中世におけるイスラム天文学のアラビア語およびラテン語文献の研究

山　本　啓　二

1．ハムダーン朝と天文学者カビースィー

もともとジャズイーラ地方（メソポタミア北部）に定住していた、アラブのタグリブ族に起源をもつハムダーン家は、アブド・アッラーフ（位905-929年）の時にモースルの総督となった。バグダードのアッバース朝第17代カリフ、ムクタフィー（位902-908年）の時代である。その後、アブド・アッラーフの息子、ナスィール・アッダウラは、大アミールとしてモースルを中心とした政権をジャズィーラに樹立した。この政権は、フワイフ朝その他の勢力に征服されて滅びる991年まで続いた。一方、アブド・アッラーフの弟、サイフ・アッダウラ（位945-967年）はアレッポを中心にシリアを治めていた。こちらの政権は、1004年にファーティマ朝に征服されるまで続いた。モースルとアレッポの両方で実権を握っていた時期のハムダーン家は、総称してハムダーン朝（905-1004年）と呼ばれる。

イスラームの数ある王朝の中で、支配地域も限られ、全盛期が短かったこの王朝には、それほど大きな関心が寄せられることはない。しかし、文人や学者を保護したことで有名なサイフ・アッダウラは別である。詩人のムタナッビー（al-Mutanabbī, 965年没）やイスバハーニー（al-Iṣbāhanī, 967年没)、また哲学者ファーラービー（al-Fārabī, 950年没）といった著名人が、彼の宮廷で活躍し、その中に、天文学者のカビースィー（Abū ṣ-Ṣaqr ʻAbd al-ʻAzīz ibn ʻUṯmān ibn ʻAlī al-Qabīṣī, 生没年不明）もいたのである。

2．カビースィーの著作

カビースィーに帰される著作・論文には、現在以下のものが知られている。

1）「ファルガーニーの『諸章の書』注解」：９世紀の天文学者ファルガーニーがプトレマイオスの天文学を概説した著作（30章）を注解した著作。

2）「惑星の距離と大きさについて」：プトレマイオスの『アルマゲスト』第５巻で扱われている、特に太陽と月の距離と大きさに関する論文。

3）「占星術入門」：12世紀にラテン語訳され、その後、大学で教科書として使われ、西欧に多大な影響を及ぼした占星術書。

4）「占星術師資格諮問」：占星術師としての資格を問う、30問からなる問題と回答。

5）「惑星の合について」：黄道12宮で惑星同士が会合する現象を扱った論文。このテーマは、主に占星術で使われる。
6）「数の種類について」
7）「大地の距離について」
8）「天文表の欠点について」
9）「占星術の有効性の立証」：9世紀の天文器具製作者であった、アリー・イブン・イーサーによる占星術批判に答えた論文。
10）「ナムーダールの書」：占星術で使う出生時のアセンダント（東の地平線上にある黄道宮）を求める方法を扱った書。
11）「『アルマゲスト』に関する疑念」

これらのうち、7）から11）までの5篇は、他の論文にタイトルのみが言及されているだけで、現存していないものである。また、5）だけはラテン語訳のみで存在する論文である。5）は純粋に数学論文であり、これについてはすでに研究されている[1)]。また、3）については、すでにわれわれの研究が公刊されている[2)]。本研究の目的は、残る1）、2）、4）の校訂版とその英語訳をつくることである。

3．写本について

「ファルガーニーの『諸章の書』注解」（Mā šaraḥahu l-Qabīṣī min kitāb al-fuṣūl li-l-Farġānī）については、以下の写本ひとつしか確認されていない。

- Istanbul, Ayasofya 4832, ff. 94b-114b.

「惑星の距離と大きさについて」（Risāla fī l-abʿād wa-l-aǧrām）は、2種類の写本が確認されている。

- Istanbul, Ayasofya 4832, ff. 88b-94a.
- Dublin, Chester Beatty 5254, ff. 244a-252b.

「占星術師資格諮問」（Risāla fī imtiḥān al-munaǧǧimīn mimman huwa muttasim bi-hāḏā l-ism）も、2種類の写本が確認されている。

- Damascus, Ẓāhirīya 4871, ff. 66b-72a.
- Cairo, Dār al-Kutub, Mīqāt 447/1, ff. 1b-11a.

以上のすべての写本のコピーを使って校訂版を作成することになる。その他に、ファルガーニーによる『諸章の書』（原題は「天文学の諸原理」、Uṣūl ʻilm an-nuǧūm）そのものも、未だに校訂版がない状態なので、その写本も収集し、最終的に校訂することを考えている。現在、マイクロフィルムで収集済みの写本は以下の８種類である。

- Istanbul, Carullah 1279/33, ff. 382b-392b.
- Istanbul, Ayasofya 2843/2, ff. 61a-101b.
- Oxford, Bodleian, Selden 3144/11, ff. 2b-37b.
- Princeton, Hitti 967, ff. 1b-96a.
- Dublin, Chester Beatty 4114, ff. 1b-44b.
- Leiden, Acad. 47, ff. 1b-76b.
- Leiden, Or. 8418/5, ff. 17b-33a.
- Paris, BN. ar. 2504, ff. 116b-143b.

4.「占星術師資格諮問」の英語訳（部分）

以下に「占星術師資格諮問」の英語訳を載せる。序文の後に続く、第１問から第15問までの部分訳である。なお、訳文中の、〈　〉は訳文における補足、（　）は訳者による説明、そして［　］は原文テキストへの補足を意味している。

［1］ **The first question.** Since the cause of the retrogression of the planets is their motions on the orbs of their epicycles on the lower side, i. e. the position in which they move in the opposite direction to the order of the signs, and the Moon moves on the orb of its epicycle, why does not one see it (the Moon) retrogressing ?

The answer. The Moon moves on an epicycle whose centre is fixed on an orb, called the eccentric orb, and the centre of the eccentric orb moves around the centre of the zodiacal orb. The eccentric orb moves entirely with it and the greatest distance from it, i. e. the apogee of the eccentric orb, moves in the opposite direction to the order of the signs 11 degrees and 9 minutes a day. The centre of the epicycle moves on the eccentric orb in the order of the signs, and 〈it moves〉 on the zodiacal orb 13 degrees and 14 minutes a day. The sum of the two motions after subtracting the motion of the earth, i. e. 3 minutes, is 24 degrees and 23 minutes, which is twice the distance between the Sun and the Moon by their mean motion in one day. This is what is between the centre of the epicycle and the greatest distance from the eccentric orb. What is between it and the position in which it was, i. e. the mean motion of the centre of the orb of the

epicycle, is only 13 degrees and 14 minutes.

The motion of the Moon on the orb of the epicycle is 13 degrees and 4 minutes a day. If it is on the upper side, it is in the opposite direction to the order of the signs. If it is in the lower side, it is in the order of the signs. The degrees it moves are on the epicycle, however, not with respect to the zodiacal orb, and what is added to it with respect to the zodiacal orb is a little motion, i. e. the second equation of the Moon. If it is on the upper side, a decrease 〈in the motion of the Moon〉 is subtracted from the mean Moon, if it is on the lower, it is added to it (the mean Moon) and it does not move according to its fast motion.

If the motions of the other planets on the orbs of their epicycles are on the upper side, then they are in the order of the signs, and if they are on the lower side, they are opposite to the order of the signs and their motion on the orbs of their epicycles is faster than that of the centre of the orb of the epicycle.

Saturn moves on the orb of its epicycle 57 minutes a day. The centre of the orb of the epicycle of Saturn moves only 2 minutes a day on the eccentric orb. Likewise the other planets, so they are retrogressing.

But as for the Moon, it (the retrogression) does not happen, because of that.

[2] **The second question.** Since the Moon is eclipsed because the shadow cone extends beyond its sphere, and when the Moon passes through the shadow cone, the shadow of the earth conceals the Moon from the Sun so that it is taken away from its light and is seen 〈as〉 eclipsed, and the shadow cone extends beyond the spheres of Mercury and Venus according to what Ptolemy has explained in the fifth book of the *Almagest*, then why are not Venus and Mercury eclipsed ?

The answer. The shadow cone is always opposite to the degree of the Sun. When the Moon happens to be in the path of the Sun at the time of opposition, the shadow cone falls on it, so it is eclipsed. Venus and Mercury are not opposite to the Sun. If they were to be opposite to it, they would be eclipsed like the Moon is eclipsed.

[3] **The third question.** Why, when the Moon is eclipsed totally, has it duration, but when the Sun is eclipsed totally, has it no duration ?

The answer. The cause of the lunar eclipse is its entering the shadow cone and the size of the shadow cone at the greatest distance of the Moon, i. e. the position in which the Moon is at the times of conjunction and opposition, is about two and a quarter times the size of the Moon, as Ptolemy explained in the fifth book of the *Almagest*. When the Moon is eclipsed and it enters the

shadow cone, it is submerged in the eclipse as if there is an excess in the cone in which the Moon moves until it goes out from the shadow one and a quarter times its size, and it remains 〈eclipsed〉 according to the amount of its excess. As for 〈the eclipse of〉 the Sun, it and the Moon are in one cone, the point of the cone being for the observer according to what he (Ptolemy) also explained, and the reason for the eclipse of the Sun is the Moon concealing it from us, and, since it is in one cone, it is superimposed on it. When the Sun is submerged in the eclipse and superimposed on the Moon, the end of its (the Sun's) submersion is the beginning of its release, and it has no duration at all.

[4] **The fourth question.** If the argument of the Sun is known to us and the distance of the equation is not known to us, and we wish to know the equation of the argument, can the operation be done without a table of the equation?

The answer. You make the degree whose equation you want a sine and you also make its complement a sine if it is less than 90 degrees. If it is more, we subtract it from 180. If it is more than 180 up to 270, subtract 180 from it, and operate with the remainder. If it is more than 270, subtract it from 360, and operate with the remainder. The mode of operation is that we make the remainder a sine, and you multiply each of the two by two and a third degrees, and you divide the product of each by the larger sine. What results from the sine is the first amount, and what results from its complement is the second amount. You reserve both. Then you see whether the argument in degrees is within 90 or from 270 to 360, and we add the second number to the larger sine. The sum is the third amount. If the argument is from 90 to 270, we subtract it from the larger sine. The remainder is the third amount. You multiply each of the first and the third amounts by itself, add both together, and take the root of this (sum). The resultant root is the distance of the Sun from the centre of the earth. Then you multiply the first amount by the larger sine and you divide the product by the distance of the Sun from the centre of the earth. We take the result of the division by arc. The resultant arc is the equation of the Sun for that argument.

[5] **The fifth question.** How is the latitude of a city known on a 〈particular〉 day without 〈the knowledge of〉 the altitude of the Sun, nor that of a star, e. g., when we want to observe the latitude of the city on a day of dense cloud.

The answer. You see with a graduated water-vessel how many hours 〈have passed〉 on that day. If there are less than twelve hours, we operate with them. If there are more 〈than twelve〉, we subtract them from twenty-four and operate with the remainder. The method is that you

change hours into degrees, i. e. you take fifteen degrees for every hour. We make the complete sine. This is the first sine. Then you subtract the multiplied hours from 90 and make a sine of the remainder. You call it the second sine. Then you take the solar declination on that day, subtract it from 90, and make a sine of what remains, and this is the third 〈sine〉. Then you multiply the first sine by the third, and divide the product by the complete sine. The result is the sine of the argument. You write it down in two positions, and you make an arc of one of the two positions. We divide the result by the argument. Then you take the argument from seventy and what remains is the ortive amplitude of the degrees of the Sun on that day. And you make it a sine, and this is the fourth sine. Then you multiply the second sine by the sine of the argument which we did not make an arc of, and you divide the result by the fourth sine. We multiply what results by the complete sine and we divide it by the first sine, and we make an arc of what results, and this is the latitude of the city.

[6] **The sixth question.** When we want to know the position of the Sun and we have no mean motions nor equations, nor an instrument by which we make observations, and we want to observe it from a shadow of a tree or a wall or something else at noon, how can we know that?

The answer of this question. One day of the assembly in the mosque of Mosul I happened to be with an astrologer just after a shower of rain, and the Sun had risen and the part of the mosque over which the Sun had risen was dry, and the part on which the Sun did not fall remained wet. I said to him: 'You can know the position of the Sun if you … and measure this dampness', and he asked me how to do this. I said to him: 'You measure the shadow of the wall, then you multiply it by itself, and you know the length of the wall and you multiply it by itself, and we add them and take the root of the sum and you call it the hypothenuse. Then you multiply the length of the wall by the product of the sine, and you divide the product into the diagonal, and you subtract the arc of what results from 90 and you call what remains the distance. And you look, and if the time is that in which the Sun is between the beginning of Aries and the beginning of Libra, you subtract the distance from the latitude of the city, and if the time is that in which it is between the beginning of Libra and the end of Pisces, you subtract the latitude of the city from the distance, and what arises after this is the declination of the Sun, and you enter with this 〈value〉 into the table of declination, and you consider which degree it is in, and, whatever it is, this is the degree of the Sun.

[7] **The seventh question.** Is it possible for you to use on the astrolabe a devise by which you can know the ascendant from the Moon or from whichever wandering planet you want when

you need to do this, since clouds occur in the sky and nothing is visible except the Moon or a wandering planet ?

The answer. We use a thin ruler and we make a hole at one of its ends and mount this hole on the axis of the astrolabe, and let its (the ruler's) length be according to what it is when you desire what is between its two ends in parts of the limb, and we divide it by the division of the parts which are between the altitude circles which are between the horizon and the axis, along the meridian line to that which the ruler is divided into. And if the altitude of the Moon or of one of the wandering planets is taken, then you look at its degree and mount the ruler on that degree in which the Moon or the planet is, and you look at the amount of its latitude. If its latitude is to the south, you count from the side of the zodiacal belt to the outside of the divisions of the ruler according to the amount of its latitude. Then put a mark on that side of it (the ruler). Then turn the rete without the ruler's moving from its position in respect to the rete until the point of the ruler arrives at the equivalent of this altitude of the almucantars. If it is eastern, then eastern, if it is western, then western. And what corresponds to the east is the ascendant. If the latitude of the planet is in the north, you count from the side of the zodiacal belt to the inside of the parts of the ruler, according to the amount of the latitude. And you do the same with this as you did for the south. You obtains the ascendant of this if the astrolabe was northern, and if it was southern, it is the reverse 〈operation〉.

[8] **The eighth question.** Is it possible for you to make an instrument by which you know how many digits is an eclipsed portion of the Moon or the Sun by visual observation, or how large is the portion of the Moon's face which is illuminated on whichever night we want, and how much is the ratio of the diameter of one planet to another ?

The answer. A ruler whose length and width are calclated is taken, and its length should be four cubits, its width four narrow digits. You should divide its width into two equal halves with a line which is on its length. You should mount the sight which is on the width of the ruler and is a level quadrangle and you divide the line which runs down the middle of the ruler by as many divisions as there are. And let each division of them be on the width of the sight, and let us divide every one of these divisions into what is possible of minutes and other fractions. And let the sight run the full length, from the beginning to the end of the ruler. And if we want to know the diameter of the Moon, the observer takes the ruler on his palm and puts one of his eyes to the edge of the ruler on the line which divides the width of the ruler into two halves at the beginning of the numbers/calibrations.

If he wants to set up another sight on the edge on which he puts his eye, and he pierces a hole in it like the sight of the alidade. And he looks from this hole and brings the sight closer or pushes it further away until he sees the two sides of the Moon 〈coincide〉 with the two sides of the sight. Then he looks at the number of the sight into which the line is divided, and he knows it. And you do the same for the Sun. And whatever the divisions are, you call it its first distance. When one of the luminaries is eclipsed and you want to know the portion of the Moon's face which is illuminated, then take the ruler as you took it before, until you see the two sides of the eclipsed 〈portion〉 or the two sides of the illuminated 〈portion coincide〉 with the two sides of the sight, by bringing it towards you or pushing it away. And if you see them like this, you will look on the sight at the number marked, and whatever it is will be the second distance. If you like, you may make the Moon 12 digits, just as the ancients have assumed for it or whatever you like, and 〈do〉 the same for the Sun. Then multiply the divisions which you assigned to the Moon, e. g. 12 digits, by the second distance, and you divide the sum into the first distance, and what results is the number of digits of the Sun or the Moon or light that are eclipsed, and the like. If you want to know the ratio of the diameter of a planet to the diameter of 〈another〉 planet, you make the same observations.

[9] **The ninth question.** When we come across a plate on which the latitude of the city for which it is set up is missing, and there is no meridian line, nor east-west line, nor are there lines for the hours on it, nor diameter or a position for it, and it does not have a limb, nor the circle of the beginning (Tropic) of Cancer, nor the circles of the beginnings of Aries or Libra, and there is nothing on it except almucantars without their numbers being placed on them, is it possible for you to know which latitude it is for?

The answer. This is known by your counting the almucantars 〈to see〉 how many they are. If there are 15, it is a 'sexpartite', if there are 30, it is a 'tripartite', if there are 45, it is a 'bipartite', and so on until the number that each of the almucantars is divided into. Then you count from the horizon to the circle on the rim of the plate, and whatever number results is the altitude of the beginning (Tropic) of Capricorn, and you add to it the entire declination, and you subtract its amount from 90, and what remains is the latitude of the plate.

[10] **The tenth question**, on the revolution of the world years. If the Sun is seen eclipsed in one position and not eclipsed in another position, as Ptolemy had explained in the fourth book of the *Almagest*, then, whenever you say that it is eclipsed in the ascendant of a country or the ascendant of a king of a country and the Sun is not eclipsed for the people of that country, is it

experienced in this country or is it not experienced?

The answer. The eclipse of the Sun is not a thing which happens to the Sun, but it is a concealer's concealing it from our sight, in the same manner as the cutting off of clouds, and that concealer is the Moon and we consider that Ptolemy and other predecessors made a stronger indication for the world, i. e. conjunction and opposition, to such an extent that they made the indication of the year the conjunction and opposition which happens before the Sun enters Aries, and they made the *mubtazz* (predominant planet) of (=the degree (*ǧuz'*)) the conjunction or opposition and of the cardine which preceded it more powerful than the lord of the ascendant of the year. If the conjunction or opposition is in longitude, this power belongs to it. 〈If〉 the conjunction or opposition is in longitude and latitude it is much stronger in indication than conjunction and opposition in longitude only. And conjunction in longitude and latitude is the solar eclipse, and opposition in longitude and latitude is the lunar eclipse. Because conjunction is stronger than opposition since the powers of the two luminaries conjoin, the solar eclipse is more powerful than the lunar one, and we do not consider whether there is an eclipse or not 〈until〉 after the conjunction in longitude and latitude is ascertained. As for destruction coming to the Sun from the eclipse, then destruction does not come to the Sun from the eclipse, but it comes to the light issued from it (the Sun), since it is of such a nature that generation and corruption do not enter it.

[11] **The eleventh question.** Why do they take the judgement for the year from the entry of the Sun into the beginning of Aries and why do they take the judgement for months from its entry into the beginnings of the signs?

The answer. Because the Sun, when it enters the sign of Aries, begins to turn from the tropical equinox toward the north to what is close to us, because this time is the beginning of growth and the beginning of plants, and it is like the beginning a new world, and it is equivalent to birth and the beginning of a rulership and other beginnings. And the ascendant functions for it as it functions for the other beginnings, with the additional factor that this ascendant shares with the indication of the degree of the conjunction or opposition which occurred before the entry of the Sun into Aries, just as, in the ascendant of the native, one makes use of the degree of the conjunction or opposition which occurs before the birth for seeking the *haylāǧ* etc. because of the power of the indication of the conjunction and opposition in the effects on this, as we said before. As for the other signs, the Sun's entry into them is not beginnings of the world or a renewal of conditions, but one draws indications from it for months, rather because there is some power in

conjunctions and oppositions in the indication of this. And one makes use of the ascendant also at the time of the entry of the Sun into the beginnings of the tropical signs, since they are beginnings of some sort, but not like the first beginning which is the beginning of Aries.

[12] **The twelfth question.** How are the two lots used in the accession of kings for the length of their duration (rule), and what operation does the first lot enter into, and the second not, and what operation does the second lot enter into, and the first not?

The answer. The first lot is taken from the Sun to Saturn by night and by day, and cast out from Jupiter. The second lot is taken from the Sun to the degree of the midheaven, and cast out from Jupiter. Both Māšā'allāh and Abū 'Alī said that it is taken from Saturn to Jupiter, and cast out from the position of their conjunction in the beginning of the triplicity, and the second lot from Jupiter to Saturn, and it is cast out from the position of the conjunction in which you are. The situation in which it is not proper that the second lot enters into use is when the revolution is by day and the first lot is in the place of the Sun. The counting from the Sun to the first lot is in degrees of rising time. The second lot does not enter into use then, but look at the lord of the place in which it is. If it is it, subtract the distance you find between the position of the Sun and the first lot from the number of degrees of rising time that the lord of the place of the second lot has passed through in its sign, and the part of what results is thirty degrees, and what results is years, and of what remains each two and a half degrees is a month. And as for the case when the revolution is by night and the first lot is in the place of the Sun, then the counting is done from the position of the first lot to the position of the Sun in degrees of rising time. In this case the second lot enters into the use according to what I have explained to you. It is because night and darkness are opposite to day and light, and when the Sun indicates the lords of the places of the two lots i. e. they are in the sign of Leo or one of them 〈is in Leo〉 and they are cadent and not aspecting the ascendant and in bad places or not received, then one does not bring them into use. But if they are not aspecting the ascendant, but are in a division of the cardines or succedents, then take the position of the second lot and add to what results from this the degrees of the reception of the second lot. If the first lot is in the place of the Moon, then the counting is from that which is in the cardine to the indicating one, in degrees of rising time. If the Moon is transiting the first lot and the Moon is in Aries and the first lot is in the sign of Cancer, then the second lot does not enter into use, but add to it the degrees of both their receptions, and if they are together in the cardines, then the stronger and greater of them in witness 〈is the one〉 by which you judge.

[13] **The thirteenth question.** Can the ascendant be fixed by the *namūḏār* or not?

The answer. Whoever believes that he knows the degree of the ascendant of the native by *namūḏār*, is mistaken. He knows by it only the degree ruling the birth after the ascendant. When he was unable to take the ascendant i. e. Ptolemy wanted to use *namūḏār*, he looked only at the degree of the conjunction and opposition which was before the birth, and for its ruler he observed the number of shares, and he knew it (the ruler). Then he investigated the ascendant at the time of the birth approximately and he looked at which cardine was near to that planet and he took the degree of the cardine which followed it/was near it like the degree of that planet.

There are two natives. One of them is born when the ascendant is the beginning of a sign, the other is born when the ascendant is the end of that sign. If we give both these natives to astrologers, then the operation with both these natives together by means of *namūdār* 〈is as follows〉: the minutes which result for the one are the minutes which result for the 〈other〉, since both methods are same, and the ascendant which they both produce is one rising time, and this is an error.

But Walis accomplishes one of the quarters of the night and day and operates with it 〈as follows〉: if the native is born in the first quarter, and the other native 〈is born〉 when one hour has passed of the quarter. When both are operated by one operation, 〈the result〉 comes from one operation. The same 〈can be seen〉 in the other operations of *namūḏār*s. Someone who read 〈this〉 aked me to compose a treatise on the useless of what the masters of *namūḏār*s claim.

Ptolemy recommended the search for *namūḏār*s only when he lacked the ascendant, on the grounds that the *namūḏār* was first in indications after the ascendant.

[14] **The fourteenth question.** Why did Ptolemy put the Sun and the Moon in the second and the eighth 〈places〉 as *haylāǧ*es? These two places are characterised by darkness and ruin, and they are not indicators of life, 〈yet〉 he did not make the Sun in the third 〈place〉 *haylāǧ*, and make the Moon in the ninth 〈place〉 *haylāǧ*.

The answer. Ptolemy and others did not make the Sun and the Moon in the second and eighth place *haylāǧ*es in the way that was fitting, but made that there when the Sun is in the second [and eighth] when it is a masculine sign. When it is feminine, it is not good that the Sun should be a *haylāǧ*; if it is the Moon, it is good to be a *haylāǧ*. The second and eighth places are only described as gloomy in comparison to the other places of the sphere when the luminaries are not in them. But if they are in them or in one of them, their gloominess is overcome, and they illuminate and gleam and 〈the Sun and Moon〉 for these signs, when they alight in them, have

the role of the soul when it comes into the body. For it gives it life, movement and growth.

When the Sun is in the second or the eighth 〈place〉 in a masculine sign, it is good for the *haylāǧ*ship. If it is in a feminine sign, it is not good for that, and when the Moon is in the second or the eighth 〈place〉, in whichever sign it is, it is good for the *haylāǧ*ship. As for those who make the Sun in the ninth 〈place〉 *haylāǧ* and the Moon in the third 〈place〉 *haylāǧ* even if both are … And the sign which is set up by them sets up advance and power and both indicate that the strengths of the soul agree with those of the 〈celestial〉 bodies when both are in powerful positions. When both are in weak positions, the indication of both becomes weak. When the Sun is in the third 〈place〉 and the Moon in the ninth 〈place〉, both support the *haylāǧ*, because of the power which is with them if the luminaries illuminate each other … the agreement of one of them is agreeing with the other also and each one is alternating with the other in its position. The Sun in the third 〈place〉 and the Moon in the ninth 〈place〉 are good for the *haylāǧ*ship because the power of each of them is in the sign of its (the place's) lord, as its power is in its own sign. But this is a very serious mistake, that they only say this concerning the luminaries when one of them is in the place of the other or in its exaltation, for the power of each one of them in that position and the revelation of the nature of itself and the nature of its lord for the conforming of the nature of one of them to the nature of the other and the mixing of the powers of their both's positions when the house or exaltation are powerful for them both in nature and in joy. This belongs to them only by accident because they are agreeing and not conformed to them both, because the Sun, when it is in the third 〈place〉 is in the oppoisite of its joy, which is for it like its detriment and is its grief. When the Moon is in the ninth, this is its condition in it also, since it is a place opposite the joy 〈of the Moon〉, just as 〈was the case of〉 the Sun in the third. So it results that the Sun in the third and the Moon in the ninth are not good for the *haylāǧ*ship.

[15] **The fifteenth question.** When the Tail coincides with the *kadḫudāh* in the base nativity, does that decrease the life-span at all or not? If it decreases it at all, by how much does it decrease it?

The answer. The Tail does not decrease the gift of the *kadḫudāh* at all except when it (the Tail) comes near to it (the *kadḫudāh*). The cutting off 〈of life〉 is cut off by conjunction only when there are twelve degrees between them both or less than that, and the *kadḫudāh* has less degrees than the Tail, and it is going towards it; then the cutting off is a fourth of the years, months, days and hours that are accumulated for the *kadḫudāh*. If the degrees between them are

more than twelve degrees, it decreases in its cutting from one step to the step below it. Likewise is the condition in the cutting when the *kadḫuḏāh* exceeds the degree of the Tail and the degrees between them are more than twelve degrees. If a benefic is with the Tail and the *kadḫuḏāh* exceeds by twelve degrees, in most case the cutting is weaker and less. Sometimes it decreases by two thirds or one third of what it cuts; then its decreasing is from years to months, days or hours.

注

1) Jacques Sesiano, "A Treatise by al-Qabīṣī (Alchabitius) on Arithmetical Series", in *From Deferent to Equant: A Volume of Studies in the History of Sciences in the Ancient and Medieval Near East in Honor of E. S. Kennedy*, edited by David A. King and George Saliba, pp. 483-500, New York, 1986.

2) Charles Burnett, Keiji Yamamoto and Michio Yano, *Al-Qabīṣī (Alcabitius): The Introduction to Astrology*, Warburg Institute Studies and Texts 2, London, 2004.

参考文献

K. Yamamoto, 'al-Qabīṣī', in *The Biographical Encyclopedia of Astronomers*, (forthcoming).