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The Astrological Schemes Behind *bīt niširtu* and KI in the Babylonian Horoscopes

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Abstract: The Babylonian horoscopes, edited by Rochberg in 1998, contain sets of astronomical and astrological data on dates of, or close to, individuals' births. Each element of these short and concise texts reflects the astral divinatory practices and astronomical observation developed over the first millennium BC, as well as the latest innovations, including the zodiac as coordinate system and the occurrence of new astrological schemes partly based on it, which had previously remained obscure. In this paper, I present a new interpretation of the astrological terminology and the schemes that underly some of the data in the Babylonian horoscopes.

Keywords: Babylonian astrology; Babylonian horoscopes; exaltation; triplicities

1 Introduction

In the celestial divination texts produced in the Neo-Assyrian period (8th to 7th century BC), as well as in the astrological texts of the Achaemenid and Seleucid periods (late 5th to 1st century BC), many technical terms have yet to be clarified.¹ This paper focuses on one genre of the late Babylonian astrological tradition: the Babylonian horoscopes (4th to 1st century BC).² These texts record series of astronomical and astrological data around an individual's date of birth, and were found in the cities of Babylon and Uruk; only one horoscope was found in Nippur, which is the earliest attested, but its content is not comparable with the rest of the corpus. The three cities seem to have adopted different traditions in casting horoscopes, since the data set differs strongly between the cities. In addition, sometimes the structure is not even consistent among horoscopes from the same city, suggesting that different

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2 The benchmark edition is Rochberg (1998): all citations of the horoscopes in this paper are from her edition. Some of the texts were previously published by Sachs (1952).

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astronomers/astrologers were operating with different methods, or personal variations of shared knowledge. The specific subject of this paper are two technical terms found in the horoscopes, namely E_2 (Akk. *bīt niširtu*, literally “house of secrecy”³ or “house of protection”,⁴ found in texts from Babylon dating to before 141 BC, and KI (Akk. *ašru* “place, cosmic locality”, or *qaqqaru* “location”),⁵ found in texts from Uruk, both always followed by the name of a planet.⁶ Although in the context of other texts belonging to the astral corpus their meaning has already been clarified, in that of the Babylonian horoscopes it remains debated.

The aim of this paper is to present new hypotheses on the schemes behind the astrological terminology in the Babylonian horoscopes. The first part consists of a summary of the interpretations of the terms *bīt niširtu* and KI in other astral science texts, and of the reasons why they are not applicable to the horoscopes. The second part explains some astrological schemes attested in cuneiform sources, namely the triplicities of the planets and the “Terms,”⁷ on which my hypotheses are based. The third part is a discussion of the individual attestations of the astrological terminology in the horoscopes. It is divided into three groups for three different applications of the schemes of the “triplicities” and the “Terms.” One variation of the scheme behind the *bīt niširtu*, attested only in Babylon, is connected to the month of the solstice or equinox that is closest to the date of birth: the structure of these texts helps to support the hypothesis. Another variation, this time behind the term KI, can be detected in a horoscope from Uruk (and its copy), which is based on the planetary positions. The last scheme depends on the date of birth. It is the most complicated and most speculative due to the scarcity of sources, but a consistent reconstruction is possible. It is found in both cities, and therefore its meaning applies to both *bīt niširtu* (Babylon) and KI (Uruk). This suggests that occasionally the astronomers/astrologers of the two cities shared specific pieces of knowledge, but at the same time personalized their nomenclature.

Apart from Babylonia, the concepts of planetary triplicities and Terms are also well known in the Egyptian and Graeco-Roman astrological traditions. Although they

3 *bitu* in CAD B: 282f.; AHw I: 132f.; *niširtu* in CAD N/II: 276f., AHw II: 795. Reynolds (2019: 7) suggests translating it as “house of secret knowledge”.

4 Dalley (2020: 165); according to Mohr (2022: 27–28) “*niširtu* took on a more abstract sense of location when paired with *ašru* and *bitu*, especially when applied to astronomical concepts.”

5 *ašru* in CAD A/II: 456f. A; AHw I: 82–83 III | *qaqqaru* in CAD Q: 121, 5b; AHw II: 901–902, 11; see also the glossary in the edition of the Babylonian horoscopes (Rochberg 1998: 158, with reference to no. 10).

6 Steele (2016: 57) already identified the similarities and differences in the type of astrological data in the horoscopes from the two cities, showing that they shared a common tradition, but developed into local ones.

7 “Terms” is capitalized throughout the paper when referring to the astrological concept, in order to avoid confusion with the more common word “terms.”

had different applications, their adaptation in other cultures proves their astrological importance over space and time. A concise description of the attestations of the planets in positions that are reminiscent of the exaltations of Greek astrology can be found in Appendix A. Appendix B contains a short introduction to the astrological Terms and a table of their division according to different ancient traditions.

2 The *ašar/bīt niširtu* as Planetary Exaltation

In the context of astral divination and calendrical texts, from the Neo-Assyrian period on, a planet situated in one particular constellation or region of the sky is occasionally said to be in its *ašar/bīt niširtu* “house of secrecy/protection.” This position in the sky must have had a particular astrological significance for the planet.⁸ The Sun’s *ašar/bīt niširtu* is located in the region of the constellation of the Hired Man (Aries), the Moon’s in the region of the constellations of the Old Man and the Bristle (Taurus), Jupiter’s between the Lion and the Crab (Cancer), Venus’ in the Tails (Pisces), Mercury’s in the Furrow (Virgo), Saturn’s in the Scales (Libra), and Mars’ in the Goat-Fish (Capricorn). These planetary positions are consistent in almost all attestations, although the terminologies used to refer to them are not: sometimes KI (Akk. *ašar*) *ni-šir-tí/-tu₄*,⁹ and sometimes E₂ (Akk. *bīt*) *ni-šir-tu₄* or *ni-šir-tí-šú* (see Table 1). The words *ašru* and *bītu* are used interchangeably.¹⁰ The reading in status constructus is confirmed by its occurrences in syllabic writing (*a-šar*) followed by the genitive (*ni-šir-tí*) in an *Enūma Anu Enlil* commentary and in a passage of an inscription of Esarhaddon.¹¹ Occasionally, the planet is said to be “reaching” (KUR, Akk. *kašādu*), “standing” (GUB, Akk. *izuzzu*),¹² or being (implicitly) in its *ašar/bīt niširtu* in a certain constellation. In the latest attestation, they “appear” (IGI, Akk. *nanmuru*, of heliacal rising).¹³ Sometimes neither the terminology *ašar/bīt niširtu* nor a specific verb is used (see Appendix A).

Except for Venus’ position in the *Enūma Anu Enlil* passage,¹⁴ the associations between the planets and the regions of the sky shown in Table 2 are known from the

8 Rochberg-Halton (1988a: 53–57) and Beaulieu et al. (2018: 12).

9 The earliest sources (Neo-Assyrian) have *ašar niširti*. In Neo-/Late-Babylonian sources, the genitive is no longer distinguished from the nominative (Von Soden 1995: 299 §192).

10 In the lexical list *maluku:šarru*, the words *ašru* and *bītu* are synonyms (Maluku I 259; Explicit Maluku II 108).

11 BPO 3: 244, 22 (Reiner and Pingree 1998); Esarhaddon inscription (RINAP 104: ii 39).

12 *kašādu* in CAD K: 271–274, 1a; AHw I: 459, 1b | *izuzzu*, *uzuzzu* in CAD U: 376, 2d; AHw I: 409, 11.

13 CAD A/II: 25–26, 7d; AHw I: 42, A2. It refers to the first appearance, when the planets are far enough from the sun to become visible again (= “heliacal rising”, see Ossendrijver 2012: 56).

14 See below Appendix A, point A.

Table 1: Summary of attestations for the forerunners of the “exaltations” (see also Appendix A).

Planet	EAE – K 3708	Esarhad-don's inscription	Uranology text	GU-text – BM 78161	Calendar treatise	Cultic calendar – K.3753	LB commentary – BM 47529+	Micro-zodiac series	LBAT 1591
Terminology Moon	KI <i>ni-šir-ti</i>	(<i>a-šar</i>) <i>niširtu</i>			KI <i>ni-šir-tu₄</i> Old Man- Bristle	<i>E₂ ni-šir-ti-šú</i>	<i>E₂ ni-šir-tu₄</i>	Drawing Taurus	
Sun					Hired Man				
Jupiter		Cancer	Crab-Lion	Crab-Lion	[Crab]		Leo		Cancer
Venus	Lion	(computed) Pisces	Swallow- <i>Anunītu</i>						Pisces
Mercury	(2/3 <i>bēru</i>)	(computed)							
Saturn				Furrow Scales		Furrow		Virgo	Virgo Libra
Mars					Goat-Fish		Goat-Fish		Capricorn

Table 2: Babylonian triplicities and their associations.

“Lord”	Triplexity		
North (wind)	I	V	IX
Akkad	Aries/Nisannu	Leo/Abu	Sagittarius/Kislimu
White			
Jupiter			
South (wind)	II	VI	X
Elam	Taurus/Ayyaru	Virgo/Ulūlu	Capricorn/Ṭebētu
Black			
Venus			
West (wind)	III	VII	XI
Amurru	Gemini/Simānu	Libra/Tašrītu	Aquarius/Šabātu
Red green-yellow			
Mercury Saturn			
East (wind)	IV	VIII	XII
Subartu	Cancer/Du’ūzu	Scorpio/Araḥsamna	Pisces/Addaru
Red-brown			
Mars			

Greek astrological tradition, where they are called planetary exaltations (*hypsōma*, pl. *hypsōmata*). The *hypsōma* “exaltation,” literally “height,” is the zodiac sign in which a planet has its most potent influence.¹⁵ Occasionally, in Greek astrology, the exact longitudes of the planets in their exaltations are given in degrees:¹⁶

Sun	19° Aries
Moon	3° Taurus
Mercury	15° Virgo
Venus	27° Pisces
Mars	28° Capricorn
Jupiter	15° Cancer
Saturn	21° Libra

The fact that the planetary positions of the Babylonian texts coincide with those handed down by the Greeks led Weidner to suggest that the Babylonian *ašar/bīt niširtu* was the forerunner of the concept of *hypsōma*.¹⁷

Despite the obvious similarities, the Greek exaltation implies the use of the uniform zodiac, whereas the Babylonian planetary “houses of secrecy/protection”

¹⁵ Bouché-Leclercq (1899: 192–99), Reynolds (2019: 274), and Bowen and Rochberg (2020: 643).

¹⁶ Neugebauer and Van Hoesen (1959: 7).

¹⁷ Weidner (1913, 208–210, 1919, 10–16, 1967), 10. See also Rochberg-Halton (1988a, 53–57), Rochberg (1998: 48, footnote 54), Koch (1999, 2000). See also CAD N/II: 279, 3 (in *bīt niširtu*).

were conceived in the context of traditional zodiacal constellations and not of zodiac signs.¹⁸ In fact, the chronology of attestations goes back to at least the 7th century BC, when the uniform zodiac had not yet been invented, and therefore no reference to precise degrees along the zodiac could be made. According to Rochberg (1998: 49), the *ašar/bīt niširtu* differed from the Greek *hypsōmata* also “in the interpretation of their significance, i.e., not as places of greater planetary influence, but as places within which planets’ position constituted propitious omens”.

Only some of the horoscopes from Babylon, namely nos. 3, 6, 8, 13, 15, 18 in Rochberg’s edition (1998), attest the *bīt niširtu*. The typical formula is: *ina E₂* (never KI!) *ni-šir-tu₄ X LU₂.TUR a-lid* “in the house of secrecy/protection of planet X, the child is born.” Although the terminology coincides, the “house of secrecy/protection” in the Babylonian horoscopes does not match the exaltation scheme, and therefore it must have another meaning. One example will suffice: in horoscope no. 8 the child is said to be born in the *bīt niširtu* of Venus (rev. 2–3), but at the time of birth Venus was in the zodiac sign Scorpio (obv. 6). According to the scheme that anticipates the Greek astrological “exaltations,” Venus’ “house of secrecy/protection” is Pisces. The same result is obtained if this approach is applied to the rest of the horoscopes: in none of them does the exaltation scheme match. In only one case, horoscope no. 3, the oldest attestation of “house of secrecy/protection” in this genre, is there a chance of a reference to the exaltation scheme. This horoscope is unfortunately fragmentary: there is a “*bīt niširtu*” (obv. 4), but the planet to which it is attributed is not preserved. Just before it, however, Mars is said to be in Capricorn, which would indeed correspond to its “exaltation.” Yet, there are many other applicable schemes – such as those that will be shown in the following pages – which would give different results. Since the planet’s name is not preserved, any conclusion would be too speculative.

In Uruk, the astrological schemes in the horoscopes employ the term KI (and never *bīt niširtu*). The KI is only attested in two horoscopes from Uruk, namely nos. 9 and 10 (and its copy 11), with the formula “KI of the planet” followed by positive prognostications. The hypothesis that KI is an abbreviation of KI (= *ašar*) *niširtu* as exaltation can be excluded, since none of the planetary positions associated with the KI at the time of birth coincide with the exaltation scheme. KI appears in other astral texts, and can have multiple meanings depending on the context. In the context of mathematical astronomy and in some early astrological texts, KI (Akk. *qaqqaru*) can

¹⁸ The zodiacal constellations are of irregular size and are distributed along the path of the Moon. The uniform zodiac is a division of the path of the Sun, the ecliptic, in 12 equal parts of 30° each. These 12 equal parts are the zodiac signs, and they are named after the constellations, but do not spatially coincide with them. The zodiac signs are a schematic, mathematical invention of the late fifth century BC (Britton 2010; Neugebauer 1975: 368–9).

refer to a “zodiacal position”.¹⁹ From the late Achaemenid period on, KI as an abbreviation of KI.GUB (Akk. *manzāzu*) could indicate “the place on the horizon above which a planet rises or sets”.²⁰ Brown (2018: 393, 407) suggests that at least in horoscope no. 9 (NCBT 1231) KI refers to the rising sign at the time of birth (Aquarius). This is called the “ascendant” (Gr. *horoskopós*) of Graeco-Roman astrology.²¹ However, as will be discussed below, the use of KI in horoscope no. 9 is probably not connected to the ascendant.

3 Towards the Identification of *bīt niširtu* and KI in the Horoscopes: The Planetary Triplicities and Terms in Cuneiform Sources

It is possible, however, to identify another scheme behind the use of the *bīt niširtu* as well as the KI in the Babylonian horoscopes: that of triplicities and lords of the triplicities. Triplicities are months and zodiac signs arranged in four groups of three, so that their distance is always four months/signs, in other words, 120° apart along the zodiacal circle (see Figure 1). They are well established in Graeco-Roman astrology,²² and according to Geminus, a Greek author of the first century BC, they have their origin in Babylonia.²³ There is also direct evidence in cuneiform sources. As early as the Neo-Assyrian period, both in the series *Sîn ina tamartišu* (commentary to *Enūma Anu Enlil*) and in the “Great Star list”, the months’ triplicities are connected to the quarters of the inhabited world: Akkad (I, V, IX), Elam (II, VI, X), Amurru (III, VII, XI),

¹⁹ For the attestations in the mathematical astronomical procedure texts see Ossendrijver (2012: 598). One example from old astrological texts is BM 47494 (Hunger 2004; see also Brown 2018: 413).

²⁰ For instance, in TCL 6 13 (= TU 13): ii 5–8 (Rochberg-Halton 1987), although she read it as *qaqqaru* “place” of the planets. For the reading *manzāzu*, see Brown (2018: 407); also Reiner and Pingree (1998: 18) in the context of astral omens from *Enūma Anu Enlil*.

²¹ The ascendant is the part of the zodiacal circle, specified either as a zodiac sign or as a specific degree of a zodiac sign, that is rising in the East at the moment under analysis (in natal astrology, birth) (Bowen and Rochberg 2020: 644; Brown 2018: 393; Rochberg 1998). Brown (2018: 414) acknowledges that modern scholars tend to agree that the ascendant is not to be found in cuneiform sources (e.g.: Barton 1994: 18; Greenbaum and Ross 2010: 148; Reiner and Pingree 1998: 26; Wallenfels 1993: 289).

²² They belong among various systems for assigning relations between planets and zodiac signs. The triplicities or “triangles” (*trigōna*) divide the zodiac signs into four groups, each assigned to two (or three) planets or luminaries by day and night (Bowen and Rochberg 2020: 462, 463).

²³ *Isagoge*: II, 5–11. In particular, Babylonians connected the triplicities with the four winds (Evans and Berggren 2006: 127–128).

and Subartu (IV, VIII, XII).²⁴ In another astrological text, the same lands are connected to zodiac signs, but also to winds.²⁵ This corresponds to the stated “Chaldean” origin of the connection between winds and triplicities found in Geminus.²⁶ There is also evidence that triplicities were connected to colors of wool: white (I, V, IX), black (II, VI, X), red or green-yellow (III, VII, XI), and red-brown (IV, VIII, XII).²⁷ Sometimes triplicities are not related to anything specific: a calendrical and stellar compendium has a list of months arranged in triplicities, although the text is very fragmentary.²⁸ Evidence of triplicities connected both to months and zodiac signs is found in an astral-geographic compendium.²⁹ In a section of another astral compendium, only the first triplicity Aries–Leo–Sagittarius appears.³⁰ The principle of grouping months is the same as that of the zodiac signs: the correspondence “zodiac sign I = month I”, “zodiac sign II = month II”, and so on, is indeed well established, and attested in several Neo-Babylonian texts.³¹ The circular diagram on the reverse of an astrological compendium shows how Babylonians also had in mind a geometric scheme of triplicities, where months are put in a circle and linked by triangles.³²

Apart from winds and lands of the inhabited world, every triplicity is also related to a planet. The Babylonian origin of the relations between planets and triplicities is transmitted by cuneiform sources from the Seleucid period, as well as by the Greek astronomer and author Claudius Ptolemy in the 2nd century AD, and it has a complex and deeply astrological significance. The planetary triplicities are connected to the astrological Terms (see Appendix B):

The Terms (ὅρια, literally “boundaries”) are subdivisions of the zodiac signs comprising whole numbers of degrees, such that each of the five planets (and, in some systems, the Sun or both the

24 K 3123, obv. 14'–15' (SIT 4, see Renzi-Sepe 2023: 346–349; Wainer 2016: 57–59); K 250 and AO 8196, 274–277 (Koch-Westenholz 1995: 199–203; also 107–108).

25 BM 36746+ (Rochberg-Halton 1984: 121, see Table 2).

26 See footnote 23.

27 BM 36327, rev. iii 10'–21' (Schreiber 2018: 116–130). “Die dritte Triplizität fällt etwas aus dem Schema heraus, sie scheint mit keiner einheitlichen Farbe verbunden zu sein, man könnte zusammenfassend vielleicht von bunter Wolle sprechen. Alle anderen Triplizitäten haben eine einzige Farbe für die ihnen zugehörigen Tierkreiszeichen. [...] Das Farbschema von BM 36328 entspricht eher dem von Ptolemaios in Tetrabiblos I.21 dargestellten ‚chaldäischen‘ System der Planeten, welche die Triplizitäten beherrschen” (*ibid.* 126–127).

28 BM 36303+: rev. III, A 3'–7' (Steele 2015: 199, 205). I cannot make sense of the fifth line (7'), where the fourth triplicity seems to be repeated.

29 BM 49474: rev. 1, 17, 19, 21 (Hunger 2004: 18–20, 22–24).

30 TCL 6 11 (= TU 11), obv. 17 (Brack-Bernsen and Hunger 2002: 15 §8).

31 See Appendix B. The texts are in von Weiher (1983: 43, 1988: 104 and 105) (Hunger and Pingree 1999: 17).

32 TCL 6 13, diagram on the reverse; this diagram, however, does not represent the typical triplicity scheme, and it is not yet clear what kind of scheme is represented (Rochberg-Halton 1987: 226–228).

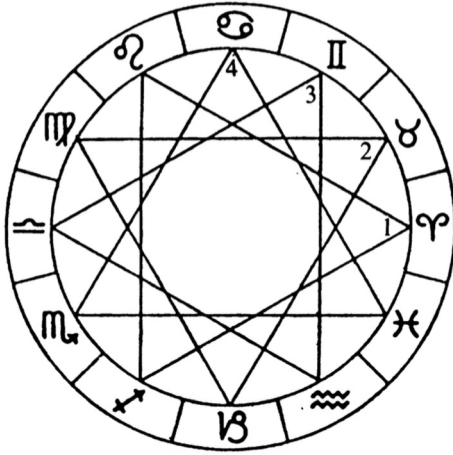


Figure 1: Visual representation of the triplicities (Source: Rochberg-Halton 1988a: 60 Figure 3).

Sun and Moon) is assigned the astrological Lordship of one Term in each sign. The sequence and the size of Terms typically varies from sign to sign. [...] The longitude of each of the heavenly bodies and astrologically significant points of the ecliptic determined which of the Terms it occupied and thus which of the planets was temporarily associated with it in the relationship of Lord of its Terms.³³

Ptolemy, explaining the various methods and schemes for the division of the zodiac signs into Terms, claims that the “Chaldean” scheme is based on the triplicities, i.e., the first Terms of each zodiac sign correspond to the lord of the triplicity.³⁴ In the division of Terms, only the five planets are considered; the Sun and the Moon are not. The first Terms of the first zodiac sign are assigned to Jupiter, because Jupiter is the lord of the triplicity I (Aries)-V (Leo)-IX (Sagittarius). After that, Venus is the lord of the second (II-VI-X), Saturn/Mercury the lords of the third (III-VII-XI),³⁵ and Mars the lord of the fourth (IV-VIII-XII) (see Table 2).

So far, only one cuneiform source for a Babylonian division of Terms has been found, and it is based on the division of months, rather than zodiac signs. This text is crucial for confirming that the concept originated in Babylonia, and also for comparing the scheme with the “Chaldean” one handed down by Claudius Ptolemy.³⁶ Ptolemy was right in saying that the first Terms of each month correspond to the lord

³³ Jones and Steele (2012: 2–3).

³⁴ *Tetrabiblos* I, 20–21 (Robbins 1980: 90–107).

³⁵ Ptolemy (*Tetrabiblos* I, 21) explains: “Of the two Lords of the same “Triplcity,” however, Saturn and Mercury, by day Saturn takes the first place in order of ownership, by night Mercury” (Robbins 1980: 100–101).

³⁶ BM 36303+: rev. II C3'- rev. III A2' (Steele 2015). See Appendix B.

of the triplicity, but the order and the distribution of degrees to each planet within the zodiac signs are not as regular as Ptolemy describes them (see table in Appendix B).

The Babylonian horoscopes use the luni-solar calendar to write the date of birth. This emerges from the fact that they specify whether the previous month was full (30 days) or hollow (29 days), by reporting the “Lunar-Three”, and that the dates of solstices and equinoxes are compatible with the so-called “Uruk-scheme”, which implies the use of a fixed calendar with regular intercalations.³⁷ Nevertheless, in astrology, as Horowitz (1996: 40) pointed out, they operate with the schematic calendar, which is based on a year of 360 days, namely 12 months of 30 days each, which constitutes an ideal astronomical year, in which each day corresponds to 1° of solar movement.³⁸

4 Planetary *bīt niširtu* and the Solstice/Equinox

It is proposed here that the *bīt niširtu*, in the context of the horoscopes found in Babylon, is connected with the triplicities of the 12 months. However, the relevant month is not the month of birth, as one might think, but rather the month of the solstice or equinox closest to the date of birth. Horoscopes nos. 8, 15, and 18 all come from Babylon and are very similar to one another: they contain the same set of data, and they all mention the date of the closest solstice or equinox. Their structure itself is suggestive: the *bīt niširtu* is mentioned immediately after the date of the closest solstice or equinox to the child’s birth. These are mentioned on the reverse of the tablets, suggesting that they are to be considered apart from the planetary positions at the time of birth. Two of them (nos. 8 and 15) also indicate the date of the two “Lunar-Three” (NA and KUR) on the reverse, before the solstice date. This strongly suggests that the child is born in the “house of secrecy/protection” of the planet that has the lordship of the month of the closest solstice or equinox. Therefore, the key astrological element of at least three of the horoscopes from Babylon is the date of the solstice or equinox, and not the date of birth. Solstices and equinoxes as means of prognostication have no parallel in the Babylonian divinatory tradition. One could imagine that they were considered the most important calendrical event happening around the date of birth, and therefore were even more important than the date of birth itself, or perhaps they were not ominous at all, but rather “secret” elements that only the astrologer could know.

Babylonian Horoscope no. 8 (BM 36943)

Birth: SE 61 IX 8 = 251 BC, Nov. 28/29

³⁷ Rochberg (1998: 54). For the “Uruk-scheme” see Britton (2007: 44, Figure 7).

³⁸ See also the discussions in Steele (2015: 210), Brack-Bernsen and Steele (2004), and Steele (2011).

rev. 1–3: [MU.]BI ITI.AB 8 [*šamáš*] GUB *ina* E₂ *ni-šir-tu*₄ *šá dele-bat* LU₂.TUR *a-lid*

That year, the 8th of Ṭebētu (Month X) was the date of the (winter) solstice (lit. “the Sun was standing”). The child is born in the “house of secrecy/protection” of Venus.

The month of the winter solstice is Ṭebētu. Ṭebētu (month X) is part of the triplicity of months II-VI-X, of which Venus is the lord.

Babylonian Horoscope no. 15 (BM 36796)

Birth: SE 109 XI 9 = 202 BC, Feb. 4

rev. 2–4: MU.BI GAN 28 *šamáš* GUB *ina* E₂ *ni-šir-tu*₄ *šá* MUL₂.BABBAR LU₂.TUR [...]

That year, the 28th of Kislimu (month IX) was the (winter) solstice (lit. “the Sun was standing”). The child is born in the “house of secrecy/protection” of Jupiter.

The month of the winter solstice is in Kislimu. Kislimu (month IX) is part of the triplicity of months I-V-IX, of which Jupiter is the lord.

Babylonian Horoscope no. 18 (BM 35516)

Birth: SE 169 XII 6 = 142 BC, Mar. 1

rev. 1–4: MU.1.ME 1,10 K[AM] BAR 4 LAL₂-t[í] *ina* E₂ *ni-š[ir-tu]*₄ *šá* MUL₂.BABBAR LU₂.TUR *a-lid*

Year 170 SE, the 4t[h] of Nisannu (month I) was the date of the (vernal) equinox[x]. The child is born in the “house of secrecy/protection” of Jupiter.

The month of the vernal equinox is Nisannu. Nisannu (month I) is part of the triplicity of months I-V-IX, of which Jupiter is the lord.

5 Planetary KI and the Triplicities of the Zodiac

It is proposed here that in one horoscope (and its copy, both from Uruk), the term KI is connected with the triplicities of the zodiacal positions at the time of birth. This horoscope for Aristocrates has a unique structure. In particular, the term “KI” is found three times in relation to planetary positions of Jupiter, Venus and Mercury at the time of birth.³⁹ The “KI” of these planets is also followed by positive prognostications.

Babylonian Horoscope nos. 10 and 11, (copies) (MLC 2190 and W 20030/143)

obv. 6 – rev. 4: [...] Jupiter in 18° Sagittarius. The place (KI) of Jupiter: prosperous, at peace; his wealth will be long-lasting, long days. Venus was in 4° Taurus. The place (KI) of Venus: he will find favor wherever he goes; he will have sons and daughters. Mercury in Gemini, with the Sun.

³⁹ MLC 2190 (no. 10), and W 20030/143 (no. 11) (Rochberg 1998: 82–86).

The place (KI) of Mercury: the brave one will be first in rank; he will be more important than his brothers; he will take over his father's house. Saturn in 6° Cancer. Mars in 24° Cancer.

The reason why the predictions for these positions are positive might be that these planets are the lords of those zodiac signs according to the triplicity scheme. In other words, a planet gives positive prognostications when it is in one of the zodiac signs of which it is the “lord.” In fact, Jupiter is in this position for the triplicity Aries–Leo–Sagittarius, and in this horoscope it happens to be in Sagittarius. So too Venus for the triplicity Taurus–Virgo–Capricorn, and in this horoscope it happens to be in Taurus. Mercury, lord of the triplicity Gemini–Libra–Aquarius, is found in Gemini (see Table 2). Only the zodiacal position seems to be relevant for the prognostications, whereas the specific degree plays no role. This is confirmed by the fact that Mercury's longitude is not specified in degrees, yet its position yields positive prognostications. Saturn in Cancer does not give any prediction, because it is not the lord of its triplicity. Following this principle, a prediction should also have been given for Mars, as it happens to be in Cancer, of which it is “lord.” The reason for the absence of a prediction could be that the scribe/astrologer left aside the “malefic planets” (Saturn and Mercury), which would give negative predictions anyway.⁴⁰

The positive and negative predictions concerning the KI of the planets can be seen in the astrological compendium TCL 6 13 (= TU 13): obv ii, 1–6 (Rochberg-Halton 1987). Rochberg (1998: 85) has pointed out that personal predictions according to the KI of the planets are paralleled in this text. The term “KI” is also used in another text, the already mentioned astral-geographical compendium (BM 47494): 3 KI.MEŠ *a-na* KUR NIM.MA^{KI}/MAR.TU^{KI}/SU^{KI}. “three areas for Elam/Westland/Subartu”.⁴¹ In this text, the “areas” are referred to thirty-degree zodiac signs grouped in triplicities and attributed to geographical areas, which is exactly what they indicate in the horoscope no. 10 (and 11).

6 References to the Terms

The following three horoscopes, two from Babylon and one from Uruk, have a different structure and contain a different selection of data than the previously discussed ones, and they also differ from each other. The scheme of triplicities connected to the month of the closest solstice or equinox does not account for the function of the *bīt niširtu* in the two horoscopes from Babylon (nos. 6 and 13), nor that of the KI, in the horoscope from Uruk (no. 9). In nos. 6 and 9, there is not even mention

⁴⁰ For discussion of malefic and benefic planets, see Rochberg-Halton (1988b).

⁴¹ Rev. 18, 20, 22 (Hunger 2004: 19–20, 23).

of a solstice or equinox date, whereas no. 13 does have a date for the summer solstice on the reverse, but the *bīt niširtu* has nothing to do with it. The scheme of associations between planets and planetary positions does not work either.

In these three texts, the *bīt niširtu* and the KI might be based on the Terms and the date of birth. In Graeco-Roman and Egyptian astrology, the principal application of the Terms is indeed in the horoscopes, but they are applied to the zodiacal positions of the planets. The Babylonian tradition differs.⁴² The available textual evidence indicates that the nature of division into Terms in Babylonia is calendrical: the division concerns the months of the year, rather than the zodiac signs. In the following Babylonian horoscopes, the planet's *bīt niširtu* (in Babylon) or KI (in Uruk) in which the child was born, may correspond to the Terms assigned to a planet on those days of the month. Concretely, in respect to the division into Terms for the month of birth, the range of days among which the child is born belongs to a certain planet in that month: that would be the planet's *bīt niširtu* or KI. Consequently, in this particular context, *bīt niširtu* or KI would be equivalent to the Terms. The caveat here is that the only list of Terms attested in cuneiform texts (BM 36303+) is not completely intact. Moreover, there is a high probability that there were variants of this list in circulation.

Babylonian Horoscope no. 6 (BM 47721)

Birth: [SE 53 VIII 24] = 258 BC, Nov. 14/15

obv. 4': *ina E₂ ni-šir-tu₄ šá GU₄UD a-lid*

(The child) is born in the “house of secrecy/protection” of **Mercury**.

Neither the child's date of birth nor the relevant section in the Babylonian list of Terms is preserved. This tablet carries two horoscopes, but since the top is broken, the *bīt niširtu* is preserved only for the first one, the date of which (not preserved) has been computed by Rochberg according to the planetary positions. This horoscope does not have any date for equinoxes or solstices, and therefore it is impossible to apply the triplicity scheme to it. The child is supposedly born in Araḥsamna (month VIII); however, the section for month VIII in the Babylonian list of Terms is broken. Any attempt at reconstructing it would be too speculative, since the order and the length of the Terms do not seem to follow any regular pattern, but it cannot be excluded that the range of dates within which the child was born actually belongs to Mercury. There are indeed parallels: in the Demotic papyrus P.CtYBR 1132, degrees 20–24 of Scorpio (= month VIII) are the Terms of Mercury, and in the “Ancient manuscript” scheme transmitted by Ptolemy, degrees 22–27 of Scorpio also belong to Mercury. In other

⁴² Jones and Steele (2012: 2, 13).

words, the child might be born in the *bīt niširtu* of Mercury because the day of its birth falls in the range of days belonging to Mercury in month VIII.

Babylonian Horoscope no. 9 (NCBT 1231)

Birth: SE 63 X 2 = 249 BC, Dec 29

obv. 6: [*dele-b*]at GU KI *dele-bat a-lid* .DUMU..MEŠ TUK⁴³

[Venu]s (in) Aquarius. (The child) was born (in) the “place” of Venus: he will have sons.

For this horoscope, two hypotheses have already been put forward:

- Jones and Steele (2012: 13–14) read the broken sign before GU as 12, and translate: “Aquarius 12° in the place of Venus he was born: He will have sons.” They suggest that Aquarius 12° refers to the position of the Moon, being in Aquarius 12° (in obv. 4), which is within the Terms of Venus.
- Brown (2018: 399–400) suggests that GE₆ U₄.2.KAM in the date of birth in this horoscope indicates the night-day transition on the 2nd of the 10th month, i.e. that the child is born at dawn. He reads the KI as an abbreviation for KI.GUB (Akk. *manzāzu* “position”), referring to a “location at the horizon rising at the time of birth.”⁴⁴ Therefore, Aquarius would be the rising sign at the time of birth, i.e., the ascendant.

I would opt rather for a solution that is more consistent with the pattern of the text. The previous and following lines of this horoscope have planetary positions, expressed with the formula “planet X *ina* zodiac sign Y”: in obv. 6, the position of Venus is expected. Regarding the first hypothesis, it would be strange if the Terms of the Moon were mentioned in a place in the text where the position of Venus is expected. Moreover, the two alleged vertical strokes after the Winkelhaken would be too small to represent a “2” for the 12. Concerning the second hypothesis, Aquarius would be rising at the horizon only if the child is born at dawn, as suggested by Brown. If the date and

⁴³ Rochberg (1998: 79) reconstructs the line as [LU₂.TUR] .x. GU KI *dele-bat a-lid* .DUMU..MEŠ TUK, and points out that “after the break before GU one expects *ina*, but trace is of a Winkelhaken followed by perhaps two vertical wedges.” However, there might not be enough space for the three signs [LU₂.TUR] .x.. My suggestion is to reconstruct the beginning of the line as either as [*dele-b*]at GU “Venus (in) Aquarius”, or [*dele-bat ina*] .10. GU “[Venus in] .10. Aquarius.” Venus in 10° Aquarius is consistent with the fact that the positions of the Sun and the Moon (obv. 3–4) are also recorded 3° behind the position according to the modern computation (see *ibid.*: 81). The following passage, KI *dele-bat a-lid* could be a calc of the typical formula in the horoscopes from Babylon, i.e., *ina bīt niširtu* planet X *la’û alid*, and therefore can be translated as “(In) the place of Venus (he) was born.” The repetition of the word “Venus” is consistent with horoscope no. 10 (and its copy no. 11), where the planetary positions followed by the KI of the same planets and the predictions are given.

⁴⁴ The non-abbreviated form can be found in an unpublished medical-zodiacal text (LBAT 1596, obv. 13–14). See also paragraph above.

time of birth computed by Rochberg are correct,⁴⁵ Aquarius is not rising in the East on the night when the child was born, but instead setting in the West. It is difficult to establish which interpretation is correct, since both work with the data that are recorded on the horoscope. Apart from these considerations, reference to the ascendant placed right in the middle of the planetary positions is quite unusual.

As for horoscope no. 6, the element that determines the KI here may be the date of birth connected to the Terms. The child is born in *Ṭebētu* (month X), the 2nd day. The section for month X is not preserved in the Babylonian list of Terms, but it is easy to reconstruct: the first Terms of month X are almost certainly assigned to Venus, because Venus is the “Lord of the Triplexity” II-VI-X, and every first Terms of the second triplexity are dedicated to Venus (see Table 2). If this is correct, day 2 is part of the first Terms of month X, given that the range of Terms is never less than five days/degrees (see table in Appendix B).

Babylonian Horoscope no. 13 (BM 47642)

Birth: SE 88 V 4 = 224 BC, July 29

rev. 6–7: [ina] E₂ ni-šir-tú šá MUL₂.BABBAR [LU₂] .a.-lid

[The person] .is. born [in] the “house of secrecy/protection” of **Jupiter**.

In this horoscope, there is a summer solstice date (rev. 2), but the triplexity scheme is not applicable to it: the summer solstice takes place in *Simānu*, i.e., month III, of which the “Lords” are Mercury/Saturn, rather than Jupiter. Structurally speaking, the *bīt niširtu* and the solstice date, although both written on the reverse, are located far from each other in the text, separated by two erased lines and a mention of an eclipse of the Sun and Moon.

The child is born in the *bīt niširtu* of Jupiter, and the date of birth is in month V (Abu) on day 4. According to the Babylonian scheme of the Terms (see table in Appendix B), the range 1–5 of month Abu (V) is the Terms of Jupiter. This information is consistent with all the attested schemes of Terms. Therefore, it is plausible that the *bīt niširtu* here refers to the fact that the child is born in the Terms of Jupiter of month V.

7 Conclusion

The hypotheses presented in this paper do not constitute an indisputable solution, especially because the sources are scarce and fragmentary. There may be other ways

⁴⁵ –248 Dec.29 computed for 16 UT, or about 7:00 PM Babylonian local time (midnight epoch), and adjusted + 6.5° for the year of the text (Rochberg 1998: 81).

to interpret these terminologies in Babylonian astrology, but this approach may provide a starting point.

The same terminology, with variants, is used to express different concepts in the context of ancient Mesopotamian divination and astrology. The first attestations of *ašar/bīt niširtu* clearly point to a particularly significant constellation or region of constellations to which a planet is assigned, according to calendrical principles. The reconstructed scheme of associations between planets and constellations match the Greek astrological scheme of *hypsōmata*, the “exaltations,” suggesting its Babylonian origin and later adaptation.

The same terminology continued to be used later in the Babylonian horoscopes, but they no longer refer to the same scheme. The common principle behind the use of these terms in personal astrology is the scheme of the planetary triplicities: each of the five planets is assigned to a group of three months or three zodiac signs that are 120° apart. As suggested by Ptolemy, the concept of triplicities originated in Babylonia and is related to the division of Terms, for which he provides a “Chaldean scheme”. The principle is that the first Terms are assigned to the planet that is the lord of the triplicity of that month. (The division into Terms in Babylon refers to months and not zodiac signs.) An original Babylonian division into Terms is preserved in a Seleucid compendium (BM 36303+). Although the distribution of days/degrees to every planet and the order of the planets do not correspond to Ptolemy’s “Chaldean scheme”, the principle “first Terms = lord of triplicity” that he records is correct. It also seems that the Terms had a proper application in personal astrology, or, at least, in three horoscopes. The KI or *bīt niširtu*, in these cases, seems to be the planets to which that range of days of the month, i.e., Terms, is assigned. In the case of Aristocrates’ horoscope, from Uruk (Rochberg 1998, no. 10 and its copy 11), the KI of a planet is used in connection with the triplicities of the zodiac. The principle here is that the planet has a positive influence when it is in one of the signs of the triplicity of which it is “Lord”. This seems to be specified only for the benefic planets (Jupiter, Venus, and the neutral Mercury). It is worth mentioning that the Babylonian horoscopes provide evidence of the concept of triplicities, but not that of trine aspect: the latter refers to planets that, at the moment under analysis (in natal astrology, birth), are in zodiac signs that are 120° apart,⁴⁶ which is not the case here.

The reason why different compilers of horoscopes – whether individual scholars or schools – decided to use a different scheme underlying the words *bīt niširtu* and KI remains unclear. It is not possible to determine whether there has been a change in attribution over time, because the only date given in the horoscopes is that of the child’s birth, and not the date on which the horoscope was written. However, if one

⁴⁶ See Neugebauer and Van Hoesen (1959: 2) and Bowen and Rochberg (2020: 632).

assumes that the horoscopes were written at most a few decades after the date of birth, this assumption is implausible: the date of birth in horoscope no.8, in which the *bīt niširtu* refers to the triplicity of the solstice month, is close to that of the two horoscopes nos. 6 and 9, in which the respective *bīt niširtu* and KI refer to the date of birth and the Terms, and not far from no. 10 (and its copy no. 11), where the KIs are referred to the triplicities of the planetary positions. It seems rather more plausible that the idea of relying on the “Lords of the Triplicities” (and therefore the Terms) circulated among the scholars, but each of them interpreted their “secret” or “protection” value differently.

Horoscopes with different schemes also have different structures. The layout and the arrangement of the data are set out differently in the horoscopes from Babylon, where the *bīt niširtu* is referred to the month of the solstice/equinox, and in those where it is referred to the date of birth. The same goes for the horoscopes from Uruk: the term KI is placed in two different parts in the two texts where it is attested, and it clearly has a different use.

The results of this research allows a further step towards a better translation of the “house of secrecy/protection.” On a very literal level, either option could work: “planetary space of secret knowledge,” (Reynolds 2019), or a “place in the sky where the planets offer protection” (Dalley 2020). The point is not to choose one. Rather, I would like to reflect on the fact that this word is used, albeit with variations, to refer either to the exaltation scheme, or to a triplicity scheme, or to the Terms. This plurality of astrological meanings suggests something close to the concept of astrological “dignity:”

Dignities are systems for assigning “familiarities” between planets and zodiac signs. In Hellenistic astrology, the main dignities are by house, exaltation, triplicity, and term. Phase, face, and decan are also assigned to planets in zodiac signs.⁴⁷

The application of the Terms in Babylonian horoscopes, if correct, is extremely interesting from the point of view of the history of astrology. In the Egyptian (Demotic) and Graeco-Roman tradition, the principle, the application and the outcome of the use of Terms are completely different: they are related to zodiacal position and not to months, and given for every planetary position, e.g., “Sun in 11° Virgo [...] Terms of Saturn”,⁴⁸ because that range of degrees (7–x?)⁴⁹ within Virgo is assigned to Saturn. The division into Terms made its way from Babylonia not only to Egypt and Greece, but also Rome and India. The scheme and its application to the horoscopes have been completely revised among the various cultures and traditions.

⁴⁷ Greenbaum (2020: 462).

⁴⁸ P.Oxy.Astr. 4237 (Jones 1999: 374–375).

⁴⁹ At least according to the scheme in P.CtYBR 1132 (see Appendix B).

Appendix A: The Babylonian forerunners of the Greek planetary exaltations (*hypsōmata*)

Here follows a summary of attestations of the connections between planets and constellations that seems to anticipate the exaltation scheme.⁵⁰ For the identification of the name of the constellations and zodiac signs, see Brown (2018: 355–366) and Hunger and Pingree (1999: 271–277).

- A) The first preserved attestation comes from the astral divination series *Enūma Anu Enlil*, where the *ašar/bīt niširtu* seems to indicate a position in the sky that Venus can reach (KUR, Akk. *kašādu*) or not. Nevertheless, in this text, the position that it reaches is the constellation of the Lion (Leo), which deviates from the position of Venus in Pisces given in Esarhaddon's inscription (see point B) and LBAT 1591 (see point I) and also from the Greek exaltation scheme.⁵¹
- B) In an inscription of Esarhaddon, composed around the first quarter of the seventh century, Venus "reaches the secrecy and disappears" (*ni-šir-tú ik-šu-ud-ma ud-bal*)⁵² and Jupiter "in the month of *pēt-babi* (ITI.BAD.KÁ = Du'ūzu, month IV) reaches its place of secret (*a-šar ni-šir-ti ik-šu-dam-ma*).⁵³ The mention of planetary position is not explicit, but Rochberg successfully computed the dates, and determined that the two planets were actually where they are expected to be in the exaltation scheme, which means Venus in Pisces and Jupiter in Cancer.⁵⁴ Du'ūzu, month IV in the Babylonian calendar, is also associated with Cancer.
- C) In the *Cuneiform Uranology Text*,⁵⁵ among the descriptions of the constellations some of the planets are mentioned. Jupiter is mentioned only in the earliest source in the description of the constellation of the Crab: "one star at its head is

50 For the purpose of proving this hypothesis, some of the following attestations have already been collected by Rochberg-Halton (1988a: 53–57) and Koch (1999, 2000). Reynolds (2019: 275) excludes the horoscopes from the list – and so do I – because they certainly do not refer to the exaltations. Some results on the possible reason behind the choice of these particular planetary positions will soon be published by Ossendrijver (In Preparation).

51 Reiner and Pingree (1998: 250–252 text F) and Rochberg-Halton (1988a: 53).

52 Esarhaddon inscription (RINAP 4 57: i 11'–ii 9').

53 *ibid.* (RINAP 4 104: ii 34–41).

54 For the computations, see Rochberg-Halton (1988a: 54–55). The reconstructed positions match the Greek exaltation scheme, but not for specific degrees.

55 The "source A" (VAT 9428) is Neo-Assyrian, and the text was likely composed in this period (Beaulieu et al. 2018: 5). This text was copied and expanded until the Late Babylonian period: one of the texts found in Uruk is dated Seleucid Era 97 = 215 BC ("source D", MLC 1866), and possibly another one from the same city is to be dated one century later ("source E", MLC 1884, *ibid.*: 9).

drawn. [J]upiter is drawn in front of it. The Lion to the rear of [Ju]piter is drawn” (1 MUL ina SAG-šú .e-[-šir^{mul}]S]AG.ME.GAR ina IGI-šú e-šir^{mul}UR.GU.LA a-n[a EGIR-át^{mul}]S]AG.ME.GAR e-šir).⁵⁶ This position is the same as in the so-called “GU-text” and in the micro-zodiac tablets (see below points D and H). In one of the later “expanded versions” of the Uranology text, there is a reference to Venus: “the Swallow and the stretched out neck of *Anunītu* (Pisces), the station of Venus” (^{mul}SIM.MAH u GU₂.LA₂^{mul} a-nun-ni-tu₄ man-za-za^{mul} dele-bat).⁵⁷ Beaulieu et al. (2018: 65) also suggest that the Moon’s *bīt niširtu* is referred to in “source E”, but I did not include it in Table 1 (see above), since it is speculative.

- D) An interesting mention of the same connections between planets and constellations is made in a star catalogue, dated somewhere between the seventh and fifth century BC, the so-called “GU-text”. Among the descriptions of constellations’ “strings” (GU, Akk. *qû*), the text mentions some of the planets “standing” (GUB, Akk. *izuzzu*) in front, towards or behind a constellation: Jupiter stands behind the Crab (Cancer) and in front of the Lion (Leo), Mercury stands towards the Furrow (Virgo) and in front of the Raven (Corvus), and Saturn stands in front of the Scales (Libra). Thus, it matches the exaltation scheme.⁵⁸ Given the alleged date and the presence of other traditional constellations names, the text certainly does not refer to zodiac signs.
- E) The so-called *Calendar Treatise*, although fragmentary, constitutes the most comprehensive source for the reconstruction of connections between planets and constellations. Here, the planets are explicitly said to be in their *ašar niširtu* when they happen to be in a special constellation. Only the *ašar niširtu* of Sun, Moon, Jupiter and Mars are mentioned, in the sections relevant to the months Du’ūzu and Ṭebētu. The Moon is assigned to more than one constellation, namely the Old Man (Perseus) and the Bristle (Pleiades), both in the region of Taurus.⁵⁹
- F) In the so-called *Cultic Calendar*, in the section concerning the month Ulūlu, Mercury is said to lay the foundations (*ú-šar-ši-du*) in the place (*qaq-qar*) of the constellation of the Furrow (Virgo), its “house of secrecy”(E₂ *ni-šir-ti-šú*).⁶⁰

⁵⁶ “Source A”, VAT 9428: 15–16 (Beaulieu et al. 2018: 22, 25). The authors already pointed out that Jupiter is in its *bīt niširtu* (*ibid.*: 13, 28).

⁵⁷ “Source D”, MLC 1866: i 9 (Beaulieu et al. 2018: 35, 39). The authors already pointed out that the “station” must refer to Venus being in its *bīt niširtu* (*ibid.*: 45).

⁵⁸ BM 78161. obv. 7, 17–18, 19–20 (Pingree and Walker 1988: 315–316).

⁵⁹ *Calendar Treatise* §4, §13 (Reynolds 2019: 194–195, 208–209). The preserved copies of this work are dated ca. 170 BC, but the composition must have been earlier, although not before the mid fifth century BC (*ibid.*: 16).

⁶⁰ K 3753, I 1–6 (Weidner 1967: 11).

Although this text is dated to the Seleucid era (247 BC), when the zodiac was already well established, the reference is made to the constellation, and not to the zodiac sign, since the text itself deals with constellations and mentions further constellations names.

- G) In a Seleucid commentary on tablet 11 of the series *Utukkū lemnūtu*, named “Marduk’s Address to Demons” in section §7, Asalluhi refers to the Goat-fish (Capricorn), house of secrecy of Mars (E₂ *ni-šir-tú šá Šal-bat-a-nu*).⁶¹ Once again, although the text is composed after the uniform zodiac had been well established as a reference system, constellations are meant, rather than the zodiac signs, since other traditional constellations appear.⁶²
- H) The drawings on the micro-zodiac tablets,⁶³ since their first publication, have been thought to represent the planets’ exaltations.⁶⁴ The fact that Jupiter is on the tablet where the Lion (Leo) is drawn may be misleading, since Jupiter’s exaltation should be in Crab (Cancer). In the GU-text, there it is said that “Jupiter stands behind the Crab and in front of the Lion”, and in the drawing of the micro-zodiac tablet the Lion is actually facing Jupiter.⁶⁵
- I) The only text that mentions the positions of the five planets – Moon and Sun are excluded – is a Seleucid tablet.⁶⁶ This text, in particular obv. 5–7, is considered indirect evidence for the identification of the *ašar/bīt niširtu* with the Greek *hypsōma*, since each planet is connected to a zodiac sign corresponding exactly to the Greek exaltation scheme.⁶⁷ The passage itself is a list of zodiac signs in which the planets rise heliacally (IGI, Akk. *nanmuru*), and there is no reference to the term *ašar/bīt niširtu*. This text is a crucial source for clarifying the nature of the *ašar/bīt niširtu*, namely a planet’s ideal heliacal rising.⁶⁸ It also seems to collect and give a summary of the previous attestations of the planets in their “places of secret”. Lastly, this text undoubtedly refers to zodiac signs, since these are listed in obv. 3–4 and mentioned in all the other sections of the text, where each planet has an ideal zodiac sign position for different synodic phenomena. It seems that this text “translates” a concept from the realm of traditional constellations into that of the zodiac signs.

61 BM 47529 + 47685 obv. 16–17 (Wee 2016).

62 Wee (2016: 129, footnote 14).

63 *Gestirndarstellungen*, Weidner (1967): VAT 7851 (Moon), VAT 7847 + AO 6448 (obv. Jupiter, rev. Mercury).

64 Weidner (1919: 10–16). Weidner (1967: 34, 49).

65 BM 78161, obv. 7–8 (Pingree and Walker 1988, 315–316). See also Brown (2018: 402).

66 BM 34566 (Kugler 1907: 39–41, pl. 2 no. 2). Copy: LBA 1591 (Pinches et al. 1955).

67 Rochberg-Halton (1988a: 56).

68 Reynolds (2019: 33).

Appendix B: The Babylonian terms

At least nine different ancient systems of Terms are attested, and many ancient Graeco-Roman authors discussed and gave their version of this doctrine.⁶⁹ Its Babylonian (“Chaldean”) origin was already well established, although until the publication of the “Late Babylonian Compendium of Calendrical and Stellar Astrology” (BM 36303+),⁷⁰ no cuneiform source for this doctrine was attested. Ptolemy writes about it in his *Tetrabiblos*,⁷¹ and gives three different versions. First comes an “Egyptian scheme”, which is also the most commonly attested in the Greek and Latin sources (without mention of it as “Egyptian”), as well as in Demotic papyri.⁷² Then there is a “Chaldean Scheme,” which has in common with the Babylonian tablet the fact that the first Terms are assigned to the lord of the triplicity. Curiously the “Chaldean scheme” matches perfectly the scheme of the Terms given in the Indian *Yavanajātaka*.⁷³ Lastly, Ptolemy provides a version according to an “old manuscript”, that he claimed to have found. As noted by Steele (2015: 212), the list of Terms given by the Babylonian tablet has very much in common with the “Egyptian Scheme”.

One caveat must be raised. The cuneiform text with the Babylonian Terms is unfortunately not complete: the data for some of the months are missing (only months I to VI are preserved). Steele (2015) produced a table to compare the data from BM 36303+ and the patterns reported by Ptolemy (*Tetrabiblos* I, 21). I reproduce the table here and add the data provided by the Demotic papyri PC 81 and 89, where the division concerns the calendar, as in the Babylonian text.⁷⁴ The Demotic papyrus P.CtYBR 1132⁷⁵ also has similarities with what remains of the Babylonian scheme in BM 36303+. Moreover, as mentioned earlier, in antiquity there were many different schemes related to divisions into Terms, so it is not entirely certain that the astrologers who compiled the Babylonian horoscopes relied on the list of Terms in BM 36303+.

Month/ sign	BM 36303+	PC 81–89 (restored)	P.CtYBR 1132(B)	“Egyptian”	“Chaldean”	“Ancient manuscript”
I/Aries	1–5 Jupiter	1–6 Saturn	1–7 Jupiter	1–6 Jupiter	1–8 Jupiter	1–6 Jupiter
	6–12 Venus	7–12 Venus	8–12 Venus	7–12 Venus	9–15 Venus	7–14 Venus
	13–20 Mer- cury	13–? Mercury	13–18 Mercury	13–20 Mer- cury	16–21 Saturn	15–21 Mercury

⁶⁹ I refer to the paper by Jones and Steele (2012) for an in-depth description, see *ibid.*: 6–7.

⁷⁰ First by Jones and Steele (2012), then the additional joins by Steele (2015).

⁷¹ *Tetrabiblos* 1, 21 (Robbins 1980: 98–107).

⁷² Jones and Steele (2012: 3–4).

⁷³ Pingree (1978: 214), Neugebauer (1975: Figure 33), and Rochberg-Halton (1984: 125, Table 4).

⁷⁴ Winkler (2009, 2011) (and personal communication).

⁷⁵ Bohleke (1996).

(continued)

Month/ sign	BM 36303+	PC 81–89 (restored)	P.CtYBR 1132(B)	“Egyptian”	“Chaldean”	“Ancient manuscript”
	21–25 Saturn 26–30 Mars	?–? Jupiter ?–30 Mars	19–24 Mars 25–30 Saturn	21–25 Mars 26–30 Saturn	22–26 Mer- cury 27–30 Mars	22–26 Mars 27–30 Saturn
II/Taurus	1–5 Venus 6–14Mer- cury 15–[x] Jupiter [x]–26 Saturn 27–30 Mars	1–8 Venus 9–14 Mercury 15–21 Saturn 22–? Mars ?–30 Jupiter	1–7 Venus 8–12 Saturn 13–18 Mercury 19–24 Jupiter 19–24 Mars	1–8 Venus 9–14 Mer- cury 15–22 Jupiter 23–27 Saturn 28–30 Mars	1–8 Venus 9–15 Saturn 16–21 Mer- cury 22–26 Mars 27–30 Jupiter	1–8 Venus 9–15 Mercury 16–22 Jupiter 23–26 Saturn 27–30 Mars
III/Gemini	1–6 Mer- cury 7–12 Jupiter 13–16 Venus 17–24 Mars 25–30 Saturn	1–6 Mercury 7–12 Jupiter 13–17 Venus 18–20+ Mars ?–30 Saturn	1–6 Mer- cury 7–12 Mars 13–18 Jupiter 19–24 Venus 25–30 Saturn	1–6 Mercury 7–12 Jupiter 13–17 Venus 18–24 Mars 25–30 Saturn	1–8 Saturn 9–15 Mer- cury 16–21 Mars 22–26 Jupiter 27–30 Venus	1–7 Mercury 8–13 Jupiter 14–20 Venus 21–26 Mars 27–30 Saturn
IV/Cancer	1–8 Mars 9–14 ² Venus 15 ² –19 Mer- cury 20–24 Jupiter 25–30 Saturn		1–6 Mars 7–13 Jupiter 14–19 Venus 20–25 Saturn 26–30 Mercury	1–7 Mars 8–13 Venus 14–19 Mer- cury 20–26 Jupiter 27–30 Saturn	1–8 Mars 9–15 Jupiter 16–21 Venus 22–26 Saturn 27–30 Mercury	1–6 Mars 7–13 Jupiter 14–20 Mercury 21–27 Venus 28–30 Saturn
V/Leo	1–5 Jupiter 6–11 Venus 12–17 Saturn 18–24 Mer- cury 25–30 Mars	1–6 Jupiter 7–14 Venus 15–20+ Saturn 20+? Mercury ?–30 Mars	1–7 Jupiter 8–13 Venus 14–19 Saturn 20–24 Mars 25–30 Mercury	1–6 Jupiter 7–11 Venus 12–18 Saturn 19–24 Mer- cury 25–30 Mars	1–8 Jupiter 9–15 Venus 16–21 Saturn 22–26 Mer- cury 27–30 Mars	1–6 Saturn 7–13 Mercury 14–19 Venus 20–25 Jupiter 26–30 Mars
VI/Virgo	1–7 Venus 8–11[+x ²] Mercury	1–? Mercury ?–17 Venus 18–21 Jupiter	1–6 Venus 7–? Saturn 10+–18	1–7 Mercury 8–17 Venus 18–21	1–8 Venus 9–15 Saturn 16–21	1–7 Mercury 8–13 Venus 14–18 Jupiter

(continued)

Month/ sign	BM 36303+	PC 81–89 (restored)	P.CtYBR 1132(B)	“Egyptian”	“Chaldean”	“Ancient manuscript”
	12[+x ²]-21 Jupiter	22–28 Mars 29–30 Saturn	Mars 19–25 Jupiter 26–30 Mercury	Jupiter 22–28 Mars 29–30 Saturn	Mercury 22–26 Mars 27–30 Jupiter	19–24 Saturn 25–30 Mars
VII/Libra	1–? Saturn ?–? Mercury ?–21 ² Jupiter 22 ² –26 Venus 27–30 Mars	1–7 Saturn 8–14 Mercury 15–22 Jupiter 23–? Venus ?–30 Mars	1–7 Saturn 8–13 Mars 14–19 Jupiter 20–25 Venus 26–30 Mercury	1–6 Saturn 7–14 Mer- cury 15–21 Jupiter 22–28 Venus 29–30 Mars	1–8 Saturn 9–15 Mer- cury 16–21 Mars 22–26 Jupiter 27–30 Venus	1–6 Saturn 7–11 Venus 12–19 Jupiter 20–24 Mercury 25–30 Mars
VIII/ Scorpio	1–? Mars ?–? Venus – – –	1–7 Mars 8–11 Venus 12–19 Mer- cury 20–24 Jupiter 25–30 Saturn	1–6 Mars 7–12 Jupiter 13–18 Venus 19–24 Mercury Saturn	1–7 Mars 8–11 Venus 12–19 Mer- cury 20–24 Jupiter 25–30 Saturn	1–8 Mars 9–15 Jupiter 16–21 Venus 22–26 Saturn 30 Mercury	1–6 Mars 7–14 Jupiter 15–21 Venus 22–27 Mercury 28–30 Saturn
IX/ Sagittarius	– – – – –	1–12 Jupiter 13–17 Venus 18–21 Mer- cury 22–27 Saturn 28–30 Mars	– – – – –	1–12 Jupiter 13–17 Venus 18–21 Mer- cury 22–26 Saturn 27–30 Mars	1–8 Jupiter 9–15 Venus 16–21 Saturn 22–26 Mer- cury 27–30 Mars	1–8 Jupiter 9–14 Venus 15–19 Mercury 20–25 Saturn 26–30 Mars
X/ Capricorn	– – – – –	1–7 Mercury 8–14 Jupiter 15–24 [Venus] 25–27 Saturn 28–30 Mars	– – – – –	1–7 Mercury 8–14 Jupiter 15–22 Venus 23–26 Saturn 27–30 Mars	1–8 Venus 9–15 Saturn 16–21 Mer- cury 22–26 Mars 27–30 Jupiter	1–6 Venus 7–12 Mercury 13–19 Jupiter 20–25 Mars 26–30 Saturn
XI/ Aquarius	– – –	1–7 Mercury 8–13 Venus 14–? [Jupiter]	– – –	1–7 Mercury 8–13 Venus 14–20	1–8 Saturn 9–15 Mercury	1–6 Saturn 7–12 Mercury 13–20 Venus

(continued)

Month/ sign	BM 36303+	PC 81–89 (restored)	P.CtYBR 1132(B)	“Egyptian”	“Chaldean”	“Ancient manuscript”
	–	?–25 Mars	–	Jupiter	16–21 Mars	21–25 Jupiter
	–	26–30 Saturn	–	21–25 Mars 26–30 Saturn	22–26 Jupiter 27–30 Venus	26–30 Mars
XII/Pisces	–	1–12 Venus	–	1–12 Venus	1–8 Mars	1–8 Venus
	–	13–16 Jupiter	–	13–16	9–15 Jupiter	9–14 Jupiter
	–	17–? Mercury	–	Jupiter	16–21 Venus	15–20 Mercury
	–	?–27 Saturn	–	17–19 Mer- cury	22–26 Saturn	21–26 Mars 27–30 Saturn
	–	28–30 Mars	–	20–28 Mars 29–30 Saturn	27–30 Mercury	

References

- Barton, Tamsyn. 1994. *Ancient Astrology*. London/New York: Routledge.
- Beaulieu, Paul Alain, Eckart Frahm, Wayne Horowitz, and John Steele. 2018. *The Cuneiform Uranology Texts: Drawing the Constellations*. Transactions of the American Philosophical Society 107. Philadelphia: American Philosophical Society.
- Bohleke, Briant (1996). In Terms of Fate: A Survey of the Indigenous Egyptian Contribution to Ancient Astrology in Light of Papyrus CtYBR inv. 1132 (B). *Studien zur altägyptischen Kultur* 23: 11–46.
- Bouché-Leclercq, Auguste. 1899. *L'astrologie grecque*. Paris: E. Leroux.
- Bowen, Alan C., and Francesca Rochberg, eds. 2020. *Hellenistic Astronomy. The Science in Its Contexts*. Leiden-Boston: Brill.
- Brack-Bernsen, Lis, and Hermann Hunger. 2002. “TU 11: A Collection of Rules for the Prediction of Lunar Phases and of Month Lengths.” *SCIAMVS* 3: 3–90.
- Brack-Bernsen, Lis, and John M. Steele. 2004. “Babylonian Mathematicmagics: Two Mathematical Astronomical-Astrological Texts.” In *Studies in the History of the Exact Sciences in Honour of David Pingree*, edited by C. Burnett, J. P. Hogendijk, K. Plofker, and M. Yano, 95–125. Leiden-Boston: Brill.
- Britton, John P. 2007. “Calendars, Intercalations and Year-Lengths in Mesopotamian Astronomy.” In *Astronomy and Time in the Ancient Near East*, Vol. 1, edited by J. Steele, 115–32. Oxford: Oxbow Books.
- Britton, John P. 2010. “Studies in Babylonian Lunar Theory III: The Introduction of the Uniform Zodiac.” *Archive for History of Exact Sciences* 64 (6): 617–63.
- Brown, David. 2018. *The Interactions of Ancient Astral Science*. Bremen: Dr. Ute Hempfen Verlag.
- Dalley, Stephanie. 2020. “ašar niširti/bīt niširti.” *NABU* 2020 (2): 165–6.
- Evans, James, and J. Len Berggren. 2006. *Geminus's Introduction to the Phenomena: A Translation and Study of a Hellenistic Survey of Astronomy*. Princeton: Princeton University Press.
- Greenbaum, Dorian Gieseler. 2020. “The Hellenistic Horoscope.” In *Hellenistic Astronomy*, edited by A. C. Bowen, and F. Rochberg, 443–71. Leiden-Boston: Brill.

- Greenbaum, Dorian Gieseler, and Micah Ross. 2010. "The Role of Egypt in the Development of the Horoscope." In *Egypt in Transition. Social and Religious Development of Egypt in the First Millennium BC*, edited by L. Bares, F. Coppens, and K. Smolankov, 146–82. Prague: Czech Institute of Egyptology, Faculty of Arts, Charles University.
- Horowitz, Wayne. 1996. "The 360 and 364 Day Year in Ancient Mesopotamia." *JANES* 24: 35–44.
- Hunger, Hermann. 2004. "Stars, Cities, and Predictions." In *Studies in the History of the Exact Sciences in Honour of David Pingree*, edited by C. Burnett, J. P. Hogendijk, K. Plofker, and M. Yano, 16–32. Leiden-Boston: Brill.
- Hunger, Hermann, and David E. Pingree. 1999. *Astral Sciences in Mesopotamia*. Leiden-Boston: Brill.
- Jones, Alexander. 1999. *Astronomical Papyri from Oxyrhynchus: (P Oxy 4133–4300a)*. Philadelphia: American Philosophical Society.
- Jones, Alexander and Steele, John M. (2012). A New Discovery of a Component of Greek Astrology in Babylonian Tablets: The Terms. *ISAW Papers* 1: 1–23.
- Koch, Johannes. 1999. "Die Planeten-Hypsomata in einem babylonischen Sternenkatalog." *JNES* 58 (1): 19–31.
- Koch, Johannes. 2000. "Neues von den babylonischen Planeten-Hypsomata." *Die Welt Des Orients* 31: 46–71.
- Koch-Westenholz, Ulla S. 1995. *Mesopotamian Astrology: An Introduction to Babylonian and Assyrian Celestial Divination*. Copenhagen: Museum Tusulanum Press, University of Copenhagen, Carsten Niebuhr Institute of Near Eastern Studies.
- Kugler, Franz X. 1907. *Sternkunde und Sterndienst in Babel: Assyriologische, astronomische und astralmythologische Untersuchungen*. Münster: Aschendorffsche Verlagsbuchhandlung.
- Mohr, Sara. 2022. "Secrecy, Protection, and the Foundations of Knowledge in Ancient Mesopotamia." Doctoral diss., Brown University.
- Neugebauer, Otto E. 1975. *A History of Ancient Mathematical Astronomy*. Berlin – New York: Springer-Verlag.
- Neugebauer, Otto E., and Henry B. Van Hoesen. 1959. *Greek Horoscopes*. Philadelphia: American Philosophical Society.
- Ossendrijver, Mathieu (2012). *Babylonian Mathematical Astronomy: Procedure Texts*. Springer Science, New York.
- Ossendrijver, Mathieu (In preparation). The exaltations of Graeco-Roman astrology and their possible relation to Babylonian Normal Stars. *Journal for the History of Astronomy*.
- Pinches, Teophilus G., Johan N. Strassmaier, Abraham J. Sachs, and Johan B. C. Schaumberger. 1955. *Late Babylonian Astronomical and Related Texts*. Providence: Brown University Press.
- Pingree, David E. 1978. "History of Mathematical Astronomy in India." In *Dictionary of Scientific Biography Supplement I*, Vol. 15, edited by C. Gillispie, 533–633. New York: Charles Scribner's Sons.
- Pingree, David E., and Christopher B. F. Walker. 1988. "A Babylonian Star-Catalogue: BM 78161." In *A Scientific Humanist, Studies in Memory of Abraham Sachs*, edited by E. Leichty, M. J. Ellis, and P. Gerardi. *OPSNFK* 9, 313–22. Philadelphia: University Museum, University of Pennsylvania.
- Reiner, Erica, and David Pingree. 1998. *Babylonian Planetary Omens: Part Three*. CM 11. Groeningen: Styx Publications.
- Renzi-Sepe, Maria Teresa. 2023. *The Perception of the Pleiades in Mesopotamian Culture*. LAOS 15. Wiesbaden: Harrassowitz.
- Reynolds, Frances. 2019. *A Babylon Calendar Treatise: Scholars and Invaders in the Late First Millennium BC*. Oxford: Oxford University Press.
- Robbins, Frank E. 1980. *Ptolemy Tetrabiblos*. Cambridge: Harvard University Press.
- Rochberg, Francesca. 1998. *Babylonian Horoscopes*. Philadelphia: American Philosophical Society.
- Rochberg-Halton, Francesca. 1984. "New Evidence for the History of Astrology." *JNES* 43 (2): 115–40.

- Rochberg-Halton, Francesca. 1987. "TCL 6 13: Mixed Traditions in Late Babylonian Astrology." *ZA* 77 (2): 207–28.
- Rochberg-Halton, Francesca. 1988a. "Elements of the Babylonian Contribution to Hellenistic Astrology." *JAOs* 108 (1): 51–62.
- Rochberg-Halton, Francesca. 1988b. "Benefic and Malefic Planets in Babylonian Astrology." In *A Scientific Humanist, Studies in Memory of Abraham Sachs*, edited by E. Leichty, M. J. Ellis, and P. Gerardi. OPSNFK 9, 323–8. Philadelphia: University Museum, University of Pennsylvania.
- Sachs, Abraham J. 1952. "Babylonian Horoscopes." *JCS* 6 (2): 49–75.
- Schreiber, Marvin. 2018. "Die astrologische Medizin der spätbabylonischen Zeit." Doctoral thesis. Humboldt Universität zu Berlin.
- von Soden, Wolfran. 1995. *Grundriss der akkadischen Grammatik*. AnOr 33. Roma: Pontificio Istituto Biblico.
- Steele, John M. 2011. "Making Sense of Time: Observational and Theoretical Calendars." In *The Oxford Handbook of Cuneiform Culture*, edited by K. Radner, and E. Robson, 470–85. Oxford: Oxford University Press.
- Steele, John M. 2015. "A Late Babylonian Compendium of Calendrical and Stellar Astrology." *JCS* 67: 187–215.
- Steele, John M. 2016. "The Circulation of Astronomical Knowledge Between Babylon and Uruk." In *The Circulation of Astronomical Knowledge in the Ancient World*, edited by J. M. Steele, 83–118. Leiden-Boston: Brill.
- Wainer, Zackary. 2016. "Traditions of Mesopotamian Celestial-Divinatorial Schemes and the 4th Tablet of *Šumma Sin ina Tāmartišu*." In *The Circulation of Astronomical Knowledge in the Ancient World*, edited by J. M. Steele, 55–82. Leiden-Boston: Brill.
- Wallenfels, Ronald. 1993. "Zodiac Signs Among the Seal Impressions from Hellenistic Uruk." In *The Tablet and the Scroll*, edited by Mark Cohen, Daniel Snell, and David Weisberg, 281–9. Bethesda: CDL Press.
- Wee, John Z. 2016. "A Late Babylonian Astral Commentary on Marduk's Address to the Demons." *JNES* 75 (1): 127–67.
- Weidner, Ernst F. 1913. "Beiträge zur Erklärung der astronomischen Keilschrifttexte (3)." *OLZ* 16 (6): 204–12.
- Weidner, Ernst F. 1919. "Babylonische Hypsomatabilder." *OLZ* 22: 10–6.
- Weidner, Ernst F. 1967. *Gestirn-Darstellungen auf babylonischen Tontafeln (mit 17 Tafeln)*. Wien: Böhlau.
- von Weiher, E. 1983. *Spätbabylonische Texte aus Uruk, Teil II*. Berlin: Gebr. Mann Verlag.
- von Weiher, E. 1988. *Spätbabylonische Texte aus Uruk, Teil III*. Berlin: Gebr. Mann Verlag.
- Winkler, Andreas (2009). On the Astrological Papyri from the Tebtunis Temple Library. In: Widmer, G. and Devauchelle, D. (Eds.). *Actes du IXe congrès international des études démotiques, Paris, 31 août – 3 septembre 2005*, Bibliothèque d'étude 147. Institut français d'archéologie orientale, Paris, pp. 361–375.
- Winkler, Andreas. 2011. "Looking at the Future. Divination and Astrology in Ancient Egypt." Doctoral thesis. Uppsala University.