1]-[5]:

These paragraphs refer to the duration (in days and its equivalence in months) of the prime gestation times for nine months, and the position of the moon as follows:

- minimum gestation: 259^{d} [2];45^{h}.
  9.5 lunar months or 8 solar months and two thirds of a month, approximately. At the moment of birth, the moon is in the degree of the descendent or below this degree less than five degrees under the western horizon.
- mid gestation: 272^{d} 17;30^{h}.
  10 lunar months or 9 solar months [minus] 2 days, approximately. At the moment of birth, the moon is in the ascendant.
- maximum gestation: 286^{d} 8;15^{h}.

10.5 lunar months or 10 solar months, approximately.[38] At the moment of birth, the moon is below the descendent more than five degrees under the western horizon.

To determine the value of half the lunar month used, the mid gestation [272^{d} $17;30^{h}$] is subtracted from the maximum gestation [286^{d} $8;15^{h}$], and it results 13^{d} $14;45^{h}$. Herewith it is deduced that, although the manuscript says 259^{d} $3;45^{h}$ for minimum gestation, the correct value is 259^{d} $2;45^{h}$ which is the result of subtracting half the lunar month [13^{d} $14;45^{h}$] from the mid gestation [272^{d} $17;30^{h}$].

With this value for half a lunar month and the correction in the minimum gestation, it is possible to verify the words in the manuscript: each prime gestation time is half a lunar month longer than the preceding one:

- minimum gestation 259^{d} $2;45^{h}$ + $^{1}/_{2}$ lunar month [13^{d} $14;45^{h}$] = mid gestation [272^{d} $17;30^{h}$], and
- mid gestation 272^{d} $17;30^{h}$ + $^{1}/_{2}$ lunar month [13^{d} $14;45^{h}$] = maximum gestation [286^{d} $8;15^{h}$].

Nevertheless, these gestation times seem inconsistent: prime gestation times are obtained by multiplying the duration of a lunar month, in this case 27^{d} $5;30^{h}$ (that is, 13^{d} $14;45^{h} \times 2$), by the number of gestation months. Thereby, the minimum gestation should be 27^{d} $5;30^{h} \times 9.5^{mth}$. However, the result, 258^{d} $16;15^{h}$, does not agree with the one mentioned above; nor does it follow the pattern of the seven month gestation times which use the same lunar period (section 2.2.1.4).

2.2.1.2. Gestation times every 30 degrees: the moon is between the descendent and the ascendant

Paragraphs [6]-[9]:

38. The adverb 'approximately', used in the manuscript, reminds us of the difficulty of getting lunar months to agree with solar months. Using solar months of 31 and 30 days consecutively, the following is obtained: minimum gestation: 8 months and 15 days = 259^{d}; mid gestation: 9 months minus 2 days 6 hours 30 minutes = 272^{d} $17;30^{h}$; maximum gestation: 9 months and 11 days = 286^{d}.

The manuscript explains that the moon travels 180 degrees of the ecliptic (six zodiacal signs) in half a month, and 30 degrees (one sign) in $2^{d}\ 12^{h}$. So, gestation times every 30 degrees are obtained adding an increment of $2^{d}\ 12^{h}$:

- minimum gestation [MnG] (9.5 lunar months) = the moon is in the descendent (house VII).
- MnG + $2^{d}\ 12^{h}$ = the moon is in the first sign adjacent to the descendent, e.g., house VIII.[39]
- MnG + 5^{d} = the moon is in the second sign adjacent to the descendent, e.g., house IX.
- MnG + $7^{d}\ 12^{h}$ = the moon is in the third sign adjacent to the descendent, e.g., house X.
- MnG + 10^{d} = the moon is in the fourth sign adjacent to the descendent, e.g., house XI.
- MnG + $12^{d}\ 12^{h}$ = the moon is in the fifth sign adjacent to the descendent, e.g., house XII.
- MnG + 15^{d} = the moon is in the sixth sign adjacent to the descendent, e.g., mid gestation = the moon is in the ascendant.
- mid gestation [MdG] (10 lunar months) = the moon is in the ascendant (house I).
- MdG + $2^{d}\ 12^{h}$ = the moon is in the first sign adjacent to the ascendant, e.g., house II.

  …
- MdG + 15^{d} = the moon is in the sixth sign adjacent to the ascendant, e.g., maximum gestation = the moon is in the descendent.

A motion of 30 degrees per $2^{d}\ 12^{h}$ means 360 degrees of the ecliptic (12 zodiacal signs) per 30 days. Therefore, it may be that the copyist removed part of the contents in this section, because later (section 2.2.4) we see that Ibn al-Kammād corrects a month of 30 days to obtain the month that he actually intended: a sidereal lunar month, which is shorter than 30 days.

2.2.1.3. Eight-month gestation

Paragraph [11]:

39. This technique does not distinguish between zodiacal signs and celestial houses, despite the fact that the latter, generally, are of unequal longitude.

The manuscript says that eight month births do not develop due to certain reasons that will be explained in 'the last chapter of this treatise' (although in fact the fifteenth chapter does not deal with the matter). It may be deduced that, originally, the *Book of the Keys of the Secrets* was more than fifteen chapters long, but this is speculative; although here it is stated that an eight month gestation is impossible, section 2.2.3 offers the opposite information. We do not know for sure which section was written by Ibn al-Kammād and which is an addition by an anonymous astrologer.

Medieval authors held different opinions on the issue of the eight month gestation. The astrologer al-Bīrūnī[40] proposed a gestation period of eight months of $218^{d}\ 13^{h}$ calculated with a lunar month of $27^{d}\ 7;37,30^{h}$, whereas a medical treatise by 'Arīb b. Sa'īd[41] (Cordoba, *ca*. 912-980) rejected this idea on the basis of astrological interpretations: Saturn, a maleficent planet, rules the eight month gestation.[42]

2.2.1.4. Seven-month gestation. Prime gestation times: the moon is in the descendent or in the ascendant

Paragraphs [10]; [12]-[16]:

According to the manuscript:

- minimum gestation: $204^{d}\ 11;15^{h}$.
  7.5 lunar months or 6 solar months and two thirds of a month approximately. At the moment of birth, the moon is in the descendent.
- mid gestation: $218^{d}\ 2^{h}$.
  8 lunar months or 7 solar months and 4 days approximately. At the moment of birth, the moon is in the ascendant.
- maximum gestation: $231^{d}\ 16;45^{h}$.

40. Ramsay-Wright 1934, 330.

41. Samsó 2011, 118.

42. The use of astrological principles in medieval medicine raises the question of whether gestation times derived from the animodar —that is, gestation times determined astrologically— were used in the medical practices of the time.

8.5 lunar months or 7 solar months and one third of a month approximately.[43] At the moment of birth, the moon is below the descendent.

Between the three prime gestation times there is an interval of half a month equal to $13^{d}\ 14;45^{h}$ (this value stems from the recomputation of the tables, section 2.2.4.1):

- minimum gestation $204^{d}\ 11;15^{h} + {}^{1}/_{2}$ lunar month $[13^{d}\ 14;45^{h}]$ = mid gestation $[218^{d}\ 2^{h}]$.
- mid gestation $218^{d}\ 2^{h} + {}^{1}/_{2}$ lunar month $[13^{d}\ 14;45^{h}]$ = maximum gestation $[231^{d}\ 16;45^{h}]$.

  Then, a lunar month lasts $27^{d}\ 5;30^{h}$ $(= 13^{d}\ 14;45^{h} \times 2)$.

Seven month gestation (the product of the length of a lunar month by the number of gestation months) does not match with a month of $27^{d}\ 5;30^{h}$; for example, given a minimum gestation $(27^{d}\ 5;30^{h} \times 7.5^{mth})$ this would result in $204^{d}\ 5;15^{h}$, whereas the manuscript mentions $204^{d}\ 11;15^{h}$. It is inferred that six hours should be added to obtain the values of the manuscript:

- minimum gestation: $(27^{d}\ 5;30^{h} \times 7.5^{mth}) + 6^{h} = 204^{d}\ 11;15^{h}$.
- mid gestation: $(27^{d}\ 5;30^{h} \times 8^{mth}) + 6^{h} = 218^{d}\ 2^{h}$.
- maximum gestation: $(27^{d}\ 5;30^{h} \times 8.5^{mth}) + 6^{h} = 231^{d}\ 16;45^{h}$.

2.2.1.5. Nine-month gestation. Prime gestation times: the moon is in the descendent or in the ascendant

Paragraphs [17]-[20]; [22]-[23]:

43. As seen in section 2.2.1.1, alternating solar months of 31 and 30 days we obtain a solar time close to the one mentioned in the manuscript: minimum gestation: 6 months and 21 days = 204^{d}; mid gestation: 7 months and 4 days = 218^{d}; maximum gestation: 7 months 17 days 16 hours 45 minutes = $231^{d}\ 16;45^{h}$.

Ibn al-Kammād identifies himself as a member of a school[44] that used a sidereal lunar month[45] of 27^{d} 7;42^{h}. However, the user of manuscript 939 wrote [27^{d} 7;]43^{h} between the lines (see paragraph [18]). The latter length appears in two of Ibn al-Kammād's other books: in his *al-Zīj al-Muqtabis*, the regular motion of the moon in longitude is 13;10,34,52,46 degrees in a day,[46] which means a cycle of 27^{d} 7;43,12^{h}: this is exactly the lunar month mentioned in the copy of Ibn al-Kammād's treatise on the animodar of conception preserved in the anonymous Tunisian compilation[47] of Ibn Isḥāq's *zīj*.

Previously (section 2.2.1.1), the manuscript had given the following prime times: minimum gestation 259^{d} 2;45^{h}, mid gestation 272^{d} 17;30^{h} and maximum gestation 286^{d} 8;15^{h} for a gestation period of nine months.

However, the present paragraphs mention a second group of prime times in which the time for minimum gestation is 259^{d} 1;20^{h} and the time for mid gestation is 272^{d} 17;12^{h}; the maximum gestation is omitted.

Prime gestation times are a quantity resulting from multiplying the length of a lunar month by the number of gestation months, but Ibn al-Kammād offers a different solution, which involves subtracting 12 hours from the product. According to the manuscript, the 12 hours correspond to the distance between the degree of the ascendant and the degree of the descendent. The recomputation confirms that Ibn al-Kammād used a month of 27^{d} 7;43,12^{h}:

- minimum gestation: (27^{d} 7;43,12^{h} × 9.5^{mth}) – 12^{h} = 259^{d} 1;20,24^{h}.
- mid gestation: (27^{d} 7;43,12^{h} × 10^{mth}) – 12^{h} = 272^{d} 17;12^{h}.
- maximum gestation: (27^{d} 7;43,12^{h} × 10.5^{mth}) – 12^{h} = 286^{d} 9;3,36^{h}.

44. Sources (see Millás Vallicrosa 1993 [first edition 1943-1950], 16-20, 201-203; Kennedy 1956, 124; Díaz-Fajardo 2001, 48-50; King, Samsó and Goldstein 2001, 59-60) suggest that Ibn al-Kammād followed the astronomical doctrines of Ibn al-Zarqālluh (fl. Toledo and Cordoba, d. 1100), the head of the Toledo-based group of astronomers which comprised both members and followers. For the Toledo-based group, see Samsó 2011, 148-150, 322. On the studies of the moon carried out by the group, see Puig 2000.

45. That is, the span between two consecutive walks of the moon by a same star.

46. Chabás and Goldstein 1994, 29-30; Chabás and Goldstein 2015, 29.

47. Chapter 37. Mestres 1999.

Adding half the sidereal lunar month (27^d 7;43,12^h/ 2 = 13^d 15;51,36^h), it is possible to verify that each prime gestation time increases by half a lunar month with regard to the previous time:

- minimum gestation 259^d 1;20^h + $^1/_2$ lunar month [13^d 15;51,36^h]= mid gestation [272^d 17;11,36^h].
- mid gestation 272^d 17;12^h + $^1/_2$ lunar month [13^d 15;51,36^h] = maximum gestation [286^d 9;3,36^h].

Paragraph [17] contains several points of interest:

— Ibn al-Kammād indicates that he dealt with gestation times in a commentary and a summary. The summary he refers to may have been a brief chapter inserted after the last preserved chapter[48] from his *al-Zīj al-Muqtabis*; although the brief chapter talks about the animodar of conception, the contents are not repeated in manuscript 939 of the Real Biblioteca del Monasterio.
— Ibn al-Kammād took issue with the fact that the determination of gestation times was not explained in books. He speculated that these explanations were transmitted orally to apprentices. This information shows, first, the existence of astrological workshops, and, second, that Ibn al-Kammād's intention was that books should contain a detailed description of astrological knowledge.

In paragraph [20], Ibn al-Kammād tells us that he follows Ptolemy's moon animodar. Ibn al-Kammād is referring to Pseudo-Ptolemy's *Centiloquium*, in which the ascendant of birth and the ascendant of conception are correlated to the moon (see section 2.1).

48. Edited by Millás Vallicrosa 1942, 240-241. According to the Latin manuscript 10023 (Biblioteca Nacional, Madrid), the brief chapter derived from Ibn al-Kammād's other *zīj* called *al-Kawr 'alā-l-Dawr*.

2.2.1.6. Seven-month gestation. Prime gestation times: the moon is in the descendent or in the ascendant.

Paragraphs [21]; [24]-[25]:

The time indicated for minimum gestation is 204^{d} $11;15^{h}$. This length had already been mentioned (section 2.2.1.4).

2.2.2. Determination of gestation time. Second method

Paragraphs [26]-[32]:

According to the manuscript, this method comes from Vettius Valens[49] [but it does not belong to the *Anthology*]. The procedure involves dividing the ecliptic into three unequal longitudes called cords:

(*a*) The first cord: its length is 90 degrees; it includes cardine I or house I, and houses II and III both under the eastern horizon.
(*b*) The second cord: its length is 120 degrees; it includes cardine VII, and the houses under the western horizon: houses IV, V and VI.
(*c*) The third cord: its length is 150 degrees; it includes houses VIII, IX, X, XI and XII above the horizon.

Gestation has a duration of nine or seven months, and congenital anomalies arise when (1) the degree of the sun-moon conjunction or the degree of the sun-moon opposition (whichever happened before birth), and (2) the degree of the ascendant of this conjunction or opposition are placed on a certain cord as shown below (chart 1):

Paragraphs [33]-[42]:

49.Vettius Valens is quoted in al-Andalus and Maghrib, but it is difficult to know whether Ibn al-Kammād had access to Valens's work. For example, Valens is quoted by Ṣā'id al-Andalusī (Almeria, 1029-Toledo, 1070) and Ibn Abī-l-Rijāl (fl. Tunis, *ca*. 965-1050). Pingree 1989, 231-232. On the other hand, Vettius Valens was associated with several animodar practices: see section 2.1 (in the present paper) and Kennedy 1995/96, 143-144.

Chart 1			
Moon Position			*Gestation*
1*st Cord: Houses I-III*	2*nd Cord: Houses IV-VII*	3*rd Cord: HousesVIII-XII*	
–	–	Conjunction/ opposition sun and moon.Ascendant of the conjunction/opposition	9 solar months
–	Conjunction/ opposition sun and moon	Ascendant of the conjunction/opposition	
–	Ascendant of the conjunction / opposition	Conjunction/ opposition sun and moon	
–	Conjunction/ opposition sun and moon.Ascendant of the conjunction/ opposition	–	7 months
Conjunction/opposition sun and moon	Ascendant of the conjunction/ opposition	–	
Ascendant of the conjunction/opposition	Conjunction/ opposition sun and moon	–	
Conjunction/opposition sun and moon	–	Ascendant of the conjunction/opposition	Congenital anomalies
Conjunction/opposition sun and moon. Ascendant of the conjunction/opposition	–	–	
Ascendant of the conjunction/opposition	–	Conjunction/ opposition sun and moon	

2.2.3. Determination of gestation time. Third method

The cases presented in the manuscript are grouped in charts 2 and 3. The following points present themselves: (a) the repetition of moon positions (case B in chart 2 is equal to case 2 in chart 3 [in spite of this, B does not mention the number of gestation months] and cases H and I in chart 2 are equal to cases 6 and 8 in chart 3), and (b) the mention of moon distances pointing to an eight month gestation, a length which before (section 2.2.1.3) had been regarded as unlikely.

Paragraphs [43]-[52]:

	Chart 2		
	Position of moons in relation to the birth moon		*Gestation*
	The moon a year prior to the birth	*The moon a year after the birth*	
A	in trine	in trine	9 lunar months
B	in quartile	in quartile	[ ][50]
C	in quartile	in trine	[ ]
D	in quartile	moving away from the birth moon, or falling from the birth moon	7 months (death of fetus likely)
E	in trine	falling from the birth moon	low probability of survival
F	falling from the birth moon	falling from the birth moon	miscarriage; with the mother suffering some misfortune
G	–	in opposition	7 months
H	in opposition	in trine	
I	in quartile	in opposition	

50. There is a blank space in the manuscript here.

In chart 2, the gestation times are established according to (a) an opposition, a trine and a quartile, and (b) the falling houses:

(a) Astrological aspects, in the zodiac circle, are relative distances between two celestial elements: opposition: 180 degrees, trine: 120 degrees, quartile: 90 degrees, and sextile: 60 degrees. The first three intervene in gestation times:
In opposition: the moon preceding/subsequent to birth by a year is at a distance of 180 degrees from the birth moon.
In trine: the moon preceding/subsequent to birth by a year is at a distance of 120 degrees from the birth moon.
In quartile: the moon preceding/subsequent to birth by a year is 90 degrees from the birth moon.

(b) In Arabic astrology, the twelve celestial houses are distributed in:[51] 'cardine': houses I, IV, VII and X; 'succedent to the cardine': houses II, V, VIII and XI; 'falling [that is, away] from the cardine': houses III, VI, IX and XII.

These combinations of the moon, astrological aspects, and celestial houses for a common effect are found in the astrology of the philosopher al-Kindī (Basra *ca*. 805 – Iraq *ca*. 873) who, for example, mentions the following (according to Ibn Hibintā):[52]

— When the moon a year prior to the birth is in quartile, and the moon a year after the birth is moving away, this correlates with the death of the fetus. This case coincides with D, chart 2.
— When the moon a year prior to the birth is in trine, and the moon a year after the birth is in opposition, this correlates with a seven month gestation period. This case coincides with number 7, chart 3.

Paragraphs [53]-[58]:

In order to determine the true longitude of the moon one year before and one year after the degree of the birth moon, Ibn al-Kammād obtains, for the two dates,

51. See Abū Ma'shar's (fl. Bagdad, 787-886) handbook in Burnett, Yamamoto and Yano 1994, 28-29, 40-41.

52. *Al-Mughnī fī aḥkām al-nujūm*, Maktabat al-Ẓāhiriyya (Damascus), ms. 'āmm 9354, pp. 51-52; Sezgin 1987, vol. I.

two mean positions [which an astrologer could convert in true positions with the help of tables of equations]:

First, Ibn al-Kammād calculates the date preceding the birth date by a year, and the date subsequent to the birth date by a year using the usual calendar year equal to $365^{d}\ 6^{h}$.[53]

Later [this step saves the astrologer the task of calculating mean motions in longitude and anomaly], Ibn al-Kammād gives the amount of mean motion in longitude and anomaly in a year which has to be added to or subtracted from the mean position of the moon at the moment of birth, as follows (subtracting to obtain the position of the preceding moon, and adding to obtain the subsequent moon):

Mean motion in longitude of the moon one year preceding/subsequent to birth = 4 signs 12 degrees ∓ mean position in longitude of the birth moon.[54]

Mean motion in anomaly of the moon one year preceding/subsequent to birth = 3 signs 1 degree 59 minutes ∓ mean position in anomaly of the birth moon.[55]

Paragraphs [59]-[73]:

	Chart 3		
	Position of moons in relation to the birth moon		*Gestation*
	The moon a year prior to the birth	*The moon a year after the birth*	
1	in trine	–	10 lunar months ≅ 9 solar months
2	in quartile	in quartile	9.5 lunar months

(Continued)

53. Neugebauer 1975, 602. This period was also used by some followers of the Toledo group, see Calvo 1998, 74.

54. In the margin of manuscript 939, a more precise value equal to 4 signs 12;44,0 degrees for the mean motion of the moon in a true solar year is stated. The recomputation gives 4 signs 12;39,47,43,1,30 degrees (with a daily mean motion, used by Ibn al-Kammād in his *al-Zīj al-Muqtabis*, equal to 13;10,34,52,46 degrees. Chabás and Goldstein 1994, 29-30; Chabás and Goldstein 2015, 29).

55. The recomputation confirms the value: 3 signs 1;59,6,4,39,45 degrees (with a daily mean motion in anomaly equal to 13;3,53,56,19 degrees. Chabás and Goldstein 1994, 29-30; Chabás and Goldstein 2015, 29).

3	in trine	in quartile	10 lunar months – 3 days
4	in quartile	in trine	9 lunar months + 6 days
5	in opposition	in opposition	7 months
6	in opposition	in trine	
7	in trine	in opposition	
8	in quartile	in opposition	
9	in opposition	in quartile	
10	in aspect to the birth moon	is not in aspect to the birth moon	
11	is not in aspect to the birth moon	in aspect to the birth moon	
12	in quartile	is not in aspect to the birth moon	8 months
13	is not in aspect to the birth moon	in quartile or trine	
14	is not in aspect to the birth moon	is not in aspect to the birth moon	The child is stillborn or has congenital anomalies. If born-well-formed, the child will not grow.

2.2.4. Gestation times for any degree: the moon is between the descendent and the ascendant

Paragraphs [74]-[75]:

These paragraphs suggest (see also section 2.2.6: [117]-[119]) that Ibn al-Kammād applied the following methodology: he computes the ascendant with Ptolemy's animodar (the animodar of the ruler planet), and corroborates it with Pseudo-Ptolemy's and Vettius Valens' animodar (the animodar of conception). This system seems to have been used by a few members of the Toledo group because al-Istijī[56] recommended using the two animodars at the same time in order

56. Samsó and Berrani 2005, 210-211, 217.

to avoid mistakes. Some centuries later in eastern astrology, al-Kāshī[57] continued to suggest the use of the two animodars. This reflects an interesting point: the animodar was not simply a secondary procedure to verify the ascendant, but was itself used to determine the ascendant.

Ibn al-Kammād regarded the animodar as a method for determining the ascendant, and seemed unconcerned with the resulting philosophical-astrological controversy[58] in the time of al-Qabīṣī (Mosul, second half of the 10th century). In this controversy, some astrologers believed that a horoscope embodied a period of time from birth, with birth being related to the ascendant. Therefore, the practice of obtaining an ascendant by the animodar, which is related to conception, would mean a change in the usual concept of a horoscope: it now embodied a period of time not from birth, but from conception.

Paragraphs [76]-[79]:

To establish both nine and seven month prime gestation times, these paragraphs report the position of the moon. In what follows, the positions differ slightly from section 2.2.1.1:

- minimum gestation: at the moment of birth, the moon is in the exact degree of the descendent.
- mid gestation: at the moment of birth, the moon is in the exact degree of the ascendant.
- maximum gestation: at the moment of birth, the moon is below the descendent, a few degrees under the western horizon.

Paragraphs [80]-[86]:

To determine the gestation time we must know: (1) the distance between the degree where the moon is and the degree of the descendent or the ascendant, and (2) the days taken by the moon to travel this distance.

For instance, if the moon is in the ascendant, with a gestation of nine months (section 2.2.1.5), the moon (1) is 180 degrees away from the descendent, and (2)

57. Kennedy 1995/96, 143.

58. On this issue, see Saliba 1992, 54, 57. Al-Qabīṣī in Burnett, Yamamoto and Yano 2004, 108-109 [3].

the moon will travel this distance in 13^{d} 15;51,36^{h} (for a lunar month of 27^{d} 7;43,12^{h}).

Thus, when the moon is in the ascendant, the gestation time is equal to: minimum gestation [259^{d} 1;20^{h}] + 13^{d} 15;51,36^{h} = 272^{d} 17;11,36^{h} ≅ 272^{d} 17;12^{h}.

In paragraphs [80]-[86], Ibn al-Kammād explains how to obtain point number (2): the days and hours that the moon takes to travel a certain distance, in this case less than 180 degrees; the goal is to determine, by calculation, the gestation time for any degree of the ecliptic in which the moon is. Two hypotheses are established:

(1) When the moon is above the horizon (from the degree of the descendent across house X until the degree of the ascendant).
(2) When the moon is below the western horizon (from the degree of the ascendant across house IV until the degree of the descendent).

To understand Ibn al-Kammād's procedure, it is helpful to know the solutions proposed by other astrologers. In the following operations, the symbol λ denotes ecliptic longitude:[59]

Ibn Hibintā[60] and al-Khaṣībī[61] proceeded as follows:

(1) The moon is above the horizon:
   (*a*) $[\lambda_{Moon} - \lambda_{Descendent}] / 12$ = days and hours.[62]
   (*b*) Minimum gestation + days and hours = the period of gestation sought.
(2) The moon is below the horizon:
   (*a*) $[\lambda_{Moon} - \lambda_{Ascendant}] / 12$ = days and hours.[63]
   (*b*) Mid gestation + days and hours = the period of gestation sought.

59. That is, a longitude measured on the ecliptic from the point Aries (the point of intersection between the ecliptic and the celestial equator).

60. *Al-Mughnī fī aḥkām al-nujūm*, Maktabat al-Ẓāhiriyya (Damascus), ms. 'āmm 9354, p. 50, Sezgin 1987, vol. I.

61. *Al-Mawālīd*, ms. 940, ff. 7r-7v, Real Biblioteca del Monasterio (San Lorenzo de El Escorial, Madrid).

62. Al-Khaṣībī made an equivalent calculation: $([\lambda_{Moon} - \lambda_{Descendent}] \times 2) / 24$ = days and hours.

63. Al-Khaṣībī: $([\lambda_{Moon} - \lambda_{Ascendant}] \times 2) / 24$ = days and hours.

For al-Bīrūnī,[64] Kūshyār ibn Labbān[65] and al-Kāshī,[66] the divider is the daily regular motion (rmt) of the moon, 13 degrees 11 minutes:

(1) The moon is above the horizon:
  (*a*) $[\lambda_{Ascendant} - \lambda_{Moon}] / rmt_{Moon}$ = days and hours.
  (*b*) Mid gestation – days and hours = the period of gestation sought.
(2) The moon is below the horizon:
  (*a*) $[\lambda_{Moon} - \lambda_{Ascendant}] / rmt_{Moon}$ = days and hours.
  (*b*) Mid gestation + days and hours = the period of gestation sought.

Ibn al-Kammād's solution is as follows:

(1) The moon is above the horizon:
  (*a*) $[\lambda_{Moon} - \lambda_{Descendent}] / 12$ = days and hours without rectification.
    (*a.1*) Days and hours without rectification – ($^1/_6$[days and hours without rectification] / 2) = days and hours rectified.
  (*b*) Minimum gestation + days and hours rectified = the period of gestation sought.
(2) The moon is below the horizon:
  (*a*) $[\lambda_{Moon} - \lambda_{Ascendant}] / 12$ = days and hours without rectification.
    (*a.1*) Days and hours without rectification + ($^1/_6$ [days and hours without rectification] / 2) = days and hours rectified.
  (*b*) Mid gestation + days and hours rectified = the period of gestation sought.

The comparison shows that Ibn al-Kammād followed the same procedure as Ibn Hibintā and al-Khaṣībī, although he believed that dividing the distance of the moon into 12 produced an unrectified result.

Previously (section 2.2.1.2: paragraph [7]), the manuscript said: 'we established that each gestation time increases, with regard to the preceding gestation time, by half a lunar cycle. Hence, we divide half the cycle into six because half the sphere is six signs.Therefore two days and a half are needed for each sign'.

64. Ramsay-Wright 1934, 329-330.
65. Yano 1997, 164-165.
66. Kennedy 1995/96, 141-142.

In accordance with the above, how long is a cycle? if $2^d\ 12^h$ is 1 sign, half a cycle is 15 days (= $2^d\ 12^h \times 6$ signs) and a cycle is 30 days (= $2^d\ 12^h \times 12$ signs). This period of 30 days could be a rounding off of the synodic lunar month ($29^d\ 12;44^h$).[67]

Gestation times are calculated as a function of the position of the moon in the ecliptic. To determine the daily motion of the moon in a period of 30 days, the 360 degrees of the ecliptic are divided into 30 days (the time taken by the moon to complete the ecliptic): 360/30 = 12 degrees in a day, or else 360 degrees / 29;31,50 days = 12 degrees 11 minutes. Therefore, in the calculation a) of Ibn al-Kammād's solution, the divider 12 would be the daily motion of the moon through the ecliptic as a function of a lunation.

With the calculation a.1) of Ibn al-Kammād's solution, the motion of the moon is adapted, approximately, to a sidereal lunar cycle as observed in the following: if the moon is above the horizon at 15 degrees away from the descendent, the period of gestation will be equal to:

(*a*) 15 degrees / 12 = 1.25 days and hours without rectification; $1.25 = 1^d\ 6^h$.
(*a.1*) $1^d\ 6^h - ({}^1/_6\ [1^d\ 6^h] / 2)$ = days and hours rectified.
${}^1/_6\ [1^d\ 6^h] = 30^h / 6 = 5^h$, and $5^h / 2 = 2.5^h$. Then,
$1^d\ 6^h - 2;30^h = 1^d\ 3;30^h$ rectified.
(*b*) Minimum gestation $259^d\ 1;20^h$ + days and hours rectified [$1^d\ 3;30^h$] = the period of gestation sought [$260^d\ 4;50^h$].

In this example, we can see that, according to a sidereal lunar cycle, the moon travels 15 degrees in $1^d\ 3;30^h$ (a value close to $1^d\ 3;19^h$, if we consider that the moon travels 180 degrees in $13^d\ 15;52^h$).

As we saw above, the manuscript states that the rectification (calculation a.1) should be added when the moon is below the horizon. However, it should be noted that better results are obtained by subtracting the rectification; if the moon was below the horizon at 15 degrees away from the ascendant, the period of gestation mentioned in the table is $273^d\ 20;31^h$. Subtracting the rectification gives a period of $273^d\ 20;42^h$, but if we follow the indications in the manuscript and add the rectification, the result is $274^d\ 1;42^h$.

67. In his *al-Zīj al-Muqtabis* (Chabás and Goldstein 1994, 38; Chabás and Goldstein 2015, 70), Ibn al-Kammād used a mean synodic month of 29;31,50 days [a value equivalent to the one transmitted by Ṣā'id al-Andalusī: $29^d\ 12;44^h$; Samsó 2011, 134; Samsó 2012, 174].

2.2.4.1. Tables for gestation times

Paragraphs [87]-[94]:

These paragraphs provide canons or instructions for reading tables (for the tables, see section 4), that is, the way to use a table of gestation. Tables for the moon above the horizon start with the minimum gestation period (that is, with the position of the moon in the descendent (house VII) at 0°), and what follows is a listing of the days, hours and minutes of gestation as a function of the distance or difference in longitudes between the moon and the descendent. Tables of gestation for the moon situated below the western horizon are used such that the argument is the distance between the moon and the ascendant (house I).

There are two tables for the seven-month period of gestation, and two more for the nine-month period. Each table comprises 180 degrees (that is, the distance that the moon runs in half a lunar month) distributed in six columns of 30 degrees which represent the celestial houses; depending on the position of the moon in a degree of the ecliptic, the table lists the period of gestation. From recalculation, the following is inferred:

(*a*) In the tables for seven months, a constant increment of $1;49^h$ is used, and sometimes $1;48^h$ and $1;50^h$. In the six columns of a table, the sum of increments gives the length of half a lunar month $13^d\ 14;45^h$; then, the length of a lunar month is equal to $27^d\ 5;30^h$ ($= 13^d\ 14;45^h \times 2$).

(*b*) In the tables for nine months[68] (related to the second group of gestation times, section 2.2.1.5), starting from minimum gestation, $259^d\ 1;20^h$, we reach mid gestation, $272^d\ 17;12^h$, with a constant increment between each degree of $1;49^h$ and sometimes of $1;50^h$. In a table, the sum of the increments gives $13^d\ 15;52^h$. Therefore, to compute the tables for nine months, Ibn al-Kammād used a lunar month of $27^d\ 7;44^h$ ($= 13^d\ 15;52^h \times 2$), that is, a slightly larger parameter than the two mentioned in the manuscript ($27^d\ 7;42^h$ and $27^d\ 7;43^h$).

Thus, to know the period of gestation in a degree of the ecliptic in which the moon is situated, the astrologer could use either tables or calculation. For exam-

68. The two tables for the nine month gestation when the moon is above/below the horizon were inserted in the anonymous Tunisian compilation of Ibn Isḥāq's *zīj*: ms. 298, tables 187 and 188, State Central Library (Hyderabad); Mestres 1996, vol. I, 425; Mestres 1999, chapter 37.

ple, according to the table of nine months gestation, if the moon is above the horizon at 15 degrees away from the descendent, this position correlates with a gestation of 260^{d} $4;39^{h}$; by means of calculation (section 2.2.4) we have seen that the result was actually 260^{d} $4;50^{h}$.

2.2.5. Ibn Hilāl

Section 2.2.5 (paragraphs [95]-[103] of chapter 14) presents a commentary by Ibn Hilāl, and a method to determine the ascendant of birth.

We know of two authors named Ibn Hilāl who lived after Ibn al-Kammād: the mathematician and physician Ibn Hilāl al-Ḥaḍramī (native of Valencia, fl. Ceuta, 1199-1279), and Ibn Hilāl al-Sabtī, the commentator of Ptolemy's *Almagest*, (fl. Ceuta, first half of the fourteenth century).[69]

Paragraphs [95]-[101]:

According to paragraph [95], this fragment ([96]-[103]) was copied from an autograph by Ibn Hilāl [probably, al-Sabtī]. It is inferred that Ibn Hilāl had a copy of Ibn al-Kammād's treatise, on which he wrote a commentary. Manuscript 939 would therefore be a copy derived from the one that belonged to Ibn Hilāl. This means that the *Book of the Keys of the Secrets* was disseminated in Ceuta as well as Tunis, Constantine and Fez (see section 1).

Without mentioning the source, Ibn Hilāl analyses sentence 51 of Pseudo-Ptolemy's *Centiloquium* (section 2.1): [a] the degree of the ascendant at the instant of birth is the same as the degree of the moon at the date of conception, and [b] the degree of the ascendant at the date of conception is the same as the degree of the moon at the instant of birth.

From his own experience, Ibn Hilāl verified that part [b] of Pseudo-Ptolemy's sentence is not always fulfilled. He explains:

(1) [96]-[97]: when the birth occurred after a sun-moon conjunction [that is, there is a new moon by the end of the month, and, after that, the birth takes place in the first half of the month][70] the two equalities [a] and [b] are fulfilled.

69. Lamrabet first edition 1994, 75, 98; second edition 2014, 157 (M 100), 182 (M 142).

70. Depending on the fortnight in which the birth occurred, astrologers would choose between the use of a sun-moon conjunction or the use of a sun-moon opposition. Al-Bīrūnī: Ramsay-Wright 1934, 329.

(2) [98]-[100]: when the birth occurred after a sun-moon opposition [that is, there is a full moon in the middle of the month, and, after the full moon the birth occurred in the second half of the month] then equality [a] is fulfilled, but not equality [b].

Paragraphs [102]-[103]:

These paragraphs may be based on the above-mentioned assumptions:

(*a*) There is a sun-moon opposition preceding the date of birth. This is the second assumption.
The manuscript states how to obtain the degree of the sun at the instant of birth; thus, it seems logical to think that the purpose is to obtain the ascendant of birth. This might appear surprising when the ascendant of birth was uncertain, and therefore the astrologer had to resort to the animodar. Most likely, the goal is to verify Pseudo-Ptolemy's equality [a], the only possible equality, according to Ibn Hilāl's experience, when birth is subsequent to a sun-moon opposition.

(*b*) There is a sun-moon conjunction preceding the date of birth. This is the first assumption.
The manuscript once more searches for the ascendant of birth although this is refuted by the user of the manuscript, who annotated: 'but I think it should be otherwise'; this note may imply that the correct determination was the ascendant of the conception, since when the birth is subsequent to a conjunction, Pseudo-Ptolemy's equality [b] is fulfilled.

Ibn Hilāl's method for obtaining the ascendant is as follows:

— Take the longitude (λ) of the sun in the sun-moon opposition/ conjunction.[71]
This procedure seems to be designed to obtain the ascendant at noon (the in-

71. The animodar is distinguished by its use of the degree of the moon, but the above-mentioned solutions are obtained using the degree of the sun, even in the case of an opposition in which the moon is 180 degrees away from the sun. According to al-Bīrūnī (Ramsay-Wright 1934, 152), the degree of a sun-moon opposition is, strictly speaking, the degree of the moon. However, astrologers were used to take whichever degree was situated above the horizon either the sun or the moon.

stant at which the sun is in house X); for the ascendant at a different hour, a correction should be introduced.

— Take its right ascension (α_o): α_o (λ house X) + 90º = α_ϕ (ascendant).
The sum of 90º (omitted in the manuscript) is necessary because the starting point for measuring oblique ascensions is the sign of Capricorn, whereas right ascensions are measured from Aries.

— Use a table of oblique ascensions inversely:
α_ϕ (ascendant)$^{-1}$ = λ (ascendant at noon).

This is the standard formula[72] for obtaining the ascendant from the longitude of the sun at noon; the difference is that Ibn Hilāl used the longitude of the sun in opposition/conjunction with the moon, and he also ignored the correction of the hour of birth.

2.2.6. Date of the conception, and verification of the ascendant of birth and the period of gestation

Section 2.2.6 (chapter 15) describes the calculation of the date of conception to verify the ascendant of birth and the period of gestation.

Paragraphs [104]-[110]:

Although paragraph [105] refers partially (the second part) to Pseudo-Ptolemy's sentence (section 2.2.5), the paragraphs following [105] detail all the points that Pseudo-Ptolemy's sentence includes: [1] the degree of the ascendant of birth, [2] the degree of the ascendant of conception, [3] the degree of the moon at birth, and [4] the degree of the moon at conception. This leads one to think that an omission occurred during the copy of the manuscript.

Paragraphs [111]-[116]:

To determine the date of conception, Ibn al-Kammād proceeds as follows:

Paragraph [114] indicates that the number of days between the beginning of the birth year and the date of childbirth must be obtained. [For example, a birth on 1 April would produce a result of 90 days]. Then, this number of days is sub-

72. See, for example, Ibn al-Ṣaffār in Castells and Samsó 1995, 244-245, and al-Kāshī in Kennedy 1995/96, 137.

tracted from the period of gestation. [So, in a mid gestation of 273 days, the result would be: 273–90 = 183].

When the result is below the number of days of the year used (a lunar or a solar year), conception occurred during this same year.

When the result is above the number of days of the year used, conception occurred in the preceding year.

Paragraph [115] refers to the remaining days when conception occurred in the preceding year. The days obtained are added to the days of gestation in the birth year, and the result is reduced to months [183 + 90 = 273 days, that is 9 months].

To obtain the day of conception, one must count backwards from the date of birth [day of conception = 28 June].

Paragraphs [117]-[119]:

— Verification of the ascendant of birth. This is done by means of the first part of Pseudo-Ptolemy's sentence: the degree in which the moon rises [that is, the degree of the ecliptic crossing the eastern meridian together with the moon] at the date of conception [a date obtained with the animodar of conception] must coincide with the degree of the ascendant of birth, an ascendant obtained with the animodar of the ruler planet.

— Verification of the period of gestation. This is done using a version of the second part of Pseudo-Ptolemy's sentence: the degree of the ascendant at the date of conception must coincide with the opposite degree to the position of the moon at the date of birth. As observed, the modification consists in using the opposite degree of the moon; the manuscript does not state the reason for this change, but it may be due to a diurnal birth.[73]

Paragraphs [120]-[121]:

If the moon had latitude [that is, it was not in the circle of the ecliptic], Ibn al-Kammād works with the degree of the ecliptic in which the moon rises at the date of conception, and with the degree of the ecliptic in which the moon descends at the date of birth.

73. According to Ibn al-Zarqālluh, to determine the ascendant in a conjunction or opposition: 'We multiply the number of hours of the conjunction/opposition by 15, and, then, we add the result to the ascensions of the degree of the sun, if the hours are counted from the beginning of the day, because if they are counted from the beginning of the night we use the nadir of the degree of the sun, and, thus, we will obtain the ascensions of the instant in which we are'. Millás Vallicrosa 1993, 119.

Next, to verify the ascendant of birth, the ascendant of conception and the period of gestation, Ibn al-Kammād applies the following equalities derived from Pseudo-Ptolemy's sentence: the degree at which the moon rises at the date of conception is the same as the degree of the ascendant of birth; and the degree of the ascendant of conception is the same as the degree in which the moon descends [at the date of birth].

Paragraphs [122]-[127]:

An assumption is posed: in Pseudo-Ptolemy's sentence, as seen in paragraphs [120]-[121], neither of the equalities is fulfilled. The following correction is applied:

(*a*) $D / tmt_{Moon} = t$.

Where:

D = distance between the degree of the moon and the ascendant at birth; tmt = true motion of the moon (the daily true motion or the motion in a hour); t = time (days and hours) that the moon needs to reach the degree of the ascendant.

It can be observed that this operation is the same as the one performed by al-Bīrūnī, Kūshyār ibn Labbān and al-Kāshī (section 2.2.4) for determining the number of days that the moon takes to travel a certain distance, with the exception that Ibn al-Kammād used the true motion, and al-Bīrūnī, Kūshyār ibn Labbān and al-Kāshī used the mean motion of the moon.

(*b*) If the degree of the moon exceeds the degree of the ascendant:

$N' = N - t$

$G' = G + t$

(*c*) If the degree of the moon does not reach the degree of the ascendant:

$N' = N + t$

$G' = G - t$

Where:

N = instant of birth; G = period of gestation; N' and G' = values obtained for the instant of birth and the period of gestation after applying the correction.

Paragraphs [128]-[132]:

Ibn al-Kammād explains how to obtain the previously mentioned procedure by means of two tables that are not preserved in manuscript 939: 'table of the motions of sun, moon and nodes', and 'table of hours'.

To obtain the mean longitudes and the mean anomaly of the sun and moon as well as the position of the nodes at the date of conception, Ibn al-Kammād computes the mean motion of the sun and moon during gestation. He then subtracts the results from the mean longitude of the sun and moon at birth respectively and he also calculates the mean motion in anomaly of the moon during gestation to subtract it from the anomaly of the moon at birth. The regular movement of the nodes during gestation is added to the regular longitude of the nodes at birth.

Paragraphs [133]-[139]:

After chapter 15 in Ibn al-Kammād's treatise, there is a short fragment on the abundance of hunting and fishing determined by celestial indications. This appendix is an abridgement from the *Kitāb al-Bāri' fī Aḥkām al-Nujūm*,[74] second part, penultimate and last chapters, by Ibn Abī-l-Rijāl (fl. Tunis, *ca*. 965-1050). This astrological handbook is explicitly mentioned in al-Baqqār,[75] an author active in Fez in the fifteenth century (section 1). The insertion of Ibn Abī-l-Rijāl's fragment together with Ibn Hilāl's addition are further obvious signs of the transformation that Ibn al-Kammād's treatise underwent as it passed from one side of north Africa to the other.

3. Final considerations

The study of a medieval scientific manuscript like the treatise on the animodar of conception preserved in Arabic manuscript 939 is challenging, both because of the complex astrological systems involved, and because the version we have at our disposal today is influenced by the transmission of the manuscript via different countries and its uses in different eras.

The animodar of conception is a practice which dated from times of Graeco-Roman astrology and which had been assimilated by Arabic astrologers since the ninth century. Its purpose is to resolve matters concerning the ascendant at birth and determining past facts regarding the period of gestation and the date of conception, and even to forecast events deriving from the evolution of gestation, all of which were correlated with the duration of a lunar month.

74. Manuscript Landberg 69, Staatsbibliothek (Berlin), pp. 144-146.

75. Díaz-Fajardo 2012-2014, 46, 51, 57.

According to Ibn al-Kammād and other astrologers, the animodar and the ascendant were used interchangeably, even though the two represented different moments (conception and birth respectively).

Even taking into account the wide-ranging connotations and applications of the animodar of conception, some of the materials in manuscript 939 are inconsistent and others contradictory. This creates some uncertainty about the original arrangement of Ibn al-Kammād's treatise.

Manuscript 939 could be regarded as a distorted copy of Ibn al-Kammād's treatise on the animodar of conception, which comes from a copy owned by Ibn Hilāl in Ceuta. There is evidence that Ibn al-Kammād's *Book of the Keys of the Secrets* was an inspiration for later north African astrologers.

4. Edition and translation

This section offers the edition and translation of the *Discourse on the animodar for the rectification of the ascendants in nativities* (*Kalām fī-l-nīmūdār li-taṣḥīḥ ṭawāli' al-mawālīd*), kept in the Real Biblioteca del Monasterio, San Lorenzo de El Escorial, Madrid: Arabic manuscript 939, which was probably a part of Ibn al-Kammād's *Book of the Keys of the Secrets* (*Kitāb Mafātiḥ al-Asrār*).

Although this is not indicated in a footnote, the spelling of *hamza*, *madda* and numeral rules has been standardized, as has the writing of 'nativities', which, in the manuscript, was written in two possible formats, *mawālīd* and *mawālid*.

The copy of Ibn al-Kammād's treatise preserved in the anonymous Tunisian compilation of Ibn Isḥāq's *zīj* (chapter 37. Mestres 1999) helped us to replace *kitāb* (book) with *kabā'is* (leap-years) in paragraph [112], and Ibn Abī-l-Rijāl's *Kitāb al-Bāri'* (manuscript Landberg 69, Staatsbibliothek, Berlin, pp. 144-146) allowed us to include *bi-l-Zuhra* (to Venus) in paragraph [138].

The tables for the gestation times have been recomputed. In the edition, for reasons of space, each table has been divided into four parts. The modern symbol has been used to express zero because medieval Arabic script used several signs which do not belong to the Arabic alphabet. Equally, whereas letters with a numerical value appear with a line above them in the manuscript, due to the limitations of modern keyboards these have had to be expressed with a line below the value.

كلام في النيمودار لتصحيح طوالع المواليد لأبي العبّاس ابن الكمّاد من كتاب مفاتح الأسرار

Discourse on the Animodar for the Rectification of the Ascendants in Nativities by Abū-l-ʿAbbās b. al-Kammād [taken] from *Book of the Keys of the Secrets*

// [1 و] الحمد لله. في هذا السفر من التواليف النجوميّة.
كلام في النيمودار لتصحيح طوالع المواليد لأبي العبّاس ابن الكمّاد من كتاب مفاتح الأسرار.
[...]
// [1 ظ] بسم الله الرحمن الرحيم. صلّى الله على سيّدنا محمّد وعلى آله وصحبه وسلّم تسليما
الفصل العاشر في كيفيّة ارتباط مكث الأجنّة في الأحشاء بالحركات القمريّة وما يخصّها من الأدوار الزمانيّة
قال الأستاذ الأجلّ أبو العبّاس أحمد بن يوسف بن الكمّاد
[1] إنّا وجدنا بالرصد والتجربة لمكث الأجنّة في الأحشاء ثلاثة أزمان مختلفة في أوضاع الحركات وفي مقدار الكمّيّة وهي مكث أصغر ومكث أوسط ومكث أكبر
[2] يزيد كلّ زمان منها على الذي قبله بمقدار نصف دور قمريّ
[3] فالزمان الأوّل من المكث في مواليد تسعة أشهر يوجد القمر فيه في درجة الأفق الغربيّ من المولد خاصّة ودونها بخمس درج تحت الأفق وهو مكث أصغر يدور القمر فيه من حين سقوط النطفة في الرحم إلى خروجها تسعة أدوار قمريّة ونصفا يجب لها من الزمان نحو ثمانية أشهر شمسيّة وثلثي شهر بالتقريب تكون أيّاما مائتي يوم وتسعة وخمسين يوما وساعتين[76] وثلاثة أرباع ساعة
[4] والزمان الثاني من المكث يوجد القمر فيه[77] في درجة الأفق الشرقيّ من المولد خاصّة وهو مكث أوسط يدور القمر فيه عشرة أدوار قمريّة يجب لها من الزمان نحو تسعة أشهر شمسيّة إلاّ يومين[78] بالتقريب تكون أيّاما مائتي يوم واثنين وسبعين يوما وسبع عشرة ساعة ونصفا

76. وساعتين: [في المخطوط:] وثلاث ساعات.
77. القمر فيه: [في المخطوط:] فيه القمر [وفوق "فيه" مكتوب:] خـ [وفوق "القمر" مكتوب:] تقدّم.
78. إلّا يومين: [في المخطوط:] ويومين.

// [F. 1r] Praise be to God. In this book there are [several] astrological compositions [including]:

Discourse On The Animodar For The Rectification Of The Ascendants In Nativities By Abū-L-ʿAbbās B. Al-Kammād [Taken] From *The Book Of The Keys Of The Secrets.*

[…]

// [F. 1v] In the name of God, The Forgiving, The Merciful. God bless our lord Muḥammad, his family and companions, and preserve them from all evil.

Chapter 10. The Way to Relate the Gestation Times to the Lunar Movements and the Temporal Lenghts wich are Characteristic of them.

The most honorable master, Abū-l-ʿAbbās Aḥmad b. Yūsuf b. al-Kammād, mentioned:

[1] By means of observation and experience, we have found, for the stay of the fetus in maternal bosoms, three different gestation times determined by the positions of the moon motions and due to their lengths: minimum gestation, mid gestation, and maximum gestation.

[2] Each period of gestation increases half a lunar cycle in relation to the preceding period.

[3] Nine-month births. First gestation time.

The moon is, specifically, in the degree of the western horizon at the instant of birth as well as below this degree, that is, at five degrees below the horizon. It is a minimum gestation in which the moon rotates, in the period between conception and birth, nine and a half lunar cycles which, approximately, correspond to eight solar months and two thirds of a month which is equivalent to 259 days, 2 hours and three quarters of a hour.

[4] Second gestation time.

The moon is, specifically, in the degree of the eastern horizon at the instant of birth. It is a mid gestation in which the moon rotates ten lunar cycles, which, approximately, correspond to nine solar months minus two days which is equivalent to 272 days and 17 and a half hours.

[5] وأمّا الزمان الثالث من المكث يوجد القمر فيه تحت الأفق الغربيّ في المولد خاصّة بأكثر من خمس درجات فما زاد على ذلك وهو مكث أكبر يدور القمر فيه عشرة أدوار قمريّة ونصفا يجب لها من الزمان نحو عشرة أشهر شمسيّة بالتقريب تكون أيّاما مائتي يوم وستّة وثمانين يوما وثماني ساعات وربع ساعة

[6] فهذه المواضع المخصوصة لا يتعدّاها القمر في الأدوار التامّة إلى سواها

[7] وأمّا إذا اختلفت أدواره فيكون مسيره فيما بين الأزمان[79] الثلاثة أقلّ من ذلك وأكثر على حسبما نحن قائلوه فنقول إنّا ألفينا كلّ زمان من المكث يزيد على الذي قبله نصف دور قمريّ فقسمنا نصف الدور على ستّة من أجل أنّ نصف الفلك ستّة بروج فوجب لكلّ برج يومان ونصف

[8] فإذا وجد القمر في درجة الغارب من طالع المولد كان مكثه في الرحم المكث الأصغر // [2 و] خاصّة وإن وجد في الثامن يكون المكث الأصغر بزيادة يومين ونصف وفي التاسع يكون المكث الأصغر بزيادة خمسة أيّام وفي الحادي عشر[80] يكون المكث الأصغر بزيادة عشرة أيّام وفي الثاني عشر يكون المكث الأصغر بزيادة اثني عشر يوما [ونصف] إلى أن تصل إلى درجة الطالع

[9] فإن وجد القمر في درجة الطالع من المولد كان مكثه في الرحم المكث الأوسط خاصّة وإن وجد في الثاني كان المكث الأوسط بزيادة يومين ونصف وكذلك يزيد في كلّ برج بزيادة يومين ونصف حتّى ننتهي إلى البرج السادس فيكون المكث الأكبر خاصّة

[10] وكذلك أيضا يتّفق في مواليد سبعة أشهر مثل الذي ذكرنا في مواليد تسعة أشهر

[11] وإنّما أغفلنا مواليد ثمانية أشهر وأهملنا ذكر مكثها لأنّ أجنّتها لا يروقون طعم الحياة لعلل سنذكرها في آخر فصل من هذه المقالة

79. الأزمان: [في المخطوط:] الأدوار [وفوق هذه الكلمة مكتوب:] الأزمان.
80. الحادي عشر: [في المخطوط:] العاشر.

[5] Third gestation time.

The moon is, specifically, below the western horizon greater than five degrees at the instant of birth. It is a maximum gestation in which the moon rotates ten and a half lunar cycles, which, approximately, correspond to ten solar months which is equivalent to 286 days, eight hours and a quarter of hour.

[6] The moon does not restrict itself to these specific positions by the full rotations, but reaches other positions as well:

[7] When the motions of the moon differ [from above]: its path will be between the three gestation times with a longer or shorter period, of which we will describe: we say that we established that each gestation time increases, with regard to the preceding gestation time, by half a lunar cycle. Hence, we divide half the cycle into six because half the sphere is six signs. Therefore, two days and a half are needed for each sign.

[8] When the moon is in the degree of the descendent with regard to the ascendant of birth, its gestation time is a minimum gestation, // [f. 2r] specifically. If the moon is in the eighth [sign/house], it is the minimum gestation plus two days and a half; in the ninth [sign/house], it is the minimum gestation plus five days; in the eleventh [sign/house], it is the minimum gestation plus ten days; in the twelfth [sign/house], it is the minimum gestation plus twelve days [and a half]: we proceed this way until we reach the degree of the ascendant.

[9] When the moon is in the degree of the ascendant of birth, its period of gestation in the womb is mid gestation. If the moon is in the second [sign/house], it is the mid gestation plus two days and a half. In this way, every increase in each sign adds two days and a half until we reach the sixth sign which corresponds, specifically, to the maximum gestation.

[10] In seven-month births, the same procedure is used as has been explained for nine-month births.

[11] We pay no attention to eight-month births, and we have not mentioned their period of gestation because such a fetus does not savour the pleasure of living due to certain reasons which we will mention in the last chapter of this treatise.

[12] وأمّا مواليد سبعة أشهر فإنّا ألفينا زمان المكث فيها ثلاثة أزمان مختلفة المقادير في الكمّيّة وهي مكث أصغر ومكث أوسط ومكث أكبر يزيد كلّ زمان على الذي قبله بمقدار نصف دور قمريّ

[13] فالزمان الأوّل من المكث يوجد القمر فيه في درجة الأفق الغربيّ من المولد خاصّة وهو مكث أصغر يدور القمر فيه من حين سقوط النطفة في الرحم سبعة أدوار قمريّة ونصفا يجب لها من الزمان نحو ستّة أشهر شمسيّة وثلثي شهر بالتقريب تكون أيّاما مائتي يوم وأربعة أيّام وإحدى عشرة ساعة وربع

[14] والزمان الثاني من المكث يوجد القمر فيه في درجة الأفق الشرقيّ من المولد خاصّة وهو مكث أوسط يدور القمر فيه ثمانية أدوار قمريّة يجب لها من الزمان نحو سبعة أشهر شمسيّة وأربعة أيّام بالتقريب تكون أيّاما مائتي يوم وثمانية عشر يوما وساعتين

[15] والزمان الثالث من المكث يوجد القمر فيه تحت الأفق الغربيّ من المولد خاصّة وهو مكث أكبر يدور القمر فيه ثمانية أدوار قمريّة ونصفا يجب لها من الزمان نحو سبعة أشهر شمسيّة وثلث شهر بالتقريب تكون أيّاما مائتي يوم وأحد وثلاثين يوما وستّ عشرة ساعة وثلاثة أرباع ساعة

[16] فهذه المواضع المخصوصة لا يتعدّاها القمر في الأدوار التامّة مسيّرة على البروج في مواليد سبعة[81] أشهر

الفصل الحادي عشر في معرفة كيفيّة وجود انبساط الأزمان الثلاثة التي تحيط بأيّام المكث للأجنّة في مواليد تسعة أشهر أو سبعة أشهر شمسيّة

// [2 ظ] قال الأستاذ أبو العبّاس

[17] لم أر واحد[ا] من المتقدّمين ولا من المحدّثين من أهل هذه الصناعة ذكر كيفيّة العمل في استخراج أيّام المكث للأجنّة إمّا كتما[82] عمّن لا يعرف ذلك

81. سبعة: [في المخطوط:] تسعة.

82. كتما: [في المخطوط:] كتما للـ

[12] Seven-month births. We establish three different times for their gestation: minimum gestation, mid gestation, and maximum gestation. Each period of gestation increases half a lunar cycle with regard to the one preceding it.

[13] First gestation time.

The moon is in the degree of the western horizon at the instant of birth, specifically. It is a minimum gestation in which the moon rotates, from the instant of conception, seven and a half lunar cycles which, approximately, corresponds to six solar months and two thirds of month equivalent to 204 days, 11 hours and a quarter.

[14] Second gestation time.

The moon is in the degree of the eastern horizon at the instant of birth, specifically. It is a mid gestation in which the moon rotates eight lunar cycles which correspond, approximately, to seven solar months and four days equivalent to 218 days and 2 hours.

[15] Third gestation time.

The moon is below the western horizon at the instant of birth, specifically. It is a maximum gestation in which the moon rotates eight and a half lunar cycles which correspond, approximately, to a period of seven solar months and a third of month equivalent to 231 days, 16 hours and three quarters.

[16] The moon does not restrict itself to these concrete positions by the full rotations travelling on [the rest of] signs in the seven-month births.

Chapter 11. How To Establish The Length Of The Three Times Which Determine The Days Of Gestation In Nine Or Seven Solar Month Births

// [f. 2v] The master, Abū-l-'Abbās, mentioned:

[17] I have not seen any of the ancients, nor contemporaries, among scientists of this craft who have explained the method for calculating the determination of the days of gestation time, whether to deliberately preserve the secrecy of this information from those who did not already possess it,

أو تناسيا عنه أو ضمانة عن المتعلّمين بكشفه وأيّها كان فهو نقص فيه ونحن قد أوضحنا ذلك على الشرح والتلخيص لمن أراد معرفة استقصاء ذلك

[18] فنقول إنّا إذا أردنا ذلك أخذنا أيّام الشهر الفلكيّ وهو الزمان الذي يدور فيه مركز[83] فلك التدوير في محيط الفلك الحامل له وهو بمذهبنا سبعة وعشرون يوما وسبع ساعات واثنتان وأربعون دقيقة كز زمب[84]

[19] وضربنا ذلك في تسعة أدوار قمريّة ونصف فيحصل المكث الأصغر الذي هو من الزمان رنط ا ك[85] بعد أن أسقطنا منها اثنتي عشرة ساعة فهي التي بين الجزء الطالع والجزء الغارب

[20] الذي استلحقناه عن[86] الوضع الذي نقل إلينا عن بطلميوس في نيمودار القمر

[21] وكذلك أيضا صنعنا في الأزمان الثلاثة في مواليد سبعة أشهر

[22] ثمّ ضربنا ذلك في عشرة أدوار قمريّة فيحصل المكث الأوسط الذي هو من الزمان رعب يز يب[87]

[23] وإن شئنا زدنا على المكث الأصغر نصف دور قمريّ فيخرج الأوسط فإن زدناه أيضا على المكث الأوسط فيكون الأكبر

[24] وأمّا في مواليد سبعة أشهر فإنّا استخرجنا أيّام المكث فيها بأن ضربنا أيّام الشهر القمريّ الفلكيّ في سبعة أدوار ونصف فحصل المكث الأصغر الذي هو من الزمان رد يا يه[88] ثمّ ضربناه في ثمانية أدوار قمريّة ونصف فحصل المكث الأكبر

[25] فهذه أمور طبيعيّة قد وافقت ما انتجه حسابنا البرهانيّ في الحركات القمريّة

83. مركز: [كرّر الناسخ الكلمة].
84. مب: [فوق مب مكتوب:] مجـ.
85. ا ك: [فوق ا ك مكتوب:] د مه.
86. عن: [كرّر الناسخ:] عن.
87. رعب يز يب: [مكتوب فوق السطر]. [في المخطوط:] ر فو ح يه.
88. رد يا يه: [في المخطوط:] رد يو.

or to pretend to forget it, or to guarantee its discovery to apprentices. Whichever of these was [the reason], it is a mistake. We have already explained this in a commentary and summary for those who want a deeper knowledge of this.

[18] Therefore, we explained that when we want to determine the gestation times, we take the days of the sidereal month, that is, the period in which the center of the sphere of the epicycle rotates in the circle of the sphere which carries it. According to our school, it is twenty-seven days, seven hours, forty-two minutes, 27,7, 42.[89]

[19] We multiply it by nine lunar cycles and a half to obtain the minimum gestation which is equivalent to a period of 259 [days], 1 [hour] and 20 [minutes] which we reach after subtracting from it the twelve hours between the degree of the ascendant and the degree of the descendent.

[20] We follow the procedure that had been transmitted to us from Ptolemy on the animodar of the moon.

[21] In this way we also calculate the three periods in the seven-month births.

[22] Next, we multiply [the sidereal lunar month] by ten lunar rotations, which will be the mid gestation which corresponds to 272 [days], 17 [hours] and 12 [minutes].

[23] If we wish, we may add to the minimum gestation half a lunar cycle, which will result in the mid gestation. Likewise, if we add half a lunar cycle to the latter, we will obtain the maximum gestation.

[24] We determine the days of gestation in seven-month births by multiplying the days of the sidereal lunar month by seven cycles and a half, and we will obtain the minimum gestation, which corresponds to 204 [days], 11 [hours], 15 [minutes]. Next, we multiply it by eight lunar rotations and a half, and we will obtain the maximum gestation.

[25] These are physical matters which have already been ratified by the results of our calculation verified by the lunar movements.

89. 42: [above 42, there is written:] 43.

الفصل الثاني عشر في معرفة ما يمكث من الأجنّة تسعة أشهر أو سبعة أشهر شمسيّة من قبل جزئي الاجتماع أو الاستقبال وطالعيهما

قال الأستاذ أبو العبّاس

[26] ألفينا لواليش الروميّ عملا في هذا المعنى إلاّ أنّه قد اختلّ بطول العهد عند نقله من أمّة إلى أمّة فأصلحناه بتوالي التجربة عليه ووضعناه لمن أراد التماس النظر في حقيقة كمّيّة الأجنّة في الأرحام

[27] وذلك أنّا قسمنا الفلك ثلاثة أقسام متباينة الكمّيّة في المقدار كلّ قسم منها تخصّه دلالة على كمّيّة مقادير مكث الأجنّة في الأرحام

[28] فالقسم الأوّل من الفلك يحدّه وتر يحيط به تسعون[90] درجة وهي الطالع والثاني والثالث

[29] والقسم // [3 و] الثاني يحدّه وتر يحيط به مائة وعشرون درجة وهي الرابع والخامس والسادس والسابع

[30] والقسم الثالث يحدّه وتر يحيط به مائة وخمسون درجة وهي الثامن والتاسع والعاشر والحادي عشر والثاني عشر

[31] فإذا أردنا أن نعلم مواليد تسعة أشهر

[32] فإنّا ننظر إلى درجتي الاجتماع أو الاستقبال ونحفظ في أيّ وتر هي من هذه الأوتار الثلاثة وكذلك درجتي طالعيهما أيّهما كان قبل الولادة

[33] فإن كانت درجة الاجتماع ودرجة طالعها في الوتر الثالث الذي هو ح ط ي يا يب فإنّ المولود مكث تسعة أشهر شمسيّة أو نحوها

[34] وإن وجدنا درجة طالع الاجتماع في الوتر الثالث الذي هو ح ط ي يا يب[91] ودرجته في الوتر الثاني الذي هو د ه و ز أو درجته في الوتر الثالث ودرجة طالعه في الوتر الثاني فإنّ المولود مكث تسعة أشهر شمسيّة

90. تسعون: [في المخطوط:] سبعون [وعلى الهامش مكتوب: تسعون صحّ].

91. يب: [مكتوب بين السطرين].

Chapter 12. Knowledge Of The Gestation Times, Nine Or Seven Solar Months, From The Degrees Of The Conjunction Or The Opposition Of The Sun And Moon, And Their Ascendants

The master, Abū-l-ʿAbbās, mentioned:

[26] We found a procedure by Wālīsh the Roman on this topic. However, owing to the fact that the procedure had been distorted over time because of its copying from nation to nation, we corrected it based on experience, and we established it for those who wished to know the theory regarding the certainty of gestation times.

[27] It consists in dividing the sphere into three parts of unequal extension. Each part points out the period of gestation.

[28] First division of the sphere. It is restricted by a cord of ninety degrees extended from the ascendant [house I], and house II until house III.

[29] Second // [f. 3r] division. It is restricted by a cord of a hundred and twenty degrees extended through houses IV, V, VI and VII.

[30] Third division. It is restricted by a cord of a hundred and fifty degrees extended through houses VIII, IX, X, XI and XII.

[31] If we wish to determine nine-month births:

[32] We observe the two degrees of the sun-moon conjunction or opposition, and we record in whichever one of these three cords the two degrees are situated, and also the two degrees of its two ascendants, whichever of the two [a conjunction or an opposition] occurred before birth.

[33] If the degree of the sun-moon conjunction and the degree of its ascendant are in the third cord (made up by houses VIII, IX, X, XI and XII), the new-born had a period of gestation of nine solar months approximately.

[34] If we find the degree of the ascendant of the sun-moon conjunction in the third cord (made up by houses VIII, IX, X, XI and XII) and its degree [the degree of the conjunction] in the second cord (made up by houses IV, V, VI and VII), or its degree [the degree of the conjunction] in the third cord and the degree of its ascendant in the second cord, then the new-born had a period of gestation of nine solar months.

[35] وأمّا مواليد سبعة أشهر

[36] فإنّا إذا[92] وجدنا درجة طالع الاجتماع ودرجة الاجتماع في الوتر الثاني الذي هو د هـ و ز فإنّ المولود مكث سبعة أشهر

[37] وإن وجدنا أيضا درجة طالع الاجتماع في الوتر الثاني ودرجته في الوتر الأوّل الذي هو ا بـ جـ[93] أو درجته في الوتر الثاني ودرجة طالعه في الوتر الأوّل[94] فإنّ المولود مكث سبعة أشهر

[38] وأمّا المدلّس[95]

[39] فإنّا إذا وجدنا درجة الاجتماع في الوتر الأوّل ودرجة طالعه في الوتر الثالث فإنّ المولود بهيميّ أو[96] تمثال

[40] وإن كانت درجة الاجتماع في الوتر الأوّل وطالعه[97] في الوتر الأوّل[98] فإنّ المولود بهيميّ

[41] وكذلك إن كانت درجته في الوتر الثالث ودرجة طالعه في الوتر الأوّل فإنّ المولود يكون مبدّل الخلقة أو شرّها

[42] لأنّه متى لم ترتبط أوضاع النصب الفلكيّة تغيّرت أفعال الطبيعة المشتركة ولم تنتظم الصور الطبيعيّة في التصوير على حسب ما ذكرنا في غير موضع من فصول هذه المقالة

92. إذا: [مكتوب بين السطرين].
93. هو ا بـ جـ: [في المخطوط:] هو ا بـ جـ د.
94. [كرّر الناسخ:] الذي هو ا ب جـ د أو درجته في الوتر الثاني ودرجة طالعه في الوتر الأوّل.
95. المدلّس: [في المخطوط:] المندلس.
96. أو: [في المخطوط:] وأو.
97. [كرّر الناسخ:] في الوتر الثالث ودرجة طالعه.
98. [كرّر الناسخ:] وطالعه في الوتر الثالث.

[35] Seven-month births:

[36] If we find the degree of the ascendant of the sun-moon conjunction and the degree of the conjunction in the second cord (made up by houses IV, V, VI and VII), the new-born had a period of gestation of seven months.

[37] If we find, also, the degree of the ascendant of the sun-moon conjunction [situated] in the second cord and its degree [the degree of the conjunction] in the first cord (made up by houses I, II and III), or its degree [the degree of the conjunction] in the second cord and the degree of its ascendant in the first cord, then, the new-born had a period of gestation of seven months.

[38] As for hunchbacks:

[39] If we find the degree of the sun-moon conjunction [situated] in the first cord, and the degree of its ascendant in the third cord, the new-born is a being with intellectual incapacity or a 'statue'.

[40] If the degree of the sun-moon conjunction is in the first cord, and its ascendant is in the first cord, the new-born is unintelligible.

[41] Also, if the degree [of the sun-moon conjunction] is placed in the third cord, and the degree of its ascendant is in the first cord, the new-born is not well formed or something worse.

[42] Because when celestial positions of the horoscope are not related, the elements of nature which were associated change, and the physical figures in the configuration are thrown into confusion, as we said in another passage of the chapters of this treatise.

[43] ثمّ استشهد بعد ذلك الصفّ

[44] انظر إلى المولد وإلى القمر الذي بعد المولد بسنة وإلى القمر الذي قبل المولد بسنة فإن كانت في تثليث قمر المولد فإنّ المولود مكث تسعة أدوار قمريّة

[45] وإن كان الذي قبل المولد بسنة والذي بعده بسنة على تربيع قمر المولد فإنّ المولود مكث [ ][99]

[46] وإن كان الذي قبل المولد على تربيع قمر المولد[100] والذي[101] بعده على تثليث قمر المولد فإنّ المولود مكث [ ][102]

فصل آخر

[47] وإن كان القمر[103] الذي قبل // [3 ظ] المولد في تربيع قمر المولد والذي بعد المولد بسنة منصرفا عن قمر المولد أو زائلا عن وتده من حيث كان فإنّ المولود مكث سبعة أشهر وربّما دلّ على موت الجنين

[48] وإن كان القمر الذي قبل المولد بسنة في تثليث قمر المولد والذي بعده بسنة زائلا دلّ على قلّة بقاء المولود

[49] وإن كانا جميعا زائلين عن قمر المولد فإنّ المولود مات في بطن أمّه أو تقطّع في الرحم ويلحق الأمّ مكروه

[50] إذا كان القمر الذي بعد المولد في نظير قمر المولود فإنّ المولود مكث سبعة أشهر

[51] وإن كان القمر الذي بعد المولد في تثليث قمر المولد والقمر قبل المولد في نظير قمر المولد فإنّ المولود مكث سبعة أشهر

99. [ ]:[في المخطوط مكان فارغ].

100. المولد: [كتب الناسخ "صحّ" فوق هذه الكلمة ثمّ كرّر:] فإنّ المولود مكث [كتب الناسخ فوق هذه الكلمات خطّا يدلّ على إلغاءها].

101. والذي: [كتب الناسخ "صحّ" فوق هذه الكلمة].

102. [ ]: [في المخطوط مكان فارغ].

103. القمر: [مكتوب بين السطرين].

[43] Later, After This Line, Is Asserted:

[44] Observe the birth, the moon a year after the birth, and the moon a year prior to the birth. If they were in trine aspect in relation to the birth moon, the new-born has a period of gestation of nine lunar cycles.

[45] If the moon a year prior to the birth, and the moon a year after the birth were situated in the aspect quartile in relation to the birth moon, the new-born has a period of gestation of [ ].[104]

[46] If the moon preceding birth is in quartile aspect in relation to the birth moon, and the moon subsequent to birth is in trine aspect in relation to the birth moon, the new-born has a period of gestation of [ ].

Another Chapter

[47] If the moon preceding // [f. 3v] birth is in quartile aspect in relation to the birth moon, and the moon a year after the birth is moving away from the birth moon or falling from the cardine in which [the moon] was situated, the new-born has a period of gestation of seven months, and perhaps indicates the death of the fetus.

[48] If the moon a year prior to the birth is in trine aspect in relation to the birth moon, and the moon a year after the birth is falling, this indicates a low possibility of survival of the new-born.

[49] If the two [moons] are falling from the birth moon, the fetus dies in his mother's belly or a miscarriage occurs and a misfortune happens to the mother.

[50] If the moon subsequent to birth is in opposition aspect to the birth moon, the new-born has a period of gestation of seven months.

[51] If the moon subsequent to birth is in trine aspect in relation to the birth moon, and the moon preceding birth is in opposition aspect to the birth moon, the new-born has a period of gestation of seven months.

104. The symbol [ ] denotes a blank space in the manuscript.

[52] وإن كان القمر الذي قبل المولد في تربيع قمر المولد والقمر الذي بعد المولد في نظير قمر المولد فإنّ المولود مكث سبعة أشهر

الفصل الثالث[105] عشر في معرفة من يمكث من الأجنّة تسعة أشهر شمسيّة أو سبعة أشهر من قبل أدوار حركات القمر

قال الأستاذ

[53] ولمّا نريد من إيضاح هذا المعنى وتحقيق الفصل الذي قبل هذا فإنّا نأتي عليه بشاهد ألفيناه بصدق عند التجربة بمشاهدة الحسّ ببرهان القياس بإشهاده بعد أن توالت عليه تجربتنا فصحّ لنا

[54] وهو إنّا إذا أردنا ذلك عدّلنا القمر لقبل المولد بسنة شمسيّة وكسرها الذي هو ربع اليوم

[55] وذلك بأن ننقص من تأريخ الولادة ثلاثمائة يوم وخمسة وستّين يوما وربع يوم ونزيد عليها أيضا مثل ذلك فيخرج لنا تأريخان أحدهما قبل الولادة بسنة شمسيّة والآخر بعد الولادة بسنة شمسيّة

[56] فتعدّل عليها القمر فيخرج له موضعان أحدهما لقبل المولد بسنة والآخر لبعد المولد بسنة

[57] وإن شئنا زدنا على وسط القمر في المولد د يب ليكون وسطه لبعد المولد بسنة ثمّ ننقصه أيضا من وسط القمر في المولد فيكون وسطه لقبل المولد بسنة[106]

[58] وكذلك أيضا يزاد على حصّة القمر في المولد جـ ا نط فتكون الحصّة لبعد المولد بسنة وننقص أيضا من حصّة القمر لوقت المولد فتكون الحصّة لقبل المولد بسنة وتعدّل الأقمار الثلاثة

[59] ثمّ تنظر إلى موضع القمر الذي قبل المولد بسنة فإن كان على تثليث موضع قمر المولد فإنّ المولود مكث عشرة أدوار قمريّة وهي نحو تسعة أشهر شمسيّة

105. الثالث: [في المخطوط:] الثاني.

106. [على الهامش مكتوب:] حركة وسط القمر في السنة الشمسيّة المحقّقة د يب مد ٠ .

[52] If the moon preceding birth is in quartile aspect in relation to the birth moon, and the moon subsequent to birth is in opposition to the birth moon, the new-born has a period of gestation of seven months.

Chapter 13. Knowledge Of Gestation Times, Nine Or Seven Solar Months, In Correlation To The Rotations Of The Motions Of The Moon

The master mentioned:

[53] As we want to clarify this matter and verify the previous chapter, we bring some evidence tested by experience, observed by perception, and demonstrated by analogy following our continued experience; we therefore consider it verified.

[54] If we wish to know this, we obtain the true motion of the moon preceding birth by a solar year and its fraction which is a quarter of day.

[55] We do this by subtracting 365 days and a quarter of day from the birth date, and by adding the same quantity to the birth date. Two dates result: one of them is a solar year prior to the birth, and the other is a solar year subsequent to the birth.

[56] You correct them using the true motion of the moon, and two positions result: one of them precedes birth by a year, and the other is subsequent to birth by a year.

[57] If we wish, we add 4 [signs] 12 [degrees] to the regular moon at birth, which will be its regular motion one year subsequent to birth. Then, we subtract it from the regular moon at birth and it will be its regular motion one year preceding birth.[107]

[58] Likewise, one adds 3 [signs] 1 [degree] 59 [minutes] to the anomaly of the moon at birth, and it will be the anomaly one year subsequent to birth. We subtract it from the moon anomaly at the instant of birth, which will be the anomaly one year prior to birth, and obtain the true motion of the three moons.

[59] Next, we observe the position of the moon one year prior to birth: if it is in trine aspect in relation to the position of the birth moon, the new-born has a period of gestation of ten lunar months equivalent, approximately, to nine solar months.

107. [Written in the margin:] the regular motion of the moon in a true solar year is 4 [signs] 12[;] 44[,] 0 [degrees].

[60] وإن نظر القمران اللذان قبل[108] المولد[109] بسنة وبعده بسنة إلى قمر الولادة من تربيع فإنّ المولود مكث تسعة أدوار قمريّة ونصف

[61] وإن كان القمر الذي قبل المولد بسنة في تثليث قمر المولد والذي بعده بسنة في تربيع قمر المولد فإنّ المولود // [4 و] مكث عشرة أدوار قمريّة إلاّ ثلاثة أيّام

[62] وإن كان القمر الذي قبل المولد في تربيع قمر المولد والذي بعده في تثليثه فإنّ المولود مكث تسعة أشهر قمريّة وستّة أيّام

[63] فعلى هذا الوضع هي مواليد تسعة أشهر

[64] وأمّا مواليد سبعة أشهر

[65] فإنّه إذا كان القمران اللذان قبل المولد بسنة وبعد المولد بسنة على مقابلة قمر المولد فإنّ المولود مكث سبعة أشهر

[66] وإن كان القمر الذي قبل المولد في مقابلة قمر المولد والذي بعده في تثليثه أو كان الذي قبل المولد في تثليثه والذي بعده في مقابلته فإنّ المولود مكث سبعة [أشهر]

[67] وإن كان القمر الذي قبل المولد في تربيع قمر المولد والذي بعده في مقابلته أو كان الذي قبله[110] في مقابلته والذي بعده في تربيعه فإنّ المولود مكث سبعة أشهر

[68] وإن كان القمر الذي قبل المولد ينظر إلى قمر المولد والذي بعده لا ينظر والذي قبله لا ينظر والذي بعده ينظر فإنّ المولود مكث سبعة أشهر

[69] وأمّا مواليد ثمانية أشهر

[70] فإنّه إذا كان القمر الذي قبل المولد في تربيع قمر المولد والذي بعده لا ينظر إليه فإنّ المولود مكث ثمانية أشهر

108. قبل: [في المخطوط:] قبل قمر [فوق "قبل" مكتوب "صحّ" وفوق "قمر" يوجد خطّ يدلّ على إلغاء "قمر"].
109. المولد: [فوق "المولد" مكتوب "صحّ"].
110. قبله: [في المخطوط:] بعده.

[60] If the moon one year prior to the birth moon, and the moon one year subsequent to the birth moon are in quartile aspect in relation to the birth moon, the new-born has a period of gestation of nine and a half lunar cycles.

[61] If the moon one year prior to the birth is in trine aspect in relation to the birth moon, and the moon one year subsequent to the birth is in quartile aspect in relation to the birth moon, the new-born has // [f. 4r] a period of gestation of ten lunar cycles minus three days.

[62] If the moon preceding birth is in quartile aspect in relation to the birth moon, and the moon subsequent to birth is in trine aspect, the new-born has a period of gestation of nine lunar months and six days.

[63] In this way, nine-month births occur.

[64] As for seven-month births:

[65] If the two moons, the one a year before and the one a year after the birth, are situated in opposition to the birth moon, the new-born has a period of gestation of seven months.

[66] If the moon preceding birth is in opposition to the birth moon, and the [moon] subsequent to it is in trine aspect, or the [moon] preceding birth is in trine and the [moon] subsequent to it is in opposition, the new-born has a period of gestation of seven [months].

[67] If the moon preceding birth is in quartile aspect in relation to the birth moon and the [moon] subsequent to birth is in opposition, or if the preceding moon is in opposition and the one subsequent to it in quartile, the new-born has a period of gestation of seven months.

[68] If the moon preceding birth is in aspect to the birth moon and the moon subsequent to it is not in aspect, or if the preceding moon is not situated in aspect and the moon subsequent to it is in aspect, the new-born has a period of gestation of seven months.

[69] Nativities of eight months:

[70] If the moon preceding birth is in quartile in relation to the birth moon and the moon subsequent to it is not in aspect, the new-born has a period of gestation of eight months.

[71] وإن كان القمر الذي قبل المولد لا ينظر إلى قمر المولد والذي بعده في تربيع قمر المولد أو تثليثه فإنّ المولود مكث ثمانية أشهر

[72] وإن كان القمران اللذان قبل المولد [وبعده] بسنة لا ينظران إلى قمر المولد فإنّ المولود ولد ميّتا أو يخرج مقطّعا

[73] وإن كان القمر الذي قبل المولد بسنة والذي بعده بسنة لا ينظران إلى قمر المولد وخرج المولود و خرج المولود صحيحا في جسمه فإنّه لا يتربى

الفصل الرابع عشر في معرفة تعديل أيّام المكث إذا لم يكن القمر في المواضع المخصوصة بمواليد سبعة أشهر أو تسعة أشهر

[74] إذا أردنا ذلك استخرجنا درجة طالع الولادة بنيمودار المستولي على ما تقدّم

[75] ثمّ ننظر إن كان المولود مكث تسعة أشهر أو سبعة أشهر فإذا علمنا ذلك نظرنا إلى القمر

[76] فإن كان في حقيقة الجزء الغارب فإنّ المولود مكث في بطن أمّه المكث الأصغر

[77] وإن كان القمر في حقيقة الجزء الطالع فإنّ المولود مكث في بطن أمّه المكث الأوسط

[78] وإن كان القمر تحت الأفق الغربيّ بدرجات يسيرة فإنّ المولود مكث في بطن أمّه المكث الأكبر

[79] وهذه الأزمان الثلاثة هي أزمان المكث المعدّلة المطلوبة فتحفظها

[80] فإن لم يكن القمر في تلك المواضع المذكورة احتجنا حينئذ إلى تعديل زمان المكث وذلك أن ننظر إلى[111] القمر

[81] فإن كان فوق دائرة الأفق أخذنا البعد الذي بينه وبين درجة الغارب بدرج السواء // [4 ظ] وقسمناه على اثني عشر فما خرج فأيّام وما بقي أقلّ من اثني عشر أضعفناه يكن ساعات وهي أيّام البعد وساعاته غير معدّلة

[82] فتعدّلها بأن تنقص منها نصف سدسها فما بقي فهي أيّام البعد المعدّلة

111. إلى: [كرّر الناسخ:] إلى.

[71] If the moon preceding birth is not in aspect to the birth moon and the [moon] subsequent to it is in quartile or trine in relation to the birth moon, the new-born has a period of gestation of eight months.

[72] If both moons, the moon preceding [and the one subsequent to] birth by a year, are not in aspect to the birth moon, the new-born is stillborn or 'incomplete'.

[73] If the moon preceding birth by a year, as well as the moon subsequent to it by a year are not in aspect to the birth moon and the new-born is born correctly formed, the new-born does not grow.

Chapter 14. Knowledge Of The Rectification Of The Days Of The Gestation Times In The Seven Or Nine-Month Births When The Moon Is Not In The Positions Mentioned

[74] If we wish to know this, we obtain the degree of the ascendant at birth by the animodar of the ruler [planet] according to what we have said.

[75] Next, we observe whether the new-born has a period of gestation of nine or seven months. When we know this, we observe the moon:

[76] If [the moon] is in the exact degree of the descendent [house VII], the new-born has a period of gestation in his mother's belly equal to minimum gestation.

[77] If the moon is in the exact degree of the ascendant [house I], the new-born has a period of gestation in his mother's belly equal to mid gestation.

[78] If the moon is a few degrees below the western horizon, the new-born has a period of gestation in his mother's belly equal to the maximum gestation.

[79] These three times are the exact periods of gestation that we have been seeking. Keep them.

[80] If the moon is not in the positions mentioned above, then, we need to rectify the period of gestation by observing the moon:

[81] If the moon is above the horizon, we take the distance between the moon and the degree of the descendent [measured] in ecliptic degrees // [f. 4v]. We divide it by twelve. The result is days; if the remainder of the division is less than twelve, we reduce it to hours in order to obtain the days and hours unrectified of the distance.

[82] We rectify the days and hours by subtracting half of its sixth from the days and hours. The remainder is the rectified days of the distance.

[83] فتزيدها على المكث الأصغر التي هي لمواليد تسعة أشهر أو لمواليد سبعة أشهر أيّهما عدّلنا له فما بلغت فهي أيّام المكث المعدّلة المطلوبة وساعاتها فتحفظها

[84] فإن كان القمر تحت الأفق أخذنا البعد الذي بينه وبين درجة الطالع وقسمناه على اثني عشر على ما تقدّم فما خرج فهي أيّام البعد وساعاته غير معدّلة

[85] فنعدّلها بأن نزيد عليها نصف سدسها فما اجتمع فهي أيّام البعد المعدّلة

[86] فنزيدها على أيّام المكث الأوسط التي هي لمولد تسعة أشهر أو لمواليد سبعة أشهر أيّهما عدّلنا منها فما بلغت فهي أيّام مكث الجنين في بطن أمّه المعدّلة المطلوبة وساعاتها فنحفظها

[87] وفيه وجه آخر

[88] وهو أن تنظر إلى القمر فإن كان فوق دائرة الأفق أخذنا البعد الذي بينه وبين درجة الأفق الغربي بدرج السواء

[89] وندخل بذلك البعد في جدول أيّام المكث الأصغر لمواليد تسعة أشهر أو[112] في جدول المكث الأصغر لمواليد سبعة أشهر أيّهما عدّلنا منهما

[90] ونأخذ ما بحيال ذلك البعد من أيّام المكث وساعاته فما كان فهي أيّام المكث الأصغر[113] المعدّلة وساعاتها

[91] وإن كان القمر تحت دائرة الأفق أخذنا البعد الذي بينه وبين دائرة الأفق الشرقيّ بدرج السواء

[92] وندخل بذلك البعد في جدول أيّام المكث الأوسط لمواليد تسعة أشهر أو في جدول أيّام المكث الأوسط لمواليد سبعة أشهر أيّهما عدّلنا منهما

[93] ونأخذ ما بحيال ذلك البعد أيضا من أيّام المكث وساعاته فما كان فهي أيّام المكث المعدّلة وساعاته

112. أشهر أو: [في المخطوط:] أشهر أيّهما عدّلنا منهما أو [فوق "أشهر" و"أو" مكتوب "صحّ" وفوق "أيّهما عدّلنا منهما" توجد خطوط تدلّ على إلغاءها].

113. الأصغر: [في المخطوط:] الأوسط.

[83] Add them to the minimum gestation for nine or seven-month births, whichever we rectify. What we obtain is the rectified days and hours of the period of gestation that we were seeking. Keep them.

[84] If the moon is below the horizon, we take the distance between the moon and the degree of the ascendant, and we divide the distance by twelve, as we have already said. The result is the unrectified days and hours of the distance.

[85] We rectify them by adding half of its sixth. The sum is the rectified days of the distance.

[86] We add them to the days of mid gestation for a nine or seven-month birth, whichever we wish to rectify. What we obtain is the rectified days and hours of the fetus's gestation time in its mother's belly which we were seeking. We keep them.

[87] There is another method.

[88] We observe the moon. If the moon is above the horizon, we take the distance between the moon and the degree of the western horizon [measured] in ecliptic degrees.

[89] We introduce this distance in the 'table of the days of minimum gestation for nine-month births' or in the 'table of minimum gestation for seven-month births', whichever we want to rectify.

[90] We take the days and hours of the gestation time opposite to this distance. What we obtain is the rectified days and hours of the minimum gestation.

[91] If the moon is below the horizon, we take the distance between the moon and the degree of the eastern horizon [measured] in ecliptic degrees.

[92] We introduce this distance in the 'table of the days of mid gestation for nine-month births' or in the 'table of the days of mid gestation for seven-month births', whichever of the two we want to rectify.

[93] We take the days and hours of the period of gestation listed opposite to this distance. What we obtain is the rectified days and hours of the gestation.

[94] فنحفظها لتكون معدّلة عندنا لما يحتاج إليه في استخراج تأريخ مسقط النطفة إن شاء الله تعالى // [5 و]

[95] الحمد لله ووجد مَنْ نقله من خطّ ابن هلال ما نصّه

[96] وجدت بالتجربة أنّ المولد[114] إذا كان بعد الاجتماع

[97] فإنّ موضع القمر في وقت الولادة هو الجزء الطالع حين مسقط النطفة وإنّ طالع الولادة هو موضع القمر لمسقط النطفة

[98] ووجدت أيضا بالتجربة أنّ المولد[115] إذا كان بعد الاستقبال

[99] فإنّ طالع الولادة هو موضع القمر لمسقط النطفة

[100] ولم أجد بين قمر[116] الولادة[117] وطالع مسقط النطفة ارتباط[ـا]

[101] فتأمّل ذلك

[102] إذا كان مسقط النطفة استقباليّا فإنّك تدخل بشمس الاستقبال في المطالع المستقيمة وتعكس ذلك في البلديّة يخرج لك درجة الشمس في وقت الولادة

[103] وإذا كان المسقط اجتماعيّا فاعكس أيضا استوائيّة الشمس في مطالع البلد يخرج لك درجة الشمس في وقت الولادة حتّى يمتحن وأظنّه بالعكس

114. المولد: [في المخطوط:] المولود.
115. المولد: [في المخطوط:] المولود.
116. قمر: [زاد الناسخ:] طالع [وفوق "طالع" علامة تدلّ على إلغاء الكلمة].
117. الولادة: [هذه الكلمة مكتوبة بين الكلمتين: صحّ وصحّ].

[94] We keep them; they are definitely rectified according to our method because [the period of gestation] is needed to obtain (if God, glory to him, wills), the date of conception. // [f. 5r]

[95] Thanks to God, there was someone who copied what Ibn Hilāl wrote by his own hand:

[96] Through experience I found that if birth occurs after a sun-moon conjunction,

[97] Then, the position of the moon at the instant of birth is the degree of the ascendant at the date of conception, and the ascendant of birth is the position of the moon at the date of conception.

[98] Also through experience I found that if the birth occurs after a sun-moon opposition,

[99] Then, the ascendant of birth is the position of the moon at the date of conception.

[100] However, I have not found any relation between the birth moon and the ascendant of the date of conception.

[101] Think on that.

[102] If conception was in a sun-moon opposition, we take the right ascensions of the sun of the opposition and enter [with this value] inversely in [the table of] oblique ascensions, we will obtain [the respective longitude which will be] the degree of the sun at the instant of birth.

[103] If conception was in a sun-moon conjunction, we also enter the right ascension of the sun, inversely, in [the table of] oblique ascensions, we will obtain the degree of the sun at the instant of birth to be proved, but I think it should be otherwise.

// [5 ظ]

درج بعد القمر من الغارب	[ا: I من 4] جدول عدد أيّام المكث لمواليد تسعة أشهر إذا كان القمر فوق الأفق								
	٠			ا			ب		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
	رنط	ا	ك	رصا	ز	نط	رصج	يد	لح
ا	رنط	ج	ي	رصا	ط	مح	رصج	يو	كز
ب	رنط	د	نط	رصا	يا	لح	رصج	يح	يو
ج	رنط	و	مح	رصا	يج	كز	رصج	ك	ه
د	رنط	ح	لح	رصا	يه	يو	رصج	كا	نه
ه	رنط	ي	كز	رصا	يز	ه	رصج	كج	مد
و	رنط	يب	يو	رصا	يح	نه	رصد	ا	لج
ز	رنط	يد	ه	رصا	ك	مد	رصد	ج	كج
ح	رنط	يه	نه	رصا	كب	لج	رصد	ه	يب
ط	رنط	يز	مد[118].	رصب	٠	كج	رصد	ز	ا
ي	رنط	يط	لج	رصب	ب	يب	رصد	ح	ن
يا	رنط	كا	كج	رصب	د	ا	رصد	ي	م
يب	رنط	كج	يب	رصب	ه	ن	رصد	يب	كط
يج	رص	ا	ا	رصب	ز	م	رصد	يد	يح
يد	رص	ب	ن	رصب	ط	كط	رصد	يو	ح
يه	رص	د	لط	رصب	يا	يح	رصد	يز	نز

118. رنط يز مد: [= رنط يه نه + ساعة و49 دقيقة]؛ [في المخطوط:] نط يز مد.

// [F. 5v]

[A: 1 of 4]
Table of the days of the gestation time for nine-month births when the moon is above the horizon

Distance between the moon and the descendent	*Sign 0 descendent*	*Sign 1*	*Sign 2*
0°	259d 1;20h	261d 7;59h	263d 14;38h
1°	259d 3;10h	261d 9;48h	263d 16;27h
2°	259d 4;59h	261d 11;38h	263d 18;16h
3°	259d 6;48h	261d 13;27h	263d 20;5h
4°	259d 8;38h	261d 15;16h	263d 21;55h
5°	259d 10;27h	261d 17;5h	263d 23;44h
6°	259d 12;16h	261d 18;55h	264d 1;33h
7°	259d 14;5h	261d 20;44h	264d 3;23h
8°	259d 15;55h	261d 22;33h	264d 5;12h
9°	259d 17;44h[119]	262d 0;23h	264d 7;1h
10°	259d 19;33h	262d 2;12h	264d 8;50h
11°	259d 21;23h	262d 4;1h	264d 10;40h
12°	259d 23;12h	262d 5;50h	264d 12;29h
13°	260d 1;1h	262d 7;40h	264d 14;18h
14°	260d 2;50h	262d 9;29h	264d 16;8h
15°	260d 4;39h	262d 11;18h	264d 17;57h

119. [$259^{d}\ 17;44^{h} = 259^{d}\ 15;55^{h} + 1;49^{h}$. In the manuscript: $59^{d}\ 17;44^{h}$.]

درج بعد القمر من الغارب	[ا: 2 من 4] جدول عدد أيّام المكث لمواليد تسعة أشهر إذا كان القمر فوق الأفق								
	٠			ا			ب		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
يو	رص	و	كط	رصب	يج	ح	رصد	يط	مو
يز	رص	ح	يح	رصب	يد	نز	رصد	كا	له
يح	رص	ي	ز	رصب	يو	مو	رصد	كج	كه[120]
يط	رص	يا	نو	رصب	يح	له	رصه	ا	يد
ك	رص	يج	مو	رصب	ك	كه	رصه	ج	ج
كا	رص	يه	له	رصب	كب	يد	رصه	د	نج
كب	رص	يز	كه	رصج	٠	ج	رصه	و	مب
كج	رص	يط	يد	رصج	ا	نج[121]	رصه	ح	لا
كد	رص	كا	ج	رصج	ج	مب	رصه	ي	ك
كه	رص	كب	نج	رصج	ه	لا	رصه	يب	ي
كو	رصا	٠	مب	رصج	ز	ك	رصه	يج	نط
كز	رصا	ب	لا	رصج	ط	ي	رصه	يه	مح
كح	رصا	د	ك	رصج	ي	نط	رصه	يز	لح
كط	رصا	و	ط	رصج	يب	مح	رصه	يط	كز
ل	رصا	ز	نط	رصج	يد	لح	رصه	كا	يو

120. رصد كج كه: [= رصد كا له + ساعة و50 دقيقة]؛ [في المخطوط:] رصد كج ك.

121. رصج ا نج: [= رصج ٠ ج + ساعة و50 دقيقة]؛ [في المخطوط:] رصج ا يج.

[A: 2 of 4]
Table of the days of the gestation time for nine-month births when the moon is above the horizon

Distance between the moon and the descendent	*Sign 0 descendent*	*Sign 1*	*Sign 2*
16°	260d 6;29h	262d 13;8h	264d 19;46h
17°	260d 8;18h	262d 14;57h	264d 21;35h
18°	260d 10;7h	262d 16;46h	264d 23;25h[122]
19°	260d 11;56h	262d 18;35h	265d 1;14h
20°	260d 13;46h	262d 20;25h	265d 3;3h
21°	260d 15;35h	262d 22;14h	265d 4;53h
22°	260d 17;25h	263d 0;3h	265d 6;42h
23°	260d 19;14h	263d 1;53h[123]	265d 8;31h
24°	260d 21;3h	263d 3;42h	265d 10;20h
25°	260d 22;53h	263d 5;31h	265d 12;10h
26°	261d 0;42h	263d 7;20h	265d 13;59h
27°	261d 2;31h	263d 9;10h	265d 15;48h
28°	261d 4;20h	263d 10;59h	265d 17;38h
29°	261d 6;9h	263d 12;48h	265d 19;27h
30°	261d 7;59h	263d 14;38h	265d 21;16h

122. [264^{d} $23;25^{h}$ = 264^{d} $21;35^{h}$ + $1;50^{h}$. In the manuscript: 264^{d} $23;20^{h}$.]
123. [263^{d} $1;53^{h}$ = 263^{d} $0;3^{h}$ + $1;50^{h}$. In the manuscript: 263^{d} $1;13^{h}$.]

درج بعد القمر من الغارب	[ا: 3 من 4] جدول عدد أيّام المكث لمواليد تسعة أشهر إذا كان القمر فوق الأفق								
	جـ			د			هـ		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
	رصه	كا	يو	رصح	ج	نه	رع	ي	لج
ا	رصه	كج	هـ	رصح	هـ	مد	رع	يب	كج
ب	رصو	٠	نه	رصح	ز	لج	رع	يد	يب
ج	رصو	ب	مد	رصح	ط	كج	رع	يو	ا
د	رصو	د	لج	رصح	يا	يب	رع	يز	نا
هـ	رصو	و	كج	رصح	يج	ا	رع	يط	م
و	رصو	ح	يب	رصح	يد	نا	رع	كا	كط
ز	رصو	ي	ا	رصح	يو	م	رع	كج	يح
ح	رصو	يا	ن	رصح	يح	كط	رعا	ا	ح
ط	رصو	يج	م	رصح	ك	يح	رعا	ب	نز
ي	رصو	يه	كط	رصح	كب	ح	رعا	د	مو
يا	رصو	يز	يح	رصح	كج	نز	رعا	و	لو
يب	رصو	يط	ح	رصط	ا	مو	رعا	ح	كه
يج	رصو	ك	نز	رصط	ج	لو	رعا	ي	يد
يد	رصو	كب	مو	رصط	هـ	كه[124]	رعا	يب	ج
يه	رصز	٠	له	رصط	ز	يد	رعا	يج	نج

124. رصط هـ كه: [= رصط ج لو + ساعة و49 دقيقة]؛ [في المخطوط:] رصط هـ ك.

[A: 3 of 4]
Table of the days of the gestation time for nine-month births when the moon is above the horizon

Distance between the moon and the descendent	*Sign 3*	*Sign 4*	*Sign 5*
0°	265d 21;16h	268d 3;55h	270d 10;33h
1°	265d 23;5h	268d 5;44h	270d 12;23h
2°	266d 0;55h	268d 7;33h	270d 14;12h
3°	266d 2;44h	268d 9;23h	270d 16;1h
4°	266d 4;33h	268d 11;12h	270d 17;51h
5°	266d 6;23h	268d 13;1h	270d 19;40h
6°	266d 8;12h	268d 14;51h	270d 21;29h
7°	266d 10;1h	268d 16;40h	270d 23;18h
8°	266d 11;50h	268d 18;29h	271d 1;8h
9°	266d 13;40h	268d 20;18h	271d 2;57h
10°	266d 15;29h	268d 22;8h	271d 4;46h
11°	266d 17;18h	268d 23;57h	271d 6;36h
12°	266d 19;8h	269d 1;46h	271d 8;25h
13°	266d 20;57h	269d 3;36h	271d 10;14h
14°	266d 22;46h	269d 5;25h[125]	271d 12;3h
15°	267d 0;35h	269d 7;14h	271d 13;53h

125. [$269^{d}\ 5;25^{h} = 269^{d}\ 3;36^{h} + 1;49^{h}$. In the manuscript: $269^{d}\ 5;20^{h}$.]

درج بعد القمر من الغارب	[ا: 4 من 4] جدول عدد أيّام المكث لمواليد تسعة أشهر إذا كان القمر فوق الأفق								
	جـ			د			هـ		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
يو	رصز	ب	كه	رصط	ط	ج	رعا	يه	مب
يز	رصز	د	يد	رصط	ي	نج[126]	رعا	يز	لا
يح	رصز	و	ج	رصط	يب	مب	رعا	يط	كا
يط	رصز	ز	نج	رصط	يد	لا	رعا	كا	ي
ك	رصز	ط	مب	رصط	يو	كا	رعا	كب	نط
كا	رصز	يا	لا	رصط	يح	ي	رعب	٠	مح
كب	رصز	يج	ك	رصط	يط	نط	رعب	ب	لح
كج	رصز	يه	ي	رصط	كا	مح	رعب	د	كز
كد	رصز	يو	نط	رصط	كج	لح	رعب	و	يو
كه	رصز	يح	مح	رع	ا	كز	رعب	ح	و
كو	رصز	ك	لح	رع	ج	يو	رعب	ط	نه
كز	رصز	كب	كز	رع	ه	ه	رعب	يا	مد
كح	رصح	٠	يو	رع	و	نه	رعب	يج	لج
كط	رصح	ب	و	رع	ح	مد	رعب	يه	كج
ل	رصح	ج	نه	رع	ي	لج	رعب	يز	يب[127]

126. رصط ي نج: [= رصط ط ج + ساعة و50 دقيقة]؛ [في المخطوط:] رصط ي يج.

127. رعب يز يب: [= رعب يه كج + ساعة و49 دقيقة]؛ [في المخطوط:] رعب يز نب.

[A: 4 of 4]
Table of the days of the gestation time for nine-month births when the moon is above the horizon

Distance between the moon and the descendent	*Sign 3*	*Sign 4*	*Sign 5*
16°	267d 2;25h	269d 9;3h	271d 15;42h
17°	267d 4;14h	269d 10;53h[128]	271d 17;31h
18°	267d 6;3h	269d 12;42h	271d 19;21h
19°	267d 7;53h	269d 14;31h	271d 21;10h
20°	267d 9;42h	269d 16;21h	271d 22;59h
21°	267d 11;31h	269d 18;10h	272d 0;48h
22°	267d 13;20h	269d 19;59h	272d 2;38h
23°	267d 15;10h	269d 21;48h	272d 4;27h
24°	267d 16;59h	269d 23;38h	272d 6;16h
25°	267d 18;48h	270d 1;27h	272d 8;6h
26°	267d 20;38h	270d 3;16h	272d 9;55h
27°	267d 22;27h	270d 5;5h	272d 11;44h
28°	268d 0;16h	270d 6;55h	272d 13;33h
29°	268d 2;6h	270d 8;44h	272d 15;23h
30°	268d 3;55h	270d 10;33h	272d 17;12h[129]

128. [269^{d} $10;53^{h}$ = 269^{d} $9;3^{h}$ + $1;50^{h}$. In the manuscript: 269^{d} $10;13^{h}$.]
129. [272^{d} $17;12^{h}$ = 272^{d} $15;23^{h}$ + $1;49^{h}$. In the manuscript: 272^{d} $17;52^{h}$.]

// [6 و]

درج بعد القمر من الطالع	[ب: I من 4] جدول أيّام المكث لمواليد تسعة أشهر إذا كان القمر تحت الأفق								
	٠			ا			ب		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
	رعب	يز	يب[130]	رعد	كج	نا	رعز	و	كط
ا	رعب	يط	ا	رعه	ا	م	رعز	ح	يح
ب	رعب	ك	نا	رعه	ج	كط	رعز	ي	ح
ج	رعب	كب	م	رعه	ه	يح	رعز	يا	نز
د	رعج	٠	كط	رعه	ز	ح	رعز	يج	مو
ه	رعج	ب	يح	رعه	ح	نز	رعز	يه	لو
و	رعج	د	ح	رعه	ي	مو	رعز	يز	كه[131]
ز	رعج	ه	نز	رعه	يب	لو	رعز	يط	يه
ح	رعج	ز	مو	رعه	يد	كه[133]	رعز	كا	د[132]
ط	رعج	ط	لو	رعه	يو	يد	رعز	كب	نج
ي	رعج	يا	كه	رعه	يح	ج	رعح	٠	مب
يا	رعج	يج	يد	رعه	يط	نج	رعح	ب	لا
يب	رعج	يه	ج	رعه	كا	مب	رعح	د	كا
يج	رعج	يو	نج	رعه	كج	لا	رعح	و	ي
يد	رعج	يح	مب	رعو	ا	كا	رعح	ز	نط

130. رعب يز يب: [= رعب يه كج + ساعة و49 دقيقة]؛ [في المخطوط:] رعب يز ل.

131. رعز يز كه: [= رعز يه لو + ساعة و49 دقيقة]؛ [في المخطوط:] رعز يز ك.

132. رعز كا د: [= رعز يط يه + ساعة و49 دقيقة]؛ [في المخطوط:] رعز كا ج.

133. رعه يد كه: [= رعه يب لو + ساعة و49 دقيقة]؛ [في المخطوط:] رعه يد ك.

// [F. 6r]

[B: 1 of 4]
Table of the days of the gestation time for nine-month births when the moon is below the horizon

Distance between the moon and the ascendant	*Sign 0 ascendant*	*Sign 1*	*Sign 2*
0°	272d 17;12h[134]	274d 23;51h	277d 6;29h
1°	272d 19;1h	275d 1;40h	277d 8;18h
2°	272d 20;51h	275d 3;29h	277d 10;8h
3°	272d 22;40h	275d 5;18h	277d 11;57h
4°	273d 0;29h	275d 7;8h	277d 13;46h
5°	273d 2;18h	275d 8;57h	277d 15;36h
6°	273d 4;8h	275d 10;46h	277d 17;25h[135]
7°	273d 5;57h	275d 12;36h	277d 19;15h
8°	273d 7;46h	275d 14;25h[136]	277d 21;4h[137]
9°	273d 9;36h	275d 16;14h	277d 22;53h
10°	273d 11;25h	275d 18;3h	278d 0;42h
11°	273d 13;14h	275d 19;53h	278d 2;31h
12°	273d 15;3h	275d 21;42h	278d 4;21h
13°	273d 16;53h	275d 23;31h	278d 6;10h
14°	273d 18;42h	276d 1;21h	278d 7;59h

134. [272^{d} $17;12^{h}$ = 272^{d} $15;23^{h}$ + $1;49^{h}$. In the manuscript: 272^{d} $17;30^{h}$.]
135. [277^{d} $17;25^{h}$ = 277^{d} $15;36^{h}$ + $1;49^{h}$. In the manuscript: 277^{d} $17;20^{h}$.]
136. [275^{d} $14;25^{h}$ = 275^{d} $12;36^{h}$ + $1;49^{h}$. In the manuscript: 275^{d} $14;20^{h}$.]
137. [277^{d} $21;4^{h}$ = 277^{d} $19;15^{h}$ + $1;49^{h}$. In the manuscript: 277^{d} $21;3^{h}$.]

درج بعد القمر من الطالع	[ب: 2 من 4] جدول أيّام المكث لمواليد تسعة أشهر إذا كان القمر تحت الأفق								
	٠			ا			ب		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
يه	رعج	ك	لا	رعو	ج	ي	رعح	ط	مح
يو	رعج	كب	كا	رعو	د	نط	رعح	يا	لح
يز	رعد	٠	ي	رعو	و	مح	رعح	يج	كز
يح	رعد	ا	نط	رعو	ح	لح	رعح	يه	يو
يط	رعد	ج	مح	رعو	ي	كز	رعح	يز	و
ك	رعد	ه	لح	رعو	يب	يو	رعح	يح	نه
كا	رعد	ز	كز	رعو	يد	و	رعح	ك	مد
كب	رعد	ط	يو	رعو	يه	نه	رعح	كب	لد
كج	رعد	يا	و	رعو	يز	مد	رعط	٠	كج
كد	رعد	يب	نه	رعو	يط	لج	رعط	ب	يب
كه	رعد	يد	مد	رعو	كا	كج	رعط	د	ا
كو	رعد	يو	لج	رعو	كج	يب	رعط	ه	نا
كز	رعد	يح	كج	رعز	ا	ا	رعط	ز	م
كح	رعد	ك	يب	رعز	ب	نا	رعط	ط	كط
كط	رعد	كب	ا	رعز	د	م	رعط	يا	يط
ل	رعد	كج	نا	رعز	و	كط	رعط	يج	ح

[B: 2 of 4]
Table of the days of the gestation time for nine-month births when the moon is below the horizon

Distance between the moon and the ascendant	*Sign 0 ascendant*	*Sign 1*	*Sign 2*
15°	273d 20;31h	276d 3;10h	278d 9;48h
16°	273d 22;21h	276d 4;59h	278d 11;38h
17°	274d 0;10h	276d 6;48h	278d 13;27h
18°	274d 1;59h	276d 8;38h	278d 15;16h
19°	274d 3;48h	276d 10;27h	278d 17;6h
20°	274d 5;38h	276d 12;16h	278d 18;55h
21°	274d 7;27h	276d 14;6h	278d 20;44h
22°	274d 9;16h	276d 15;55h	278d 22;34h
23°	274d 11;6h	276d 17;44h	279d 0;23h
24°	274d 12;55h	276d 19;33h	279d 2;12h
25°	274d 14;44h	276d 21;23h	279d 4;1h
26°	274d 16;33h	276d 23;12h	279d 5;51h
27°	274d 18;23h	277d 1;1h	279d 7;40h
28°	274d 20;12h	277d 2;51h	279d 9;29h
29°	274d 22;1h	277d 4;40h	279d 11;19h
30°	274d 23;51h	277d 6;29h	279d 13;8h

درج بعد القمر من الطالع	[ب: 3 من 4] جدول أيّام المكث لمواليد تسعة أشهر إذا كان القمر تحت الأفق								
	جـ			د			هـ		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
	رعط	يج	ح	رفا	يط	مو	رفد	ب	كه
ا	رعط	يد	نز	رفا	كا	لو	رفد	د	يد
ب	رعط	يو	مو	رفا	كج	كه	رفد	و	د
ج	رعط	يح	لو	رفب	ا	يد	رفد	ز	نج
د	رعط	ك	كه	رفب	ج	ج	رفد	ط	مب
ه	رعط	كب	يد	رفب	د	نج	رفد	يا	لا
و	رف	٠	ج	رفب	و	مب	رفد	يج	كا
ز	رف	ا	نج	رفب	ح	لا	رفد	يه	ي
ح	رف	ج	مب	رفب	ي	كا	رفد	يو	نط
ط	رف	ه	لا	رفب	يب	ي	رفد	يح	مط
ي	رف	ز	كا	رفب	يج	نط	رفد	ك	لح
يا	رف	ط	ي	رفب	يه	مط	رفد	كب	كز
يب	رف	ي	نط	رفب	يز	لح	رفه	٠	يو
يج	رف	يب	مط	رفب	يط	كز	رفه	ب	و
يد	رف	يد	لح	رفب	كا	يو	رفه	ج	نه
يه	رف	يو	كز	رفب	كج	و	رفه	ه	مد
يو	رف	يح	يو	رفج	٠	نه	رفه	ز	لد
يز	رف	ك	و	رفج	ب	مد	رفه	ط	كج

[B: 3 of 4]
Table of the days of the gestation time for nine-month births when the moon is below the horizon

Distance between the moon and the ascendant	*Sign 3*	*Sign 4*	*Sign 5*
0°	279d 13;8h	281d 19;46h	284d 2;25h
1°	279d 14;57h	281d 21;36h	284d 4;14h
2°	279d 16;46h	281d 23;25h	284d 6;4h
3°	279d 18;36h	282d 1;14h	284d 7;53h
4°	279d 20;25h	282d 3;3h	284d 9;42h
5°	279d 22;14h	282d 4;53h	284d 11;31h
6°	280d 0;3h	282d 6;42h	284d 13;21h
7°	280d 1;53h	282d 8;31h	284d 15;10h
8°	280d 3;42h	282d 10;21h	284d 16;59h
9°	280d 5;31h	282d 12;10h	284d 18;49h
10°	280d 7;21h	282d 13;59h	284d 20;38h
11°	280d 9;10h	282d 15;49h	284d 22;27h
12°	280d 10;59h	282d 17;38h	285d 0;16h
13°	280d 12;49h	282d 19;27h	285d 2;6h
14°	280d 14;38h	282d 21;16h	285d 3;55h
15°	280d 16;27h	282d 23;6h	285d 5;44h
16°	280d 18;16h	283d 0;55h	285d 7;34h
17°	280d 20;6h	283d 2;44h	285d 9;23h

درج بعد القمر من الطالع	[ب: 4 من 4] جدول أيّام المكث لمواليد تسعة أشهر إذا كان القمر تحت الأفق								
	جـ			د			هـ		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
يح	رف	كا	نه[138]	رفج	د	لد	رفه	يه	يب
يط	رف	كج	مد[139]	رفج	و	كج	رفه	يج	ا
ك	رفا	ا	لد	رفج	ح	يب	رفه	يد	نا
كا	رفا	ج	كج	رفج	ي	ا	رفه	يو	م
كب	رفا	ه	يب	رفج	يا	نا	رفه	يح	كط
كج	رفا	ز	ا	رفج	يج	م	رفه	ك	يط
كد	رفا	ح	نا	رفج	يه	كط	رفه	كب	ح
كه	رفا	ي	م	رفج	يز	يط	رفه	كج	نز
كو	رفا	يب	كط	رفج	يط	ح	رفو	ا	مو[140]
كز	رفا	يد	يط	رفج	ك	نز	رفو	ج	لو
كح	رفا	يو	ح	رفج	كب	مو	رفو	ه	كه
كط	رفا	يز	نز	رفد	٠	لو	رفو	ز	يه
ل	رفا	يط	مو	رفد	ب	كه	رفو	ط	د[141]

138. رف كا نه: [= رف ك و + ساعة و49 دقيقة]؛ [في المخطوط:] رف كا مه.
139. رف كج مد: [= رف كا نه + ساعة و49 دقيقة]؛ [في المخطوط:] رف كج ند.
140. رفو ا مو: [= رفه كج نز + ساعة و49 دقيقة]؛ [في المخطوط:] رفو ا يو.
141. رفو ط د: [= رفو ز يه + ساعة و49 دقيقة]؛ [في المخطوط:] رفو ط ج.

[B: 4 of 4]
Table of the days of the gestation time for nine-month births when the moon is below the horizon

Distance between the moon and the ascendant	*Sign 3*	*Sign 4*	*Sign 5*
18°	280d 21;55h[142]	283d 4;34h	285d 11;12h
19°	280d 23;44h[143]	283d 6;23h	285d 13;1h
20°	281d 1;34h	283d 8;12h	285d 14;51h
21°	281d 3;23h	283d 10;1h	285d 16;40h
22°	281d 5;12h	283d 11;51h	285d 18;29h
23°	281d 7;1h	283d 13;40h	285d 20;19h
24°	281d 8;51h	283d 15;29h	285d 22;8h
25°	281d 10;40h	283d 17;19h	285d 23;57h
26°	281d 12;29h	283d 19;8h	286d 1;46h[144]
27°	281d 14;19h	283d 20;57h	286d 3;36h
28°	281d 16;8h	283d 22;46h	286d 5;25h
29°	281d 17;57h	284d 0;36h	286d 7;15h
30°	281d 19;46h	284d 2;25h	286d 9;4h[145]

142. [280d 21;55h = 280d 20;6h + 1;49h. In the manuscript: 280d 21;45h.]
143. [280d 23;44h = 280d 21;55h + 1;49h. In the manuscript: 280d 23;54h.]
144. [286d 1;46h = 285d 23;57h + 1;49h. In the manuscript: 286d 1;16h.]
145. [286d 9;4h = 286d 7;15h + 1;49h. In the manuscript: 286d 9;3h.]

// [6 ظ]

درج بعد القمر من الوتد الغارب	[ج: 1 من 4] جدول عدد أيّام المكث لمواليد سبعة أشهر إذا كان القمر فوق الأفق								
	٠			ا			ب		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
	رد	يا	يه	رو	يز	مب	رط	٠	ي
ا	رد	يج	د	رو	يط	لا	رط	ا	نط
ب	رد	يد	نج	رو	كا	ك	رط	ج	مح
ج	رد	يو	مب	رو	كج	ط	رط	ه	لز
د	رد	يح	لا	رز	٠	نح	رط	ز	كز
ه	رد	ك	ك	رز	ب	مز	رط	ط	يه
و	رد	كب	ح	رز	د	لو	رط	يا	ج
ز	رد	كج	نز	رز	و	كه	رط	يب	نب
ح	ره	ا	مو	رز	ح	يد	رط	يد	ما
ط	ره	ج	له	رز	ي	ج	رط	يو	ل
ي	ره	ه	كد	رز	يا	نب	رط	يح	يط
يا	ره	ز	يج	رز	يج	ما	رط	ك	ح
يب	ره	ط	ب	رز	يه	كط	رط	كا	نز
يج	ره	ي	نا	رز	يز	يح	رط	كج	مز
يد	ره	يب	م	رز	يط	ز	ري	ا	لو
يه	ره	يد	كط	رز	ك	نو	ري	ج	كه

// [F. 6v]

[C: 1 of 4]
Table of the days of the gestation time for seven-month births when the moon is above the horizon

Distance between the moon and the descendent	*Sign 0 descendent*	*Sign 1*	*Sign 2*
0°	204d 11;15h	206d 17;42h	209d 0;10h
1°	204d 13;4h	206d 19;31h	209d 1;59h
2°	204d 14;53h	206d 21;20h	209d 3;48h
3°	204d 16;42h	206d 23;9h	209d 5;37h
4°	204d 18;31h	207d 0;58h	209d 7;27h
5°	204d 20;20h	207d 2;47h	209d 9;15h
6°	204d 22;8h	207d 4;36h	209d 11;3h
7°	204d 23;57h	207d 6;25h	209d 12;52h
8°	205d 1;46h	207d 8;14h	209d 14;41h
9°	205d 3;35h	207d 10;3h	209d 16;30h
10°	205d 5;24h	207d 11;52h	209d 18;19h
11°	205d 7;13h	207d 13;41h	209d 20;8h
12°	205d 9;2h	207d 15;29h	209d 21;57h
13°	205d 10;51h	207d 17;18h	209d 23;47h
14°	205d 12;40h	207d 19;7h	210d 1;36h
15°	205d 14;29h	207d 20;56h	210d 3;25h

درج بعد القمر من الوتد المقارن	[ج: 2 من 4] جدول عدد أيّام المكث لمواليد سبعة أشهر إذا كان القمر فوق الأفق								
	٠			ا			ب		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
يو	ره	يو	يح	رز	كب	مه	ري	ه	يد
يز	ره	يح	ز	رح	٠	لد	ري	ز	ج
يح	ره	يط	نه	رح	ب	كج	ري	ح	نا
يط	ره	كا	مد	رح	د	يا	ري	ي	م
ك	ره	كج	لج	رح	و	ا	ري	يب	كط
كا	رو	ا	كب[146]	رح	ز	ن	ري	يد	يح
كب	رو	ج	يا	رح	ط	لط	ري	يو	ز
كج	رو	ه	٠	رح	يا	كح	ري	يز	نو
كد	رو	و	مط	رح	يج	يو	ري	يط	مه
كه	رو	ح	لح	رح	يه	ه	ري	كا	لد
كو	رو	ي	كز	رح	يو	ند	ري	كج	كج
كز	رو	يب	يو	رح	يح	مج	ريا	ا	يب
كح	رو	يد	ه	رح	ك	لب	ريا	ج	ا
كط	رو	يه	ند	رح	كب	كا	ريا	د	مط
ل	رو	يز	مب	رط	٠	ي[147]	ريا	و	لز

146. رو ا كب: [= ره كج لج + ساعة و49 دقيقة]؛ [في المخطوط:] رو ا ك.
147. رط ٠ ي: [= رح كب كا + ساعة و49 دقيقة]؛ [في المخطوط:] رط ٠ يا.

[C: 2 of 4]
Table of the days of the gestation time for seven-month births when the moon is above the horizon

Distance between the moon and the descendent	*Sign 0 descendent*	*Sign 1*	*Sign 2*
16°	205d 16;18h	207d 22;45h	210d 5;14h
17°	205d 18;7h	208d 0;34h	210d 7;3h
18°	205d 19;55h	208d 2;23h	210d 8;51h
19°	205d 21;44h	208d 4;11h	210d 10;40h
20°	205d 23;33h	208d 6;1h	210d 12;29h
21°	206d 1;22h[148]	208d 7;50h	210d 14;18h
22°	206d 3;11h	208d 9;39h	210d 16;7h
23°	206d 5;0h	208d 11;28h	210d 17;56h
24°	206d 6;49h	208d 13;16h	210d 19;45h
25°	206d 8;38h	208d 15;5h	210d 21;34h
26°	206d 10;27h	208d 16;54h	210d 23;23h
27°	206d 12;16h	208d 18;43h	211d 1;12h
28°	206d 14;5h	208d 20;32h	211d 3;1h
29°	206d 15;54h	208d 22;21h	211d 4;49h
30°	206d 17;42h	209d 0;10h[149]	211d 6;37h

148. [206d 1;22h = 205d 23;33h + 1;49h. In the manuscript: 206d 1;20h.]
149. [209d 0;10h = 208d 22;21h + 1;49h. In the manuscript: 209d 0;11h.]

[ج: 3 من 4]

جدول عدد أيّام المكث لمواليد سبعة أشهر إذا كان القمر فوق الأفق

درج بعد القمر من الوتد الغارب	جـ			د			هـ		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
	ريا	و	لز	ريج	يج	هـ	ريه	يط	لب
ا	ريا	ح	كز	ريج	يد	ند	ريه	كا	كا
ب	ريا	ي	يو	ريج	يو	مج	ريه	كج	ي
ج	ريا	يب	د[150]	ريج	يح	لب	ريو	٠	نط
د	ريا	يج	نج	ريج	ك	كا	ريو	ب	مح
هـ	ريا	يه	مب	ريج	كب	ي	ريو	د	لز
و	ريا	يز	لا	ريج	كج	نح	ريو	و	كو
ز	ريا	يط	كا	ريد	ا	مز	ريو	ح	يد[151]
ح	ريا	كا	ي	ريد	ج	لو	ريو	ي	د
ط	ريا	كب	نط	ريد	هـ	كه	ريو	يا	نج
ي	ريب	٠	مح[152]	ريد	ز	يد	ريو	يج	مب
يا	ريب	ب	لز	ريد	ط	ج	ريو	يه	لا
يب	ريب	د	كه	ريد	ي	نب	ريو	يز	ك
يج	ريب	و	يد	ريد	يب	ما	ريو	يط	ط
يد	ريب	ح	ج	ريد	يد	ل	ريو	ك	نز
يه	ريب	ط	نب	ريد	يو	يط	ريو	كب	مو

150. ريا يب د: [= ريا ي يو + ساعة و48 دقيقة]؛ [في المخطوط:] ريا يب يد.

151. ريو ح يد: [= ريو و كو + ساعة و48 دقيقة]؛ [في المخطوط:] ريو ح يح.

152. ريب ٠ مح: [= ريا كب نط + ساعة و49 دقيقة]؛ [في المخطوط:] ريب ٠ نح.

[C: 3 of 4]
Table of the days of the gestation time for seven-month births when the moon is above the horizon

Distance between the moon and the descendent	*Sign 3*	*Sign 4*	*Sign 5*
0°	211d 6;37h	213d 13;5h	215d 19;32h
1°	211d 8;27h	213d 14;54h	215d 21;21h
2°	211d 10;16h	213d 16;43h	215d 23;10h
3°	211d 12;4h[153]	213d 18;32h	216d 0;59h
4°	211d 13;53h	213d 20;21h	216d 2;48h
5°	211d 15;42h	213d 22;10h	216d 4;37h
6°	211d 17;31h	213d 23;58h	216d 6;26h
7°	211d 19;21h	214d 1;47h	216d 8;14h[154]
8°	211d 21;10h	214d 3;36h	216d 10;4h
9°	211d 22;59h	214d 5;25h	216d 11;53h
10°	212d 0;48h[155]	214d 7;14h	216d 13;42h
11°	212d 2;37h	214d 9;3h	216d 15;31h
12°	212d 4;25h	214d 10;52h	216d 17;20h
13°	212d 6;14h	214d 12;41h	216d 19;9h
14°	212d 8;3h	214d 14;30h	216d 20;57h
15°	212d 9;52h	214d 16;19h	216d 22;46h

153. [211d 12;4h = 211d 10;16h + 1;48h. In the manuscript: 211d 12;14h.]
154. [216d 8;14h = 216d 6;26h + 1;48h. In the manuscript: 216d 8;18h.]
155. [212d 0;48h = 211d 22;59h + 1;49h. In the manuscript: 212d 0;58h.]

درج بعد القمر من الوتد القارن	[ج: 4 من 4] جدول عدد أيّام المكث لمواليد سبعة أشهر إذا كان القمر فوق الأفق								
	جـ			د			هـ		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
يو	ريب	يا	ما	ريد	يح	ح	ريز	٠	له
يز	ريب	يج	ل	ريد	يط	نز	ريز	ب	كد
يح	ريب	يه	يط	ريد	كا	مه	ريز	د	يج
يط	ريب	يز	ح	ريد	كج	لد	ريز	و	ب
ك	ريب	يح	نز	ريه	ا	كج	ريز	ز	نا
كا	ريب	ك	مو	ريه	ج	يب	ريز	ط	م
كب	ريب	كب	له	ريه	ه	ا	ريز	يا	كط
كج	ريج	٠	كد	ريه	و	ن	ريز	يج	يح
كد	ريج	ب	يب	ريه	ح	لط	ريز	يه	ز[156]
كه	ريج	د	ا	ريه	ي	كح	ريز	يو	نه
كو	ريج	ه	ن	ريه	يب	يز	ريز	يح	مد
كز	ريج	ز	لط	ريه	يد	و	ريز	ك	لج
كح	ريج	ط	كح	ريه	يه	نه	ريز	كب	كب
كط	ريج	يا	يز	ريه	يز	مد	ريح	٠	يا
ل	ريج	يج	ه	ريه	يط	لب	ريح	ب	٠

156. ريز يه ز: [= ريز يج يح + ساعة و49 دقيقة]؛ [في المخطوط:] ريز يه نز.

[C: 4 of 4]
Table of the days of the gestation time for seven-month births when the moon is above the horizon

Distance between the moon and the descendent	*Sign 3*	*Sign 4*	*Sign 5*
16°	212d 11;41h	214d 18;8h	217d 0;35h
17°	212d 13;30h	214d 19;57h	217d 2;24h
18°	212d 15;19h	214d 21;45h	217d 4;13h
19°	212d 17;8h	214d 23;34h	217d 6;2h
20°	212d 18;57h	215d 1;23h	217d 7;51h
21°	212d 20;46h	215d 3;12h	217d 9;40h
22°	212d 22;35h	215d 5;1h	217d 11;29h
23°	213d 0;24h	215d 6;50h	217d 13;18h
24°	213d 2;12h	215d 8;39h	217d 15;7h[157]
25°	213d 4;1h	215d 10;28h	217d 16;55h
26°	213d 5;50h	215d 12;17h	217d 18;44h
27°	213d 7;39h	215d 14;6h	217d 20;33h
28°	213d 9;28h	215d 15;55h	217d 22;22h
29°	213d 11;17h	215d 17;44h	218d 0;11h
30°	213d 13;5h	215d 19;32h	218d 2;0h

157. [217d 15;7h = 217d 13;18h + 1;49h. In the manuscript: 217d 15;57h.]

// [7 و]

درج بعد القمر من الجزء الطالع[158]	[د: 1 من 4] جدول أيّام المكث لمواليد سبعة أشهر إذا كان القمر تحت الأفق وهو الجدول الرابع وبتمامه تمّت جداول المكث والحمد لله								
	٠			ا			ب		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
	ريح	ب	٠	رك	ح	كز	ركب	يد	نه
ا	ريح	ج	مط	رك	ي	يو	ركب	يو	مد
ب	ريح	ه	لح	رك	يب	ه	ركب	يح	لج
ج	ريح	ز	كز	رك	يج	ند	ركب	ك	كب
د	ريح	ط	يو	رك	يه	مج	ركب	كب	يا
ه	ريح	يا	ه	رك	يز	لب	ركج	٠	٠
و	ريح	يب	نج	رك	يط	كا	ركج	ا	مح
ز	ريح	يد	مب	رك	كا	ي	ركج	ج	لز
ح	ريح	يو	لا	رك	كب	نط	ركج	ه	كو
ط	ريح	يح	ك	ركا	٠	مح	ركج	ز	يه
ي	ريح	ك	ط	ركا	ب	لز	ركج	ط	د
يا	ريح	كا	نح	ركا	د	كو	ركج	ي	نج
يب	ريح	كج	مز	ركا	و	يد	ركج	يب	مب
يج	ريط	ا	لو	ركا	ح	ج	ركج	يد	لا
يد	ريط	ج	كه	ركا	ط	نب	ركج	يو	ك
يه	ريط	ه	يد	ركا	يا	ما	ركج	يح	ط

158. درج بعد القمر من الجزء الطالع: [في المخطوط:] درج بعد القمر من الجزء الغارب.

// [F. 7r]

[D: 1 of 4]
Table of the days of the gestation time for seven-month births when the moon is below the horizon
This is the fourth table, and, with its conclusion, the tables for gestation time are finished, thanks to God.

Distance between the moon and the ascendant	*Sign 0 ascendant*	*Sign 1*	*Sign 2*
0°	218d 2;0h	220d 8;27h	222d 14;55h
1°	218d 3;49h	220d 10;16h	222d 16;44h
2°	218d 5;38h	220d 12;5h	222d 18;33h
3°	218d 7;27h	220d 13;54h	222d 20;22h
4°	218d 9;16h	220d 15;43h	222d 22;11h
5°	218d 11;5h	220d 17;32h	223d 0;0h
6°	218d 12;53h	220d 19;21h	223d 1;48h
7°	218d 14;42h	220d 21;10h	223d 3;37h
8°	218d 16;31h	220d 22;59h	223d 5;26h
9°	218d 18;20h	221d 0;48h	223d 7;15h
10°	218d 20;9h	221d 2;37h	223d 9;4h
11°	218d 21;58h	221d 4;26h	223d 10;53h
12°	218d 23;47h	221d 6;14h	223d 12;42h
13°	219d 1;36h	221d 8;3h	223d 14;31h
14°	219d 3;25h	221d 9;52h	223d 16;20h
15°	219d 5;14h	221d 11;41h	223d 18;9h

درج بعد القمر من الجزء الطالع[159]	[د: 2 من 4] جدول أيّام المكث لمواليد سبعة أشهر إذا كان القمر تحت الأفق وهو الجدول الرابع وبتمامه تمّت جداول المكث والحمد لله								
	٠			ا			ب		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
يو	ريط	ز	ج	ركا	يج	ل	ركج	يط	نح
يز	ريط	ح	نب	ركا	يه	يط	ركج	كا	مز
يح	ريط	ي	م	ركا	يز	ح	ركج	كج	له
يط	ريط	يب	كط	ركا	يح	نز	ركد	ا	كد
ك	ريط	يد	يح	ركا	ك	مو	ركد	ج	يج
كا	ريط	يو	ز	ركا	كب	له	ركد	ه	ب
كب	ريط	يز	نو	ركب	٠	كد	ركد	و	نا
كج	ريط	يط	مد	ركب	ب	يج	ركد	ح	م
كد	ريط	كا	لد	ركب	د	ا[160]	ركد	ي	كط
كه	ريط	كج	كج	ركب	ه	ن	ركد	يب	يح
كو	رك	ا	يب	ركب	ز	لط	ركد	يد	ز
كز	رك	ج	ا	ركب	ط	كح	ركد	يه	نو
كح	رك	د	ن	ركب	يا	يز	ركد	يز	مه
كط	رك	و	لط	ركب	يج	و	ركد	يط	لد
ل	رك	ح	كز	ركب	يد	نه	ركد	كا	كب

159. درج بعد القمر من الجزء الطالع: [في المخطوط:] درج بعد القمر من الجزء الغارب.

160. ركب د ا: [= ركب ب يج + ساعة و48 دقيقة]؛ [في المخطوط:] ركب ه ا.

[D: 2 of 4]
Table of the days of the gestation time for seven-month births when the moon is below the horizon
This is the fourth table, and, with its conclusion, the tables for gestation time are finished, thanks to God.

Distance between the moon and the ascendant	*Sign 0 ascendant*	*Sign 1*	*Sign 2*
16°	219d 7;3h	221d 13;30h	223d 19;58h
17°	219d 8;52h	221d 15;19h	223d 21;47h
18°	219d 10;40h	221d 17;8h	223d 23;35h
19°	219d 12;29h	221d 18;57h	224d 1;24h
20°	219d 14;18h	221d 20;46h	224d 3;13h
21°	219d 16;7h	221d 22;35h	224d 5;2h
22°	219d 17;56h	222d 0;24h	224d 6;51h
23°	219d 19;44h	222d 2;13h	224d 8;40h
24°	219d 21;34h	222d 4;1h[161]	224d 10;29h
25°	219d 23;23h	222d 5;50h	224d 12;18h
26°	220d 1;12h	222d 7;39h	224d 14;7h
27°	220d 3;1h	222d 9;28h	224d 15;56h
28°	220d 4;50h	222d 11;17h	224d 17;45h
29°	220d 6;39h	222d 13;6h	224d 19;34h
30°	220d 8;27h	222d 14;55h	224d 21;22h

161. [222d 4;1h = 222d 2;13h + 1;48h. In the manuscript: 222d 5;1h.]

درج بعد القمر من الجزء الطالع[162]	جـ			د			هـ		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
[د: 3 من 4] جدول أيّام المكث لمواليد سبعة أشهر إذا كان القمر تحت الأفق وهو الجدول الرابع وبتمامه تمّت جداول المكث والحمد لله	ركد	كا	كب	ركز	ج	ن	ركط	ي	يز
ا	ركد	كج	يا	ركز	ه	لط	ركط	يب	و
ب	ركه	ا	٠	ركز	ز	كح	ركط	يج	ند[163]
ج	ركه	ب	مط	ركز	ط	يز	ركط	يه	مد
د	ركه	د	لح	ركز	يا	و	ركط	يز	لج
ه	ركه	و	كز	ركز	يب	نه	ركط	يط	كب
و	ركه	ح	يو	ركز	يد	مج	ركط	كا	يا
ز	ركه	ي	ه	ركز	يو	لب	ركط	كج	٠
ح	ركه	يا	ند	ركز	يح	كا	رل	٠	مط
ط	ركه	يج	مج	ركز	ك	ي	رل	ب	لح
ي	ركه	يه	لب	ركز	كا	نط	رل	د	كز
يا	ركه	يز	كا	ركز	كج	مح	رل	و	يو
يب	ركه	يط	ط	ركح	ا	لز	رل	ح	د
يج	ركه	ك	نح	ركح	ج	كو	رل	ط	نج
يد	ركه	كب	مز[164]	ركح	ه	يه	رل	يا	مب
يه	ركو	٠	لو	ركح	ز	د	رل	يج	لا

162. درج بعد القمر من الجزء الطالع: [في المخطوط:] درج بعد القمر من الجزء الغارب.
163. ركط يج ند: [= ركط يب و + ساعة و48 دقيقة]؛ [في المخطوط:] ركط يج نح.
164. ركه كب مز: [= ركه ك نح + ساعة و49 دقيقة]؛ [في المخطوط:] ركه كب يز.

[D: 3 of 4]
Table of the days of the gestation time for seven-month births when the moon is below the horizon
This is the fourth table, and, with its conclusion, the tables for gestation time are finished, thanks to God.

Distance between the moon and the ascendant	*Sign 3*	*Sign 4*	*Sign 5*
0°	224d 21;22h	227d 3;50h	229d 10;17h
1°	224d 23;11h	227d 5;39h	229d 12;6h
2°	225d 1;0h	227d 7;28h	229d 13;54h[165]
3°	225d 2;49h	227d 9;17h	229d 15;44h
4°	225d 4;38h	227d 11;6h	229d 17;33h
5°	225d 6;27h	227d 12;55h	229d 19;22h
6°	225d 8;16h	227d 14;43h	229d 21;11h
7°	225d 10;5h	227d 16;32h	229d 23;0h
8°	225d 11;54h	227d 18;21h	230d 0;49h
9°	225d 13;43h	227d 20;10h	230d 2;38h
10°	225d 15;32h	227d 21;59h	230d 4;27h
11°	225d 17;21h	227d 23;48h	230d 6;16h
12°	225d 19;9h	228d 1;37h	230d 8;4h
13°	225d 20;58h	228d 3;26h	230d 9;53h
14°	225d 22;47h[166]	228d 5;15h	230d 11;42h
15°	226d 0;36h	228d 7;4h	230d 13;31h

165. [229d 13;54h = 229d 12;6h + 1;48h. In the manuscript: 229d 13;58h.]
166. [225d 22;47h = 225d 20;58h + 1;49h. In the manuscript: 225d 22;17h.]

درج بعد القمر من الجزء الطالع[167]	جـ			د			هـ		
	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق	أيّام	ساعات	دقائق
يو	ركو	ب	كه	ركح	ح	نج	رل	يه	ك
يز	ركو	د	يه	ركح	ي	مب	رل	يز	ط
يح	ركو	و	ج	ركح	يب	ل	رل	يح	نح
يط	ركو	ز	نج	ركح	يد	يط	رل	ك	مز
ك	ركو	ط	مب	ركح	يو	ح	رل	كب	لو
كا	ركو	يا	لا	ركح	يز	نز	رلا	٠	كه
كب	ركو	يج	ك	ركح	يط	مو	رلا	ب	يد
كج	ركو	يه	ط	ركح	كا	له	رلا	د	ج
كد	ركو	يو	نز	ركح	كج	كد	رلا	ه	نا
كه	ركو	يح	مو	ركط	ا	يج	رلا	ز	م
كو	ركو	ك	له	ركط	ج	ب	رلا	ط	كط
كز	ركو	كب	كد	ركط	د	نا	رلا	يا	يح[168]
كح	ركز	٠	يج	ركط	و	م	رلا	يج	ز
كط	ركز	ب	ب	ركط	ح	كط	رلا	يد	نو
ل	ركز	ج	ن	ركط	ي	يز	رلا	يو	مه

[د: 4 من 4]

جدول أيّام المكث لمواليد سبعة أشهر إذا كان القمر تحت الأفق

وهو الجدول الرابع وبتمامه تمّت جداول المكث والحمد لله

167. درج بعد القمر من الجزء الطالع: [في المخطوط:] درج بعد القمر من الجزء الغارب.

168. رلا يا يح: [= رلا ط كط + ساعة و49 دقيقة]؛ [في المخطوط:] رلا يا لح.

[D: 4 of 4]
Table of the days of the gestation time for seven-month births when the moon is below the horizon
This is the fourth table, and, with its conclusion, the tables for gestation time are finished, thanks to God.

Distance between the moon and the ascendant	*Sign 3*	*Sign 4*	*Sign 5*
16°	226d 2;25h	228d 8;53h	230d 15;20h
17°	226d 4;15h	228d 10;42h	230d 17;9h
18°	226d 6;3h	228d 12;30h	230d 18;58h
19°	226d 7;53h	228d 14;19h	230d 20;47h
20°	226d 9;42h	228d 16;8h	230d 22;36h
21°	226d 11;31h	228d 17;57h	231d 0;25h
22°	226d 13;20h	228d 19;46h	231d 2;14h
23°	226d 15;9h	228d 21;35h	231d 4;3h
24°	226d 16;57h	228d 23;24h	231d 5;51h
25°	226d 18;46h	229d 1;13h	231d 7;40h
26°	226d 20;35h	229d 3;2h	231d 9;29h
27°	226d 22;24h	229d 4;51h	231d 11;18h[169]
28°	227d 0;13h	229d 6;40h	231d 13;7h
29°	227d 2;2h	229d 8;29h	231d 14;56h
30°	227d 3;50h	229d 10;17h	231d 16;45h

169. [231d 11;18h = 231d 9;29h + 1;49h. In the manuscript: 231d 11;38h.]

// [7 ظ] الفصل الخامس عشر في معرفة تحقّق درجات طوالع المواليد الرصديّة والحدسيّة بنيمودار القمر

قال الأستاذ أبو العبّاس أحمد بن يوسف ابن الكمّاد رحمه الله

[104] لمّا كان غرضنا في هذا الفصل أن يكون متمّما ومحقّقا للفصول العمليّة من هذه المقالة ويكون أيضا مبرهنا لما قصدنا إليه بعمل محكم ختمنا به القوانين والدستورات التي حصل بها تحقيق المواليد على صورة اليقين

[105] لأنّ المطلوب فيه ما وعدنا به في الفصل الثامن حيث قلنا إنّ موضع القمر في حين وقت الولادة هو[170] الجزء الطالع من الفلك في حين مسقط النطفة[171]

[106] فيتشكّل على هذا الوضع في الفلك في وقتي الولادة ومسقط النطفة أربع نقط

[107] أحدها درجة الطالع للولادة والثانية درجة طالع مسقط النطفة والثالثة درجة قمر الولادة والرابعة درجة قمر مسقط النطفة

[108] وكلّ درجة منها ضابطة الكمّيّة عددها في الوقتين ولازمة لموضعها المخصوص بها ودارسة لتحقيق موضعي تبادلها على حسب ما ذكرنا من نظام عالم الهداية ونظام عالم الإشراق معا

[109] فلا سبيل إن تكوّن في درجتي طالع الولادة وطالع مسقط النطفة أدنى خلل في زيادة أو نقصان وتتّفق أزمان حركات القمر فيما بين النقطتين اللتين هما درجتا طالع الولادة ومسقط النطفة

[110] ولا أيضا يتّفق وجود القمر في تينك النقطتين المخصوصتين[172] بالتبادل ولا أيضا تتّفق أزمان حركات عالم الإشراق الدوريّة من أجل اختلاف تبادل النقطتين اللتين هما درجتا طالع مسقط النطفة وطالع الولادة

170. هو: [في المخطوط:] من.
171. مسقط النطفة: [في المخطوط:] الولادة.
172. المخصوصتين: [في المخطوط:] المخصوصين.

// [F. 7v]

Chapter 15. Knowledge Of How To Check The Degrees, The Observed Degrees And The One Calculated In An Intuitive Way, Of The Ascendants Of Births By Means Of The Animodar Of The Moon

The master Abū-l-'Abbās Aḥmad b. Yūsuf b. al-Kammād, God keep him in his glory, mentioned:

[104] As our goal in this chapter is that it be complete and verified for the practical chapters of this treatise, and, also, that it be proven because we want a work done well, we will finish with the norms and the rules with which the verification of births is obtained with certainty.

[105] Because what we are seeking is what we promised in the eighth chapter in which we mentioned that the position of the moon at the instant of birth is the degree of the ascendant in the ecliptic at the date of conception.

[106] Following this position in the ecliptic, at the instant of birth and conception, four points are established:

[107] The first is the degree of the ascendant at birth, the second is the degree of the ascendant at conception, the third is the degree of the moon at birth, and the four is the degree of the moon at conception.

[108] Each degree has a specific quantity at the two instants [birth and conception], and it is necessary to obtain their exact position to be able to determine the reciprocity of the two positions, following what we mentioned about the order of the world which God guides and the world in which its enlightenment occurs.

[109] This is not possible, if between the degree of the ascendant at birth and the degree of the ascendant at conception, there is the smallest mistake, by excess or by defect, because the periods of the moon motions agree depending on what there is between the two points, that is, between the degree of the ascendant at birth and the degree of the ascendant at conception.

[110] Neither is this possible if the presence of the moon at these two specific points does not agree with reciprocity, nor when the periods of cyclic motions of the world of the enlightenment do not agree, on account of the difference in the reciprocity between the two points, that is, the degree of the ascendant at conception and the degree of the ascendant at birth.

[111] فإذا ذلك كذلك فلنذكر الآن كيفيّة وجود هذه النقط الأربعة واتّفاق بعضها من بعض في الطلوع والغروب على نسبة عدديّة لنحقّق بها درجتي طالع الولادة وطالع مسقط النطفة

[112] فإذا أردنا ذلك أخذنا أيّام المكث المعدّلة وساعاتها المحفوظة عندنا على ما تقدّم وأنقصنها من تأريخ الولادة بعد معرفتنا بسني كبائس[173] التأريخ المبني عليه[174] الزيج الذي نعدّل به خيفة أن نضطرّ إلى حلّ سنة

[113] ثمّ نطرح ساعات المكث من ساعات المولد وأيّام المكث من أيّام شهور سنة المولد إن كان فيها

[114] وإلاّ حللنا من تأريخ المولد سنة وأسقطنا منها أيّام المكث من أيّام شهورها

[115] فما بقي من الأيّام حملناها على أيّام السنة التي ولد فيها المولود وضربناها شهورا على صفة الشهور المبني // [8 و] عليها حركات الزيج وما بقي أقلّ من شهر حفظناه

[116] فما كان فهو تأريخ مسقط النطفة

[117] فنعدّل عليه القمر والشمس ويخرج أيضا الطالع لذلك الوقت

[118] فإن خرج القمر في حقيقة درجة طالع الولادة المستخرجة بنيمودار المستولي فهو المطلوب

[119] وكذلك أيضا تخرج درجة طالع مسقط النطفة مثل نظير درجة قمر الولادة بالتأريخ صحيحا والمكث الذي عملنا به هو المكث المعدّل الصحيح

[120] وإن لم يخرج القمر ولا الطالع في ذينك الموضعين وكان له عرض فتخرج الدرجة التي يطلع معها القمر في مسقط النطفة والدرجة التي يغرب معها القمر في وقت المولد

173. كبائس: [في المخطوط:] كتاب.

174. عليه: [كرّر الناسخ:] عليه.

[111] If it occurs in this way, now we mention the way to find these four points and the concordance among them at sunrise and sunset, in accordance with a numerical ratio with which we verify the degrees of the ascendants at birth and at conception.

[112] When we wish to know this, we take the rectified days and hours of the period of gestation we have, following what we have previously mentioned, and we subtract them from the date of birth taking into account the leap-years following the calendar used in the astronomical tables with which we calculated the true positions, given our apprehension in separating the year.

[113] Then, we subtract the hours of the gestation time from the hours at birth, and the days of the gestation time from the days of the months of the year of birth, if there are any.

[114] Otherwise, we separate [in days] the date of birth in a year, and we subtract it from the days of gestation time with the days of its months.

[115] We add the resulting days to the days of the year in which the new-born was born, and we convert them into months depending on the kind of months used // [f. 8v] in the astronomical tables of [regular] motions [used]. We keep the resulting quantity lower than a month:

[116] Is the date of conception.

[117] We calculate [at the date of conception] the true position of the moon and the sun, and we also obtain the ascendant at that instant.

[118] If the moon is in the exact degree of the ascendant at birth obtained by the animodar of the ruler [planet], then, [the ascendant] is determined.

[119] Likewise, if the degree of the ascendant at conception arises correctly in the nadir of the degree of the moon at birth, following with the date, then, the period of gestation with which we have operated is the rectified and correct period of gestation.

[120] If the moon and the ascendant are not situated in these two places and [the moon] has latitude, we obtain the degree [of the ecliptic] with which the moon rises at the instant of conception and the degree with which the moon descends at the instant of birth.

[121] فإن كانت الدرجة التي يطلع معها القمر مثل درجة طالع الولادة التي استخرجناها بالمستولي ونخرج أيضا درجة طالع مسقط النطفة مثل الدرجة التي يغرب معها القمر فقد صحّت درجتا طالع الولادة ومسقط النطفة ويكون المكث الذي عملنا به هو المكث المعدّل الصحيح

[122] فإن لم يخرج القمر في درجة طالع الولادة ولا كانت درجة طالع مسقط[175] النطفة مثل الدرجة التي يغرب معها القمر عرفنا حينئذ البعد الذي بين القمر وبين درجة طالع الولادة التي استخرجناها بنيمودار المستولي متقدّما كان القمر لها أو متأخّرا عنها

[123] وقسمنا ذلك البعد على حركة القمر المختلفة ليوم إن كان فيه أو لساعة فما خرج من الأيّام والساعات حفظناها

[124] ثمّ نظرنا

[125] فإن كان القمر قد جاز درجة الطالع نقصنا ما حفظنا من الأيّام والساعات من التأريخ الذي عدّلنا به القمر وزدناها أيضا على أيّام المكث المعدّلة

[126] وإن كان القمر لم يجز درجة الطالع ولا بلغ إليها زدنا ذلك على التأريخ ونقصناه من أيّام المكث المعدّل

[127] فيكون التأريخ المعدّل والمكث الصحيح المعدّل [176]وتكون درجة طالع الولادة في ذلك الوقت مثل الدرجة التي يطلع معها القمر وتكون أيضا درجة طالع مسقط النطفة مثل الدرجة التي يغرب معها القمر بتقريب يسير فإن أردنا تحقيقه عدّلنا[177] التعديل على التأريخ الصحيح مرّة ثانية

[128] وفيه وجه آخر بالجدول

175. مسقط: [هذه الكلمة مكتوبة فوق "طالع"].
176. المعدّل: [هذه الكلمة مكتوبة بين السطرين].
177. عدّلنا: [في المخطوط:] اعدنا.

[121] If the degree with which the moon rises agrees with the degree of the ascendant at birth, which we have obtained by the [animodar of the] ruler [planet] and we obtain, also, the degree of the ascendant at conception equal to the degree with which the moon descends, then, the degrees of the ascendants at birth and conception are right, and the period of gestation with which we have worked is the rectified and correct one.

[122] If the moon does not agree with the degree of the ascendant at birth, and the degree of the ascendant at conception does not agree with the degree in which the moon descends, then, we search for the distance between the moon and the degree of the ascendant at birth, which we have obtained by the animodar of the ruler [planet], whether the moon is before birth or after it.

[123] We divide this distance into the moon's true motion in a day, if this were the case, or in a hour. We keep the resulting days and hours.

[124] Later, we observe:

[125] If the moon exceeds the degree of the ascendant, we subtract the days and hours kept from the date in which we obtained the moon's true motion, and we also add them to the rectified days of gestation time.

[126] If the moon neither exceeds the degree of the ascendant nor reaches it, we add what we kept to the date, and we subtract it from the rectified days of the gestation time.

[127] It will be the rectified date and the correct and rectified gestation time, and the degree of the ascendant at birth at this moment will be equal to the degree in which the moon rises, and the degree of the ascendant at conception will be equal to the degree in which the moon descends, with a slight approximation. If we wish to verify it, we calculate again the rectification, in accordance with the correct date.

[128] There is another way using the table.

[129] وهو أنّا إذا أردنا ذلك دخلنا بأيّام المكث المعدّلة في جدول حركات النيّرين والجوزهر في أيّام المكث وأخذنا ما بحيالها من حركة النيّرين والجوزهر ودخلنا أيضا بما معنا من الساعات في جدول الساعات وجمعنا ذلك كلّه

[130] فما خرج للشمس نقصناه من حركة الشمس الوسطى في وقت المولد وما خرج للقمر أيضا من الوسط // [8 ظ] نقصناه من حركة القمر الوسطى ومن حصّته وما خرج للجوزهر نزيده على حركة الجوزهر للمولود

[131] فما كان بعد ذلك فهو وسط النيّرين وموضع الجوزهر لوقت مسقط النطفة فإن خرجت الطوالع على ما ذكرناه آنفا وإلاّ صنعنا بها من صناعة التعديل مثل ما تقدّم

[132] انتهى الفصل الخامس عشر والحمد لله حقّ حمده

[133] صيد البرّ أقوى ما يكون الطالع من ذوات الأربع قوائم أو من بروج الأرض

[134] فإن وجدته من ذوات الأربع وربّه أو ربّ الساعة فيه أو في وتد وهو مسعود فيظفر بالصيد

[135] وإن وجدت القمر في السابع أو هو[178] ربّ السابع وهو مسعود فيظفر بالصيد

[136] وإن كان المرّيخ هو ربّ السابع أو كان فيه أو في موضع له فيه قوّة فيظفر بالصيد لأنّ المرّيخ صاحب صيد البرّ وهو أقوى الكواكب وأعلاها في أمر الصيد

[137] وإن كان [المرّيخ] في وسط السماء أو هو ربّه ويناظره عطارد أو المشتري أو لأحدهما حظّ في الساعة أو في الطالع وسقط زحل فينال صيدا كثيرا إن شاء الله تعالى

[138] صيد البحر أقوى ما يكون من البروج المائيّة وأفضله أن يلي الزهرة والقمر وعطارد والمشتري ربوبيّة الطالع والساعة ووسط السماء ويكون[179] القمر متّصلا [بالزهرة] وعطارد يناظرهما والمشتري في البروج المائيّة

[139] وإيّاك والصيد والمرّيخ في وسط السماء أو مقابلة الزهرة في وتد من الأوتاد لأنّه مضرّ في أمر البحر كلّه كما هو زحل مضرّ في البرّ فاعلمه

178. أو هو: [في المخطوط:] أو في وتد من

179. ويكون: [كرّر الناسخ:] ويكون

[129] When we wish this, in the 'table of the motions of the two luminars and the nodes', we enter the rectified days of the gestation time in the days of the gestation time, and we take the values corresponding to the motion of the two luminars and the nodes. Likewise, we enter the hours in the 'table of the hours' and we add everything.

[130] Whatever the result for the sun, we subtract it from the regular longitude of the sun at the instant of birth, and also, the result for the regular moon // [f. 8v] we subtract it from the regular longitude of the moon and its anomaly. Whatever results for the nodes, we add it to the position of the nodes at birth.

[131] What results is the regular position of the two luminars and the two nodes at the date of conception, if ascendants arose as we mentioned previously. If it is not so, we calculate them by the method of rectifying, as we have previously explained.

[132] The fifteenth chapter has finished, glory to God, we give thanks to him.

[133] HUNTING is more abundant when the ascendant is a quadruped or an earthy sign.

[134] If you find the ascendant in a quadruped [sign], and its lord, or the lord of the hour, is in it or in a cardine, and is beneficial, the hunt will be successful.

[135] If you find the moon in the descendent or is the lord of the descendent and is beneficial, the hunt will be successful.

[136] If Mars is the lord of the descendent or is situated in it or in a position in which it has strength, the hunt will be successful because Mars is the lord of hunting and is the most powerful and highest planet in relation to matters of hunting.

[137] If [Mars] is in house X or is its lord and Mercury and Jupiter are in aspect to it or either of the two have fortune in the hour or in the ascendant, and Saturn is falling [from a cardine], [Mars] will bring a lot of hunting, if God, glory to him, wills it.

[138] FISHING is more abundant in the watery signs and is of greater quality when Venus rules, and the moon, Mercury and Jupiter are lords of the ascendant, of the hour and house X, and the moon is in application to Venus and Mercury is situated in aspect to them and Jupiter is in a watery sign.

[139] Avoid fishing if Mars is in house X or opposite to Venus in a cardine because Mars, fully, is harmful in fishing matters as Saturn is harmful in [matters related to] the earth. Know this.

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