

Towards the History of Representation of the Zodiacal Constellations in Mesopotamia: The Babylonian Man in the Moon and Other Matters

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Gennady Kurtik in memoriam

[The article investigates Mesopotamian figurations of constellations nowadays known as zodiacal from their earliest occurrence through the Hellenistic period in diachronic perspective. Special attention is paid to the revolutionary changes of the Middle Babylonian period, the archaeological evidence for it, the representation of constellations on *kudurru* and uninscribed calendrical tablet VAT 15377. The difference in depiction of the same constellations in Assyria and Babylonia is treated as well. A number of innovative interpretations of texts and imagery related to the representation of constellations is suggested, including the new interpretation of the inscription on cylinder seal from the former Erlenmeyer collection 1—the only inscribed seal from the Uruk period with the earliest known astronomical record. A new interpretation for the Babylonian man in the moon drawn on VAT 7851 is suggested based on the collated drawing and collation of SAA 3 39.]

Keywords: risings and settings of Venus, figurations of constellations, zodiac, *kudurru*, calendars, man in the moon.

1. Introduction

Astronomy-astrology was an inextricable part of the daily life in Mesopotamia. Recently Francesca Rochberg¹ has spectacularly demonstrated the role of astronomy in the Mesopotamian

1. This paper was first presented at the 5th Regensburg Workshop on Mesopotamian Astral Sciences “In Time: Astronomy and Calendars in the Ancient Near East,” June 12 – June 15, 2018, Jerusalem. I am grateful to Wayne Horowitz for inviting me to participate in this workshop. While writing this article the author was funded by the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 797758.

All the abbreviations in this article are taken from RIA. I am most grateful to F. Rochberg for reading this paper and discussing it with me as well as for her thought-provoking and encouraging advice, which guided me through the article’s subject matter. I am indebted to M. Ossendrijver for his remarks and comments. I am glad to express my sincere gratitude to the department of photography of the Vorderasiatisches Museum, Alrun Gutow and Olaf M. Teßmer, for their efficient and devoted work and beautiful photographs of the tablets. Last but not least, I want to thank Mervyn Richardson for greatly improving the English of this paper.

worldview and worldmaking.² But we have so far known little about the images that Mesopotamians saw in the night sky. Although representations of constellations are found among early images in Mesopotamia, Assyriologists and art historians of the ancient Near East barely touched the subject³ because of the abuse made of it by the panbabylonists. By the Middle Babylonian period, *kudurrus* display a wealth of figurative depictions of celestial bodies. The interpretation of some of the *kudurru* imagery as constellations was first suggested by Julius Oppert and Theophilus Pinches. William Hinke⁴ elaborated on this subject at the beginning of the 20th century. Fritz Hommel took over the views of Hinke but brought them to an absurd conclusion.⁵ In the 1980s Vladimir Tuman put the last nail in the coffin by the rather aggressive promotion of his assumption that the constellations represented on *kudurrus* reflect a particular astronomical event and exact sky picture of the moment when the *kudurru* was installed.⁶ The important observation that *kudurrus* bear a developed system of celestial imagery continued to be neglected by the scholars of the ancient Near East. Resulting from these developments, Ursula Seidl's comprehensive research on the iconography of *kudurrus* does not investigate their astral aspects. Only her 1989 book mentions in passing the connection of the images on *kudurrus* to constellations, always with references to the previous studies.⁷

The present investigation does not attempt to embrace the entire extensive field of representations of the starry sky in Mesopotamia, but concentrates only on the emergence and development of images related to the groups of stars nowadays called zodiacal constellations. I will use textual evidence, when available, in conjunction with the imagery. I will demonstrate that the notion of the constellations in the "path of the moon" can be traced in pictorial sources much earlier than in the texts so-far known.⁸

2. Rochberg, F. 2019. Anthropology of Science: The Cuneiform World. *Journal of Near Eastern Studies* 78/ 2, pp. 253-271; Rochberg, F. 2009. The Stars Their Likenesses, in B. N. Porter, ed. *What Is a God? Anthropomorphic and Non-Anthropomorphic Aspects of Deity in Ancient Mesopotamia*. Winona Lake IN: Eisenbrauns, pp. 1-52.

3. The most comprehensive studies of descriptions of constellations which focus on textual rather than on pictorial representations are of G. Kurtik (e.g. Куртик 2007 = Kurtik G. E. 2007. *Звездное небо древней Месопотамии. Шумеро-аккадские названия созвездий и других светил*. Санкт-Петербург: Алетея = Kurtik G. E. 2007. *The Star Heaven of Ancient Mesopotamia. The Sumero-Akkadian Names of Constellations and Other Heavenly Bodies*. St. Petersburg: Aletheia). Because Kurtik was not a cuneiformist, but a historian of science, and because his works are written in Russian, his research escaped the attention of the wider Assyriological audience and is known only to a few cuneiformists specialising in astronomy. Wallenfells, R. 1993. Zodiacal Signs among the Seal Impressions from Hellenistic Uruk, in M. E. Cohen, D. C. Snell, & D. B. Weisberg, eds. *The Tablet and the Scroll. Near Eastern Studies in Honor of William W. Hallo*, Bethesda: CDL, pp. 281-289 is related to a much later Hellenistic the stamp seals, which present a combination of an object form generally strange for Mesopotamia (stamp seals) and with the very late mature Mesopotamian zodiacal imagery.

4. Hinke, W. J. 1907 *A New Boundary Stone of Nebuchadrezzar I. from Nippur: With a Concordance of Proper Names and a Glossary of the Kudurru Inscriptions thus far Published*. The Babylonian expedition of the University of Pennsylvania. Series D, Researches and treatises vol. 4. Philadelphia PA: University of Pennsylvania, pp. 73, 96-115 and after him Alfred Jeremias (Jeremias, A. 1913. *Handbuch der altorientalischen Geisteskultur*. Leipzig: Hinrichs, pp. 205-209).

5. Hommel, F. 1920. Zu den babylonischen Grenzsteinsymbolen. *Beiträge zur Morgenländischen Altertumskunde* I. Friedrich Delitzsch zum 70. Geburtstag, 3. 9. 1920, pp. 1-17.

6. De Meis S. and Hunger H. 1995-1996. Astronomical Dating of 'Observed' Events in the Star List V R 46. *Archiv für Orientforschung* 42/43, pp. 208-209.

7. Seidl 1989: 41, 103, 138 n. 79, 139, 177 n. 128 (Seidl, U. 1989 *Die Babylonische Kudurru-Reliefs: Symbole Mesopotamischer Göttheiten*. Orbis Biblicus et Orientalis 87. Freiburg Schweiz-Göttingen: Vandenhoeck & Ruprecht).

8. The earliest cuneiform list of the constellations in the "path of the moon" in the ^{mul}APIN I iv 31-39 gives the names of eighteen constellations, and not of twelve. The system of a consolidated set of twelve zodiacal constellations occurs at the end of the fifth and the beginning of fourth century BCE. For this reason, the modern names of zodiacal constellations mentioned in this article for the convenience of a reader appear in parenthesis.

2. Earliest Periods: The Bull of Heaven and the Giant

The first firmly identified depiction of a constellation comes from a seal (fig. 1). This is the seal from the former Erlenmeyer collection with a proto-cuneiform inscription, the only known inscribed seal from this period. One of the decipherers of the proto-Sumerian script, Aizik Vaiman, claimed that a depiction of the Bull of Heaven can be found on this proto-Sumerian seal. Vaiman considered the inscription on it to be the most ancient of the known astronomical records.⁹ He read this inscription as: ezen-ed₀(=u₄) nin₂(=innin)-an sig-(nin₂)-an mul gu₄, “the feast of raising of the Lady of Heaven (Inanna-Venus) (and) setting of (the Lady) of Heaven (Inanna-Venus) (in) the constellation of the Bull (Taurus).”¹⁰ Accordingly, the bull on this seal is the earliest identifiable representation of the constellation, which later became known as the zodiacal Taurus. The bull is depicted in full and not represented by a bull’s head alone—the sign for a bull in proto-Sumerian script.¹¹ Vaiman supported his reading by multiple parallels from the later proto-Sumerian texts which mention risings and settings of Venus, Jupiter and Saturn.¹²

9. “Древнейшая из известных нам астрономических записей содержится на цилиндрической печати.” (Вайман, А. А. 1998. Древнейшие письменные и изобразительные свидетельства об астрономических знаниях в Шумере и Эламе [конец IV – начало III тыс. до н. э.]. *Эрмитажные чтения памяти Б. Б. Piotrovского: Тезисы докладов*. Санкт-Петербург, Издательство Государственного Эрмитажа, с. 13 = Vaiman, A. A. 1998. The Earliest Textual and Pictorial Evidence for the Astronomical Knowledge [The End of IV – the beginning of III millennium BCE], in *The Hermitage Readings in Memory of B. B. Piotrovsky*. St. Petersburg: The State Hermitage Publishers, p. 13).

10. Vaiman 1998: 13–14. H. Nissen translates: “The festival of the evening/morning Inanna (= Venus),” (Nissen, H. J., Damerow, P. and Englund, R. K. 1993. *Archaic Bookkeeping*. Chicago: University of Chicago Press, p. 17). But he misses the most interesting part in Vaiman’s reading—the exact astronomical placement of this rising/setting. Apparently, he did not read the pictorial part of the inscription. He also does not provide any transliteration but only a translation. R. Englund’s transliteration at <https://cdli.ucla.edu/P274834> also disregards the bull:

1. EZEN~b MUŠ₃~a U₄ SIG AN

2. AN AN AN

11. Sign GU₄; Englund, R. K. with Boehmer, R. M. 1994. *Archaic administrative texts from Uruk: The Early Campaigns*. *Archaische Texte aus Uruk Bd. 5* Berlin: Mann, p. 123.

12. Vaiman 1998: 14–15. His examples include celebrations of the rising of Venus in the constellation of “Cancer.” Vaiman translates it as solifuga, “a camel spider.” But for risings of Jupiter and Saturn no feasts on these occasions are attested, nor are they described as rising in any constellation. Vaiman further points to two uninscribed seals, also from the former Erlenmeyer collection, that clearly bear representations of constellations. The first one depicts a kind of a spider, which Vaiman calls “solifuga” (фаланга) and claims that it is the Crab (nagar; in later texts ^{mul}ALLUL “Cancer”). For drawing, see Vaiman 1998: 14; for the photograph Nissen, H. J., Damerow P., and Englund, R. K. 1990. *Frühe Schrift und Techniken der Wirtschaftsverwaltung im alten Vorderen Orient: Informationsspeicherung und -verarbeitung vor 5000 Jahren*. Bad Salzdetfurth: Franzbecker, p. 45, fig. 5a4). Vaiman’s claim would seem doubtful, if it were not supported by his next example where the same spider appears between the lion (later ^{mul}UR.GU.LA) and two centrally symmetric scorpions (later ^{mul}GIR.TAB; Nissen, Damerow and Englund 1990: 46, fig. 5b3).

G. E. Kurtik, who is not a Sumerologist, but a historian of astronomy, considers (without any explanation) the celebration of rising and setting of Inana at once impossible, which contradicts not only the interpretation by Vaiman, but also those by Englund, Nissen, and Szarzyńska. He, however, makes an obvious, but interesting observation, missed by the decipherers of proto-Sumerian, that the pictographic sign EZEN, “feast, celebration” is the depiction of a drum (Куртик Г. Е. 2002. Ранняя история месопотамских созвездий (к проблеме происхождения созвездий). *Петербургское востоковедение* 10, сс. 186–229. с. 205 = Kurtik, G. E. 2002: Early history of the Mesopotamian constellations (on the problem of the origin of the constellations). *Peterburgskoe vostokovedenie* 10, pp. 186–229, p. 205.). This provides further support to the interpretation of fig. 2 (see below, pp. 71–72).



Figure 1. Erlenmeyer seal 1 cdlī P274834

There is something in this seal inscription that Vaiman omitted. I suggest¹³ to read this inscription as *ezen* *u*₄×¹⁴*an*¹⁴ *sig*×*an* *innin* *mul*-(*mul*) *gu*₄, “the feast(s) of raising (and) setting of Inana (= Venus) (in) the Pleiades (of/and³) the Bull”¹⁵ In the early stages of cuneiform—“curviform” according to the definition of Stephen Lieberman,¹⁶—determinatives were not used, including determinatives indicating a plural. Thus, there is no determinative *dingir* before *innin* on this seal, but the sign *an* is inscribed into the signs *u*₄ and *sig*. This writing stresses that the rising and setting of a star is explicitly referred to, as opposed to simple *ed*₀ and *sig* meaning SUNrise and SUNset. The signs *u*₄×¹⁴*an*¹⁴ *sig*×*an* both refer to *innin*, and there is no need to restore the second *innin* as Vaiman does.¹⁷ Of the three *an*-signs above the figure of the bull, the first two are not the part of the “Lady of Heaven,” (*nin*₂-*an* as Vaiman suggests), and the last one is not a determinative before *gu*₄. These three *an*-signs are *mul*-(*mul*), the Stars (the “Pleiades”).

The only comprehensive art-historical study on depiction of constellations is the article of Edith Porada, exploring the iconography of the Giant (^{mul}*GU.LA*; “Aquarius”). Porada has

13. My amendments are marked in red.

14. Clearly seen ¹⁴*an*¹⁴ is placed above *u*₄.

15. G. Selz: 231, n. 86 points out that Craig Crossen also saw Pleiades and the Bull of Heaven on this seal (Selz, G. 2022. *Beyond Speech. Advocating a Non-logocentric View on the Evolution of Cuneiform Writing*, in David Wengrow, ed. *Image, Thought, and the Making of Social Worlds*. Freiburger Studien zur Archäologie & Visuellen Kultur 3. Heidelberg: Propylaeum, pp. 213–249).

16. Lieberman S. J. 1980. Of Clay Pebbles, Hollow Clay Balls, and Writing: A Sumerian View. *American Journal of Archaeology* 84/3, pp. 339–358, *passim*.

17. Apparently Nissen interpreted these signs similarly, as far as can be judged from his translation (Nissen, Damerow, Englund 1993: 17 and above fn. 10). See Szarzyńska, K. 1993. Offerings for the Goddess Inanna in Archaic Uruk. *Revue d'assyriologie et d'archéologie orientale* 87, pp. 7–2, especially p. 8, for the morning and evening Inana (according to her ^d*Inana*-UD/hu₂ and ^d*Inana*-sig respectively). Cf., e.g., *Inana*-UD/hu₂ (written AN MUŠ_{3a} U₄) and ^d*Inana*-sig (written AN MUŠ_{3a} SIG) in the subscripts of the list of offerings to Inana on occasion of the festivals of the morning and evening Venus (VAT 15307 = W 6288 [Szarzyńska 1993: 21, 28; Englund 1994: 63] and VAT 15246 = W 5233b [Szarzyńska 1993: 16, 28; Nissen, Damerow and Englund 1993: 33–34, fig. 32 Text a; Englund 1994: 61]). Besides reading the image of the bull as the constellation of the Bull, Vaiman's interpretation differs from that of Nissen, Englund and Szarzyńska in reading signs *u*₄ and *sig* as astronomical events of rising and setting of Venus, while the others interpret these signs just as morning and evening “star.” Then this seal inscription has to be translated as “the feast of the morning and evening star in the constellation of the Bull.” Vaiman's reading is supported by the evidence for risings and settings of Jupiter, Saturn and Mars (Vaiman 1998: 14–15), which were not “morning and evening stars.” See the last book of G. Kurtik for the observations of Venus in archaic Uruk (Куртик Г. Е. 2023. *Очерки истории шумерской астрономии*. Москва: Новое литературное обозрение, сс. 112–116 = Kurtik G. E. 2023. *Essays on History of Sumerian Astronomy*. Moscow: Novoye Literaturnoye Obozreniye, pp. 112–116).

demonstrated that the conventions (already well-established in the Jemdet-Nasr period) for depicting the Giant were consolidated in the OB period and continued into modernity.¹⁸ She suggested that the earliest representation of the Giant is the bearded curly “hero” taming the lions on the stone implement from Tell Agrab,¹⁹ Porada pointed out that “the hero may have been interpreted to appear very large if the animals with which he is associated are to be visualized as fully grown.” In three cases at least—on the aforementioned stone relief from Tell Agrab, on a stone vessel with the hero taming the bulls,²⁰ and on a possibly South Iranian serpentine seal²¹—the animals, bulls and lions, are considerably smaller than the hero. Thus, the naked hero in combat was perceived as a giant.²² In these three earliest images—two on stone reliefs and one on the serpentine seal—an interesting feature is marked on the centre of the hero’s forehead. On the stone implement from Tell Agrab this is just a protrusion, but on the vessel and the seal it is clearly an eye, and on the seal it is the single eye of the creature represented.

The first depictions of the hairy hero “Aquarius” holding overflowing vases²³ come from Akkadian seals.²⁴ In the Old Babylonian period the heroes with such vases become ubiquitous in glyptic. The depiction of the same motif on the new media—terracotta plaques—complement those of the seals.²⁵ Both kinds of media are frequent and accessible, which shows the motif was popular well beyond elite circles, since terracotta was easily affordable to the poor.

Porada further identified the figures displayed horizontally on four seals and seal impressions as giants—three Early Dynastic, among them at least one from Ur, and one Old Babylonian.²⁶ On the seal from Ur, the Giant also has one eye; and on the Old Babylonian one there is a star above his head which, according to Porada, identified him as a celestial body.²⁷ She pointed out that in order to display his huge size in full, the giant was placed horizontally on these seals. Typically, as

18. Porada, E. 1987 On the Origins of “Aquarius.” In F. Rochberg-Halton, ed. *Language, Literature, and History: Philological and Historical Studies Presented to Erica Reiner*, pp. 279–292. New Haven, CT: American Oriental Society. Nevertheless, in his 1956 article P. Amiet made some observations on the cosmic aspects of the so-called “naked hero” (Amiet, P. 1956 *Le symbolisme cosmique du repertoire animatif en Mesopotamie. Revue d’assyriologie* 50/3, pp. 113–125, especially pp. 118–121). This article served as a starting point for Porada. He also pointed out the celestial connection of the images of the scorpion and the scorpion-man, well-attested starting with the ED period (Amiet 1956, p. 115). Typically, he was very cautious and did not go as far as Porada in identifying them with particular constellations. His caution is certainly justified, since later the scorpion-man represents ^{mul}*Pa-bil/bil-sag*, the zodiacal “Sagittarius” on *kudurrus*.

19. Porada 1987: 281–282, fig. 2. For the stone vessel with a naked hero taming the bulls, see Aruz, J. with Wallenfels, J. (eds). 2003. *Art of the First Cities: the Third Millennium B.C. from the Mediterranean to the Indus*. New York: The Metropolitan Museum of Art, p. 49, no. 16.

20. See the previous fn.

21. Porada 1987: 283, fig. 5.

22. Porada 1987: 282.

23. In art-historical research the ubiquitous use of “flooding” or “flowing” to describe vases is an imprecise use of that adjective.

24. See, e.g., May, N. N. 2019. Early Monumental Representations of Constellations in Mari: The Moon between the Giant and the Bull of Heaven. *NABU* 2019/3, no. 63, p. 111.

25. Barrelet, M-Th. 1968. *Figurines et reliefs en terre cuite de la Mésopotamie antique. Vol. 1: Potiers, termes de métier: procédés de fabrication et production*. Bibliothèque archéologique et historique 85. Paris: Paul Geuthner, nos. 168–172, 565, 566, 753 = Opificius, R. 1961. *Das Altbabylonische Terrakottareliefe*, Untersuchungen zur Assyriologie und vorderasiatischen Archäologie: Ergänzungsbande zur *Zeitschrift für Assyriologie und vorderasiatische archäologie* 2. Berlin De Gruyter, nos. 399, 426, 434; van Buren, E. D. 1930. *Clay figurines of Babylonia and Assyria*. Yale Oriental Series 16. New Haven: Yale University Press, figs. 252, 235.

26. Porada 1987: 284, figs. 6–7, 287, figs. 10–11. See also Amiet 1956: 118, fig. 3 a, c (ED); 119, figs. 4 (= Porada’s fig. 6) and 4 (ED); 121, fig. 9 (= Porada’s fig. 11).

27. It is again worth noting that the Old Babylonian period was a time for the emergence of Mesopotamian astronomy.

on a seal impression from Susa,²⁸ the feast—dances with tambourines, offerings and sacrifices before the divine statue and the ziggurat—takes place under the night sky and the constellation of the Giant, a huge figure of a “naked hero” stretched out horizontally (fig. 2). There is another reason for placing the “hero” horizontally besides stressing the size of the Giant. This position simply reflects that the constellation is located in the sky, which is “horizontally” stretched above the earth. A bearded naked personage with four long curls at the right-hand end of the lower register (4) of the mural in salle 132 of the Mari palace (fig. 3, *šakannakku* = Ur III period) is the so-called “*sechstockiger*” *Held* or naked hero,²⁹ which Franz Wiggemann has proved to be a protective spirit *lahmu*.³⁰ Already Andre Parrot pointed out that the black backdrop with white dots, against which the *lahmu* is depicted on this wall painting, represents the starry heaven.³¹ An overflowing vase, such as is often associated with the Giant/*lahmu* appears on this mural next to him against a different background.³² The bull at the left end of the mural is the depiction of the other constellation—the Bull of Heaven, ^{mul}GU₄(AN.NA). In the lower register of this famous mural is the moon, visualised as the enthroned Moon-god accepting a ritual libation from the king, between the Bull of Heaven and the Giant. The mural certainly represents some feast, one which took place between the months associated with these constellations, apparently when the moon passed between them.



Figure 2. Impression of an ED III seal from Susa. After P. Amiet 1956: 119, fig. 4

28. Porada 1987: 284, fig. 6.

29. On the varied styles of depicting the hair and nakedness and dress(es) of this personage, see May, N. N. in print. Male Nudity in Mesopotamia: The Evolution of Its Representation in Relation to Status. *Археология и история древней Передней и Центральной Азии. Материалы международной конференции, посвященной 100-летию со дня рождения Бориса Анатольевича Литвинского (1923–2010)*. А. С. Балахванцев, ред. Москва: Институт Востоковедения РАН = *Archaeology and history of the Ancient Near East. Proceedings of the international Conference Dedicated to the Centenary of Boris Anatolievich Litvinsky (1923–2010)*. А. S. Balakhvantsev, ed. Moscow: Institute of Oriental Studies RAS, and May, N. N. forthcoming. Natural or Supernatural? The Giant as a Concept of Ideal Body.

30. See below, pp. 82–83 with fns. 95–102.

31. Parrot, A. 1958. *Mission Archéologique de Mari II. Le palais. Peintures murales*, Bibliothèque archéologique et historique, Institut Français d'Archéologie de Beyrouth 69. Paris: Librairie Orientaliste Paul Geuthner, p. 79.

32. This might be, however, due to the reconstruction. In the excavated image of the Giant the hands were not preserved (Parrot 1958: 79, fig. 60). Unlike on the reconstruction, the starry backdrop behind the hairy figure on the actual mural is not symmetric and a descending light-colour strip appears next to the right hand of this figure. This strip is definitely the remains of a stream flowing down from the vase. Thus, either the piece of the mural with the vase must be put next to the *lahmu*, or another vase should be reconstructed there. The Giant is represented on this mural against the backdrop of the starry sky, the ornament known already in the ED period in the miniature art of seals. The body of a bull-man lying down on IM 3528 is covered with twelve sparkling stars (Amiet, P. 1955. Notes d'archéologie mésopotamienne: à propos de quelques cylindres inédits du Musée de Bagdad. *Sumer* 11, pp. 58, 59 [no. 12]).



Figure 3. Mural from salle 132 of Mari palace. Registers 3-5. Reconstruction of Parrot 1958: pl. E

A similar arrangement is depicted in an abbreviated form on the seal of Ibni-šarrum, the scribe of Šar-kali-šarri, from the Old Akkadian period.³³ There the Giant and the Bull of Heaven appear together on the bank of the heavenly river, apparently the one along which the luminaries sail, the path of the sun and the moon.

It should be stressed that the first astronomical-astrological scholarly texts are known from the Old Babylonian period when astronomy emerges as a separate branch of science. The first textual attestation for ^{mul}GU.LA also derives from this period.³⁴ The popularity of the image of “Aquarius” in the Old Babylonian art might be associated with this development.

3. Developments of the Second Millennium. Kudurrus and Seals

The Middle Babylonian period marks a turning point in the depictions of celestial bodies and phenomena. The imagery of *kudurrus* utilises and develops the pre-existing iconography and displays a variety of symbols previously unattested. Scorpion-man, *girtablullu*, is depicted as an archer,³⁵ which connects him directly with the image of the Pabilsag (^{mul}*Pa-bil/bil-sag*) and the later imagery of “Sagittarius.” On the unfinished and uninscribed *kudurru* unearthed at Babylon (Merkes 26g2) this archer is represented as a centaur,³⁶ but with a scorpion’s tail.³⁷ Another depiction of a centaur-archer with a horse body is found on the MB *kudurru* of the Isin II dynasty (apparently of Marduk-nādin-aḫḫē).³⁸ The centaur on BM 90829 from the time of Meli-Šipak has

33. May 2019: 110–112.

34. MSL XI, 107: 389 (Nippur forerunner of *urra-ḫubullu*).

35. E.g., BM 90858 (Seidl 1989: pl. 23, no. 67 *kudurru* of Nebuchadnezzar I).

36. For the discussion of the centaur, see Seidl 1989: 176–178, who provides a further three examples (her nos. 12, 14 and 27) and points out that images of centaurs, but without a bow are known from the Ur III period.

37. VA Bab 4375 (Seidl 1989: 40, fig. 9, no. 63).

38. Paulus, S. 2014. *Die babylonischen Kudurru-Inschriften von der kassitischen bis zur frühneubabylonischen Zeit. Untersucht unter besonderer Berücksichtigung gesellschafts- und rechtshistorischer Fragestellungen*. AOAT 51. Münster 2014: Ugarit-Verlag, pl. 81 (Yale, no number).

tails of both a scorpion and a horse.³⁹ Clearly, the iconography of the Pabilsag in the MB period continued with the well-established image of this constellation as a scorpion-man.⁴⁰ In addition, the centaur with the bow, which is used as the symbol of Sagittarius until today, was introduced in this period.

The aforementioned unfinished and uninscribed *kudurru* discovered at Babylon, Merkes 26g2, bears the only free-standing image of a goat-fish, *suḫurmāšu* (^{MUL}SUḪUR.MÁŠ), well-known in the first millennium as a depiction of “Capricorn.” All the other well-attested images of the goat-fish, known as early as the Ur III period, in *kudurrus* always appear as an attribute of Ea, usually with a temple-façade shaped altar (*šibtu*) on the back.⁴¹

The image of an ear—in the late first millennium⁴² a girl with an ear—“Virgo,” is not often attested on *kudurrus*, but the few images we have demonstrate a development in the iconography of “Virgo.” In three of the four instances⁴³ the ear is positioned upon the *šibtu*, which in turn is twice placed on the back of a ram(?)—the symbol of Adad, the storm god and the spouse of the goddess of grain, Šala.⁴⁴ In one case the epigraph ^dŠa-[la] accompanies the depiction.⁴⁵ The symbol of Adad, a thunderbolt, which is positioned upon the back of a lying bull(?) with the epigraph ^dIM, appears on this *kudurru* next to the symbol of his spouse, Šala. It is important to note that on the other *kudurru* the ear is represented alone, as a free-standing element.⁴⁶ The first millennium manuscript of ^{MUL}APIN identifies Šala (^{MUL}AB.SÍN, the “Furrow”) as an ear,⁴⁷ but the *kudurrus* prove that the ear was the symbol of this goddess and probably also of this constellation already in the MB period.

The astral symbols, best attested on *kudurrus* are the Seven Stars, the Lion, the Scorpion, and the Ram. The constellation of Seven Stars (*sebettu*) is known in the form of seven dots as early as OB glyptics. The Stars, ^{MUL}MUL, the “Pleiades” of the zodiac of the later period, are particularly well attested in all kinds of monuments, including the *kudurrus*.⁴⁸ The Scorpion⁴⁹ is very often found on *kudurrus* and continues to be shown on seals too, as is the Lion.⁵⁰ The Ram depicted on *kudurrus* in full, as a protome with a temple facade or as a head topping a sceptre,⁵¹ is the symbol of Ea. It remains questionable if it may already have stood for the constellation of the Hired Man, ^{lū}HUN.(GÁ), in the MB period.

39. King, L. W. 1912. *Babylonian boundary-stones and memorial-tablets in the British Museum*. London: British Museum, pl. 29A; Seidl 1989, no. 12.

40. Images of this supernatural creature, apparently of Elamite origin, are well attested already in the ED period.

41. See Seidl 1989: 178–180 with references to plates and figures. Paulus 2014: pl. 94b (BM 139433; partly broken); pl. 52 (private collection?). In late first millennium astrological texts (HBA 52: 38) this symbol is already associated with Tašmētu, the spouse of Marduk.

42. See below, fn. 47.

43. Seidl 1989: 137–138 with the references to plates and figures.

44. SB 22 and SB 32 (Seidl 1989: pl. 15 a–c, nos. 32, 33).

45. SB 783 (Seidl 1989: pl. 16c, no. 36).

46. BM 90940 (Seidl 1989: fig. 18, no. 90a).

47. I ii 10: DIŠ ^{MUL}AB.SÍN ^dŠa-la šu-bu-ul-tu₄, “If the Furrow, Šala, the ear of grain;” Hunger, H. and Steele, J. 2019. *The Babylonian astronomical compendium MUL.APIN*. London / New-York: Routledge, p. 40.

48. Seidl 1989: 101–103 with further references to plates and figures.

49. Seidl 1989: 156–157 with references to plates and drawings; Paulus 2014: pl. 53 (private collection); pl. 96a (YBC 10180).

50. Seidl 1989: 138–140 with references to plates and drawings. Some of the symbols on *kudurrus* might represent constellations beyond those in the “path of the moon,” e.g., the Plough, ^{MUL}APIN, (Seidl 1989: 125–128 with references to plates and drawings) known also from the earliest periods and well attested in Assyrian astroglyphs. But apparently none of the four birds found on *kudurrus* might stand for the Crow, ^{MUL}UGA^{MUSEN} (Seidl 1989: 147–152; Paulus 2014: pl. 21 [NBC 9502]; pl. 30 [private collection]; pl. 81 [Yale, no number]; pl. 90 [VA 3835 + 3836]).

51. Seidl 1989: 147 with references to plates and drawings; probably Paulus 2014: pl. 30 (?; private collection); Paulus 2014: pl. 48 (ES 9576).



Figure 4. Calendrical tablet VAT 15377. © Staatliche Museen zu Berlin – Vorderasiatisches Museum, photography: Olaf M. Teßmer

In the Kassite period, besides the depictions of constellations on *kudurrus*, the earliest drawings of constellations on a tablet appear in a calendrical context on VAT 15377. It is an uninscribed landscape tablet, which is leafed around its vertical axis. This tablet was excavated at Merkes in Babylon in the archive and library of Itti-Ezida-lummir, named by Olof Pedersen as the M8 archive (M8 [2]; fig. 4). Each side of the tablet has two rows of 30 vertical rulings, located between two horizontal rulings running across the entire width of the tablet. Each row has three sections of vertical rulings. Altogether there are twelve sections with 30 vertical rulings each. A drawing is related to each of twelve groups of 30 rulings. Ernst Weidner, who first published VAT 15377, suggested that this is a calendric tablet and the drawings are related to the zodiacal constellations.⁵² Indeed, on the obverse are preserved a “bush with flowers” (“Strauch mit Blumen”) and traces of a lion in the upper row. A scorpion, a thunderbolt, the symbol of Adad, and a “winged figure” (?; “geflügelte Gestalt” according to Weidner) are discernible in the lower row. On the reverse we see a man seated by a table in the upper register and two socles with a cross (usually Šamaš) and a triangle—a corrupted drawing of a tablet of Nabû or a tiara of one of the three main deities(?)—in the lower register.⁵³ The latter two are typical for *kudurrus* as are the scorpion and the thunderbolt.⁵⁴ Among the identifications made by Weidner, only the scorpion and the lion can be firmly associated with the constellations in the path of the Moon, later the “zodiac.” Weidner considered the “geflügelte Gestalt” to stand for “Virgo,” but he himself doubted this identification pointing out that “Virgo” has an anthropomorphic form only in the Hellenistic period, and in the second millennium Babylonia is represented by the ear. It seems more plausible that the “Virgo,” Mesopotamian Furrow, is designated by the “bush” depicted on the obverse of the tablet next to the lion. The iconography of this “bush” indeed strongly resembles the ear.⁵⁵ Only the feet and the bottom of a long dress remained of Weidner’s “geflügelte Gestalt.” What he took for a wing is actually a bent arm.⁵⁶ This means that the upper part of this anthropomorphic figure in a long dress was represented in a frontal view, which fits the second millennium iconography of the Giant⁵⁷ (the 9th or here 10th month). Recently John Wee suggested that a man seated by the table might be Papsukal = Sipazianna (the 3rd month, later “Orion”).⁵⁸ He further proposed that in Kassite Babylon the cross on the sockle can stand for Marduk and consequently Nēberu (“Ford”) associated with the vernal equinox (here of the 12th month). The lightning bolt he interprets as Ninurta to be identified with Pabilsag = Sagittarius (here the 9th month).

If we except these interpretations as the images of the constellations in the path of the moon, it appears that the celestial bodies on VAT 15377 are arranged in the boustrophedon order. The sequence starts in the upper register of the reverse continues from right to left through the upper register of the obvers, changes direction and continues from left to right in the lower register of the obvers and then through the lower register of the revers. Such order would reflect the earliest

52. Weidner 1956: 181–182.

53. J. Wee provided a parallel from *kudurru* BM 102485, which does not, however, bring in any clarity towards the interpretation and understanding of the image.

54. Often found on *kudurrus* as well (Seidl 1989: 103–107 with further references to plates and figures; Paulus 2014: pl. 49 [ES 9576]).

55. The rosette, which Weidner interpreted as flowers, is the symbol of Ištar. Here it might relate to a rising (or setting?) of “Venus” in Furrow.

56. I am grateful to John Wee for sharing this observation with me (personal communication).

57. See May, forthcoming b.

58. J. Wee (talk given on September 23 at the “Imagining the Sky” workshop, Berlin) referred to BM 62741: 9’ (PAP.SUKKAL:?. *pa-āš-šu-ru* ^drA¹-[nu:...], “Papsukkal means ‘offering table of Anu’.” The iconography is, however, that of the banquet scene.

notion of a circular movement of the moon through the constellations on its way including some which later became the “zodiacal.” Wee also pointed out that on this tablet the sequence starts with the Lion, later associated with the second month of the year.

But these drawings can also relate to the most important event of the month—the festivals of the gods (Šamaš or Marduk, Adad and some unidentifiable deity)⁵⁹ and the festivals associated with certain constellations, which had existed from the earliest periods.⁶⁰ VAT 15377, which is clearly some kind of a calendar with twelve months of 30 days, probably served as a *parapegma*⁶¹ and is the first evidence for the constellations correlated with the months of the year, a notion very well established in the late first millennium.⁶² The division into four rows with three sections each might correspond to four seasons of three months.

The findspot of VAT 15377 is important. It is worth noting that five other tablets with drawings were discovered in this archive: VA Bab 3133 with a lion preying on a wild boar (M8 [1]); Bab 39030 (M8 [3]) with a horse and a carriage; Bab 39088 (M8 [96]) with two horses and a carriage; Bab 39139 (M8 [98]) with animals; and Bab 39140 (M8 [99]). These drawings apparently served as sketches for imagery carved in stone.

In the same house where the calendar tablet was found there was also found the aforementioned unfinished *kudurru*-stele VA Bab 4375, which was being prepared to be inscribed. There were also semiprecious-stone cylinders pre-set for cylinder seals, some fragments of stone plates with inscriptions, and most importantly three *Zapfensteinen*—cutting wheels—used to cut semiprecious-stone cylinders for seals. Excavators suggested that the place was a *Steinschneidewerkstatt*, the workshop of a stone cutter. On this basis it was further assumed that a drawing on a clay tablet with the representation of a struggling lion and boar was a draft for a seal cutter.⁶³ VAT 15377 was obviously produced by an artist, who belonged to this workshop. In the house excavated at Babylon, Merkes 26g2, the drawings were made as drafts by the stone cutters, who first sketched in clay the scenes intended for carving on seals and *kudurrus*. One of these artists produced the uninscribed calendar VAT 15377 and adorned it with the images related to the most important event of each month. The drawings on this tablet display the same iconography as seen on the *kudurrus*. Within the context of this find, this provides a good link between the minor art (seals) and the monumental art (*kudurrus*). Many of the motifs found on both seals and *kudurrus* typically represent constellations.

In the Kassite period, the iconography of representations of constellations was still not firmly established, except for the four signs for the four corners of the “zodiac:” the Lion, ^{mul}UR.GU.LA

59. Wee carefully suggested that the drawing next to the cross on the socle is representing a ploughed “Field” of month 11.

60. Nabû was associated with a number of celestial bodies: first of all with the planet ^{mul}UDU.IDIM.GU4.UD (Mercury), but also with ^{mul}MÁ.GUR8, the Boat, a star or a constellation in the path of the moon, and also ^{mul}GfR.TAB (“Scorpio”).

61. E. Weidner presumed that this might be “ein Bauernkalender oder ein Kultkalender,” but referred to A. Rehm, *Parapegmastudien*. München: Verlag der Bayerischen Akademie der Wissenschaften (see Weidner 1956: 182 with n. 2). R. Böker, Die Schicksalshoroskopie und ihre ältesten Hilfsmittel. *Hermes* 86/2. Pp. 220–230, p. 224 further develops the idea that this tablet is a *parapegma*, but gives wrong information about the form, position and frequency of marks upon the vertical rulings. For the ideal Mesopotamian administrative year of 12 months 30 days each attested starting from the archaic administrative texts on, see Brack-Bernsen, L. 2007. The 360-Day Year in Mesopotamia. *Calendars and Years: Astronomy and Time in the Ancient Near East*. J. M. Steele. Oxford: Oxbow Books, Pp. 83–100.

62. E.g. Kurtik 2021. If we consider all the drawings to be celestial bodies, this is also the first evidence of association of each month with a particular constellation.

63. Marzahn, J. 2008. Die Arbeitswelt – Wirtschaft und Verwaltung, Handel und Profit, in J. Marzahn, G. Schauerte and G. Müller-Neuhof, eds. *Babylon. Wahrheit*. München: Hirmer, pp. 246, 247, 272.

(“Leo”); the Bull as the Bull of Heaven, ^{mul}GU₄.AN.NA (“Taurus”); a man with overflowing vases representing the Giant, ^{mul}GU.LA (“Aquarius”);⁶⁴ and the Scorpion, ^{mul}GÍR.TAB (“Scorpio”). All these were well known in the earlier periods. The seven dots of the *sebetu*, the Stars, were well attested too. The Stars (MUL.MUL) were known from the Uruk period⁶⁵ through the Hellenistic period.⁶⁶ In Mesopotamia the Stars were usually treated as a separate constellation.⁶⁷ In the MB period, however, astronomers made wider use of pictorial motifs and divine symbols and adapted them to represent constellations.

Sometime in the Middle Assyrian period the image of the winged bull with a human face started to be used by Assyrian seal cutters for the Bull of Heaven.⁶⁸ In the second and first millennia a few seals and seal impressions from Nuzi, Assyria and Babylonia are considered to illustrate the Gilgamesh Epic, showing the Bull of Heaven with a human head (if discernible) and winged.⁶⁹ In Sumerian texts of Bilgames and the Bull of Heaven we find *gu₄-an-na*,⁷⁰ the Bull of Heaven, that grazes at the celestial horizon. This is certainly “Taurus,”⁷¹—the very writing GU₄.AN.NA, designating the constellation of the “Bull of Heaven” as well as the his pasture—the celestial horizon, leave no doubt that this is a constellation. All the representations of the Bull of Heaven firmly identified as the representations of the constellation show a real bull and not a mythological winged creature. The same is true for the *kudurrus*, where the bull is an attribute of Adad.⁷² Typically, in the same scene of killing the Bull of Heaven by Gilgamesh and Enkidu⁷³ on the early OB terracotta relief, it is just a bull, as on the representations of the constellation, and not a winged bull with a human face.

4. The First Millennium. Figurative and Schematic Representations

Esarhaddon’s stone prism, known as Lord Aberdeen’s Black Stone, continues the tradition of *kudurrus* on the one hand. On the other, the symbolism of the so-called Assyrian astroglyphs, the *lumāšū*, was actively utilised by Esarhaddon’s grandfather, Sargon II, apparently not without some influence from his close adviser, the famous Assyrian astronomer-astrologer Nabû-zuqup-kēnu.⁷⁴

64. Not attested on *kudurrus*.

65. See above, pp. 70–74.

66. See below, p. 88.

67. Nowadays the Pleiades are still often described as a constellation within Taurus.

68. This might be an Assyrian variation. The winged bull with a human face is very well attested in Assyria as an apotropaic figure both on wall paintings (Til Barsip: Albenda, P. 2005. *Ornamental Wall Painting in the Art of the Assyrian Empire*. Leiden / Boston: Brill / Styx, p. 42, pl. 15 and p. 49, pl. 19). But if the restorations are correct, it is found already on the aforementioned Mari mural as a guardian figure (fig. 3).

69. Lambert, W. G. 1987. Gilgamesh in literature and art: the second and first millennia, in A. E. Farkas and P. O. Harper, eds. *Monsters and Demons in the Ancient and Medieval Worlds: Papers Presented in Honor of Edith Porada*. Mainz on Rhine: Von Zabern, pp. 48–50, pl. XI, figs. 23–27 and George, A. R. 2003. *The Babylonian Gilgamesh Epic: Introduction, Critical Edition and Cuneiform Texts*. Oxford: Oxford University Press, pp. 100–101 with fig. 1. The winged bull is also depicted alone (van Buren 1930: fig. 235, no. 936, Nippur ca. 700 BCE).

70. MA, rev. i 105 and *passim*; Cavigneaux A. and al-Rawi, F. N. H. 1993. Gilgameš et Taureau de Ciel (šul.mè.kam). Textes de Tell Haddad IV. *Revue d'assyriologie* 87, pp. 97–129.

71. Cavigneaux and al-Rawi 1993: 116, ii 18–20; see also George 2003: 11.

72. Seidl 1989: 146 with references to drawings and plates. The only image of a winged bull on a *kudurru* which I could find is BM 90827 (King 1912: pl. 19) from the time of Meli-Šipak. But this bull does not have a human face, and even the scorpion on this *kudurru* is winged.

73. Opificius 1961: 227, pl. 1, no. 496.

74. For Nabû-zuqup-kēnu, see May, N. N. 2018. The Scholar and Politics: The Colophons of Nabû-zuqup-kēnu and the Ideology of Sargon II, in N. Koslova, ed. *Proceedings of the international Conference Dedicated to the Centenary of Igor Mikhailovich Diakonoff (1915–1999)*, pp. 110–164. The Transactions of the State Hermitage 95. StPetersburg: The

First millennium Mesopotamian astronomers already had a clear notion of figurations of constellations, as becomes obvious from the group of NA and LB texts called by their editors “The Cuneiform Uranology Texts.”⁷⁵ Drawings on tablets represent constellations starting from the Uruk period through to Seleucid times.⁷⁶ Some basic drawing was part of a school training in Mesopotamia. Although no curriculum for this discipline is documented for any period, the frequent drawings on school tablets⁷⁷ make it clear that some training was an imperative for their execution. Initially regular school education was aimed at learning drafting rather than drawing. Drafting was obviously included in the curricula for potential surveyors, mathematicians and architects.⁷⁸ Drawing was also taught to exorcists, who often accompanied texts prescribing the use of apotropaic figurines in the rituals of exorcism with sketches of these apotropaic creatures.⁷⁹ With the rise of astronomy, Mesopotamian specialists in astral sciences learned drawing and drafting as well as mathematics.

First millennium astronomical-astrological texts advanced the practise of ancient mathematicians to provide the text with illustrations to a higher degree. Ancient astronomers perfected drafting on tablets into real artistic drawings on tablets. The non-figurative system of depicting constellations was also already highly developed in the Neo-Assyrian period, as seen in linear diagrams of constellations in a star map on the planisphere K. 8538, eight sectors of which apparently contained eight constellations.⁸⁰ Together with the linear diagrams, figurative drawings of constellations continuously existed. We clearly see the emergence in Mesopotamia of both systems of depictions of constellations used until today.

State Hermitage Publishers). D. Luckenbill’s suggestion (Luckenbill, D. D. 1925. The Black Stone of Esarhaddon. *American Journal of Semitic Languages and Literatures* 41, pp. 168–173) that the depictions on the Black Stone are *lumāšū*—the constellations—was also largely forgotten by all who studied them, besides V. Tuman. F. Rochberg (2019: 266–269) demonstrated that the Plough (^{mul}APIN, *Epinnu*) and the Field (^{mul}AS.GÁN, *Ikū*) can be firmly identified among the *lumāšū* on the Black Stone of Esarhaddon. For these astroglyphs as *šīṭirti šamē*, “writing of the heavens”, and *šīṭirti burūmē*, “writing of the firmament,” see Roaf, M. and Zgoll, A. 2001. Assyrian Astroglyphs: Lord Aberdeen’s Black Stone and the Prisms of Esarhaddon. *Zeitschrift für Assyriologie und vorderasiatische archäologie* 91, pp. 264–295).

75. Beaulieu P.-A., Frahm E., Horowitz W., Steele J. 2018. *The Cuneiform Uranology Texts: Drawing the Constellations*. Philadelphia PA: The American Philosophical Society.

76. E.g., the drawing of the bull (W 9851; Englund with Boehmer 1994: pl. 118), although in the absence of the textual confirmation the suggestion that this is a constellation remains an assumption. For the drawings of the Hellenistic period, see below, pp. 80–81 with fn. 81.

77. Not caricatures and scribbles by bored students (Finkel, I. L. Drawings on Tablets. *Scienze dell’Antichità* 17, pp. 337–338), but technical drawings and drafts.

78. See, e.g., May, N. N. 2018. Text and Architecture: YBC 5022 and BM 15285 as “Manuals of an Architect.” In P. Attinger et al., eds. *Text and Image: Proceedings of the 61e Rencontre Assyriologique Internationale, Geneva and Bern, 22–26 June 2015*. Orbis Biblicus et Orientalis 40. Fribourg: Academic Press, pp. 255–269 for the training of architects, with pp. 258–260 for their training in drafting in particular.

79. See, e.g., Zilberg, P. and Horowitz, W. 2016. A Medico-Magical Text from the Otago Tablets, Dunedin New Zealand. *Zeitschrift für Assyriologie und vorderasiatische archäologie* 106/2 with the drawing on pp. 177, 183. This drawing represents a bull, since the form of its head and hooves proves that this is a bull and not a goat (contra Zilberg and Horowitz 2016: 183). E. Jiménez demonstrated that the text does not refer to the “feet of a goat,” but contains a very short colophon in an orthography typical for LB Uruk (Jiménez, E. 2018. Exit the “Oath with the Feet of a Goat.” *NABU* 2018/1, no. 27, p. 45). D. Schwemer has shown as well that this is a bull-headed demon of the Any Evil texts (Lecture presented at the NINO day, Jan 30, 2020).

80. = CT 33 10. For the identification see Koch, J. 1989 *Neue Untersuchungen zur Topographie des babylonischen Fixsternhimmels*. Wiesbaden: Harrassowitz, pp. 112–113. A variant of this kind of representation of constellations is the *ziqpu*-star planisphere from the Sippar library (Horowitz, W. and al-Rawi, F. N. H. 2001 Tablets from the Sippar Library IX. A *Ziqpu*-Star Planisphere. *Iraq* 63, pp. 171–181), where the constellations are presented as groups of dots symbolising stars. This system did not continue.

4.1. *Man in the Moon*

The most famous figurative representations of celestial bodies are those on two microzodiac tablets from Uruk. Willis Monroe⁸¹ points to “the geographic separation between the preserved” microzodiac tablets that makes “subtle changes in traditions between scribal families working in different cities more apparent.” One of these changes, which is not at all subtle, are the figurative drawings of constellations and other celestial features typical of the Urukean microzodiac tradition. The tablets of this series deriving from Babylon do not bear any drawings, but both microzodiac tablets from Uruk are illustrated. VAT 7847 + AO 6448 was written and drawn by Anu-abu-utēr, an astronomer (*tupšar Enūma Anu Enlil*) and a lamentation priest, son and grandson of the lamentation priests Anu-bēlšunu and Nidintu-Anu, descendants of the Sîn-lēqi-unnīni. VAT 7851 (fig. 5) was produced by an otherwise unknown Anu-mukīn-aplī and belonged to Anu-aḫu-ušabši, an exorcist from the Urukean clan of exorcists, descendants of Ekur-zākir. Anu-mukīn-aplī apparently was Anu-aḫu-ušabši’s apprentice, since it was a common practice for a student to write tablets for his teacher’s collection. Drawings on microzodiac tablets were made, like many other drawings on tablets, by an astronomer and probably by an apprentice exorcist or for an exorcist.



Figure 5. VAT 7851. Obverse. © Staatliche Museen zu Berlin – Vorderasiatisches Museum, photography: Olaf M. Teßmer

Irving Finkel compared the quality of drawings on the Urukean microzodiac tablets to that of the best of the drawings on healing texts.⁸² This is true for the astronomer Anu-abu-utēr, but Anu-

81. Monroe, M. W. 2016 The Micro-Zodiac in Babylon and Uruk: Seleucid Zodiacal Astrology, in J. M. Steele, ed. *The Circulation of Astronomical Knowledge in the Ancient World*: 119-138. Leiden / Boston: Brill, p. 120.

82. Finkel 2011: 338.

mukīn-aplī was definitely not a professional artist. He learned drawing as a part of his school training and was probably better than his classmates, but his hand did not have a proficiency and confidence of an artist in daily practice. A rather schematic character of his drawings together with the cracks on the tablet constitute a major problem for identification of the subject-matter of a picture drawn by Anu-mukīn-aplī inside the lunar disc upon his copy of the microzodiac tablet. The work of Paul-Alan Beaulieu,⁸³ is the most recent attempt at such an identification.⁸⁴ He relied on a drawing published by Weidner⁸⁵ and did not collate it, which raises problems. Paradoxically, an earlier drawing published by Alfred Jeremias⁸⁶ is more precise than that of Weidner. But both drawings miss the most important detail in the depiction of the moon on VAT 7851 and thus also its connection to the text of the tablet. The present study derives from a collated drawing of this scene. It allows a fuller interpretation of the representation of the moon on this tablet, which appears to show more than just the man in the moon.

Attempting to identify the Babylonian man in the moon, Beaulieu assembled all the available textual evidence. His point of departure is a “mystical explanatory” text SAA 3 39, the treatise on cosmic geography, copied by the central person of the Assur N4 archive, the exorcist of the Assur temple, Kišir-Aššur. Beaulieu discusses SAA 3 39 = VAT 8917 rev. 4-6, which is dealing with the circumferences of the sun and the moon, the gods and images inside it:

- rev. 4. 40 KASKAL.GÍD NIGÍN-*rat* ^dUTU 60 KASKAL.GÍD NIGÍN-*rat* ^dr30¹
 5. šá šÀ ^dU[TU ^dAM]AR. UTU šá šÀ ^d30 ^dAG *ina* šÀ ^dUTU *ba-aš-mu bal-bal-l[e-šú]*

translated by Alasdair Livingstone as :

4. 40 *double hours*⁸⁷ is the circumference of the sun. 60 *double hours* is the circumference of the moon.
 5. Of the inside of the s[un is Ma]rduk; of the inside of the moon is Nabû. Inside Sun there is a viper,

For us, however, most interesting is line 6, which says what is inside the moon. Collation of the tablet proves that the reading suggested by Livingstone must be amended from what is problematic to interpret, *ina* šÀ ^d3[0 u]m⁷-*ma-šú* GÍR *ina* UGU UR.MAḪ šá ŠU [x (x)], “Inside the m[oon] is his [mot]her. The dagger above the lion is of the hand [of ...].” The reading of a grammatical impossibility for an accusative *ummašu* must be changed to *ina* šÀ ^d3[0 l]u¹-*ma-šú* GÍR

83. Beaulieu, P.-A. 1999. The Babylonian Man in the Moon. *Journal of Cuneiform Studies* 51, pp. 91–99. It remains unclear to me why the publication of MCL 1884, apparently also by P.-A. Beaulieu, tries to connect the drawing on VAT 7851 to MLC 1884: 18'–19' and speaks about another apotropaic figure with the face of a lion and torso of a human. There is nothing like that even in Weidner's drawing (Beaulieu, Frahm, Horowitz, Steele 2018, p. 65).

84. For most recent review on the history of interpretations, see Дувакин Е. Н. и Нуруллин Р. М. Лев на луне: месопотамские космологические мотивы в сравнительной перспективе, Н. Н. Казанский, ред. *Индоевропейское языкознание и классическая филология XXVI (1): Материалы чтений, посвященных памяти профессора Иосифа Моисеевича Тронского. 27–29 июня 2022*. СПб.: ИЛИ РАН. сс. 353–375 = Duvakin E. N and Nurullin R. M. 2022. The Lion in the Moon: Mesopotamian Cosmological Motifs in a Comparative Perspective, in N. N. Kazansky, ed. *Indo-European Linguistics and Classical Philology XXVI (1): Proceedings of the 26th Conference in Memory of Professor Joseph M. Tronsky. 27–29 June, 2022*. St. Petersburg: Institute for Linguistic Studies, RAS, pp. 353–375. I am most grateful to N. V. Braginskaya for calling my attention to this publication.

85. Weidner, E. 1967. *Gestirn-Darstellungen auf babylonischen Tontafeln*. Wien: Hermann Böhlaus Nachf, pl. 2.

86. Jeremias 1913: 247.

87. The “translation” *bēru* is preferable to the outdated and confusing double hours.

ina UGU UR.MAḤ šá ŠU-[šú (x)], “Inside Sîn there is a constellation, dagger above the lion (is) in [his] hand.” It is worth noting that *lumāšu* might also mean a zodiacal constellation,⁸⁸ but which constellation the Babylonians saw inside the moon needs to be identified.

From the collated drawing it can clearly be seen that the “constellation” inside the moon on VAT 7851 (fig. 5) is a naked girded man with a sickle blade in his right hand. He grasps the tail of a lion, lying down, with his left hand. A naked figure of a fighter in combat with various creatures is a motif known already from the Uruk period. A girded naked personage with a special hairstyle is introduced to the scene during the transition from the Late Uruk to the Early Dynastic period. In the Early Dynastic and Akkadian periods this image becomes ubiquitous. It had a long life.⁸⁹ The inscriptions on the hands of the image from the Neo-Assyrian terracotta plaque from Assur enabled Erich Ebeling⁹⁰ to identify him with the protective spirit in the exorcistic ritual *šēp lemutti ina bīt amēlu parāsu* (To Block the Entry of the Enemy to Someone's House).⁹¹ But Ebeling miscopied the signs and consequently misinterpreted the name of this spirit. Already 40 years ago an exact identification of this apotropaic image had been made by Frans Wiggermann, who proved that in the later periods this protective spirit was called *laḥmu*, “the hairy one”.⁹² In the Late Uruk period the “hero” is shown as a champion subduing beasts (feline or bovine or snakes) in animal combat scenes.⁹³ Very often he struggles with lions. This personage does not always have exactly “six” locks. The “hairy hero” or the “hero with curly hair” would be a more accurate definition. In most cases, but not always, he is shown girdled. In the case of the man in the moon on VAT 7851, this is a naked girded man. The bulbous swelling terminating his long hairdo is the attempt of the not very skilful artist Anu-mukīn-aplī to represent the locks of the “hairy hero.” This hairy hero, as Porada has demonstrated, can also represent the constellation of the Giant.⁹⁴

Ritual texts from the Neo-Assyrian period describe the use of *laḥmus* as apotropaic figurines. The exorcistic ritual *šēp lemutti ina bīt amēlu parāsu* (To Block the Entry of the Enemy in Someone's House),⁹⁵ the ritual of purification for a new house,⁹⁶ and building rituals⁹⁷ prescribe that the protective figurines of the “hairies” should be buried under the floor, in the centre and in the corners of rooms or in pairs near the entrances. Many Neo-Assyrian clay figurines of hairy heroes and plaques with their depictions have been found under floors, in corners and near door jambs.⁹⁸ Apotropaic clay *laḥmus* hold spades as prescribed by the exorcistic ritual.⁹⁹ These images,

88. CAD L 245b–246a s.v. *lumāšu* 3 with the references to ACT: 481b etc.

89. Some still erroneously refer to it as the figuration of Gilgamesh (most recently Salje, B. 2013. Die Heldenaten des Gilgamesch in bildliche Darstellungen, in N. Crüsemann, M. Van Ess, M. Hilgert and B. Salje, eds. *Uruk: 61–67. 5000 Jahre Megacity*. Petersberg: Michael Imhof Verlag, p. 67. For the typology of the naked “heroes” throughout time, see Boehmer R. M., 1972–1975. Held. A. Philologisch. *Reallexicon der Assyriologie* 4, pp. 287–302 with the references to representations. See May, in print and forthcoming.

90. Ebeling, E. 1928–1929. Talim. *Archiv für Orientforschung* 5, pp. 218–219.

91. VAT 8228 = KAR 298; N 4 (84).

92. Wiggermann, F. A. M. 1981–1982. Exit *talim*! Studies in Babylonian Demonology, I. *Jaarbericht van het Vooraziatisch-Egyptisch Genootschap Ex Oriente Lux* 27, pp. 90–105; Wiggermann, F. A. M. 1992. *Mesopotamian Protective Spirits: The Ritual Texts*, Cuneiform Monographs 1. Groningen: Styx Publications.

93. E.g., see Uruk V period seal impressions in Boehmer R. M., 1972–1975. Held. A. Philologisch. *Reallexicon der Assyriologie* 4, pp. 287–302, pls. 40–41, no. 13 and pls. 94–95, no. 48 (Elamite).

94. See above, pp. 71–73, with fns. 18–33.

95. Text I 184 (pair) and 346 (reconstructed; Wiggermann 1992: 14, 22).

96. Text IV K. 9873 + ii 16', 22' (partly reconstructed; *ibid.*: 122).

97. Text V BM 64517: 9' (pair, reconstructed, *ibid.*: 132) and BM 64517/K. 2496 ii' 9' (*ibid.*: 134).

98. See, e.g., Rittig, D., 1977. *Assyrisch-babylonische Kleinplastik magischer Bedeutung vom 13.–6. Jh. v. Chr.* Münchener vorderasiatische Studien 1. München: Verlag Uni-Druck, pp. 51–52, figs. 10–11; Wiggermann 1992: 86.

99. See Wiggermann 1992: 49, 86.

of course, do not give us any clue about the size of the personage that they embody. The constellation of the Giant, ^{mul}GU.LA is associated with anti-witchcraft rituals as are the protective spirits and the stone colossi.¹⁰⁰ An unequivocal testimony for the gigantic nature of the protective spirit *laḫmu*, who is also the constellation Giant, comes from the huge statue that once protected the gates of the palace of Sargon II at Dūr-Šarrukīn.¹⁰¹ The minuscule lion in the armpit of the gigantic *laḫmu* looks like a cub captured by his victor. It served to give a relative scale of dimensions, which stressed the loftiness of the heroic figure of the spirit guarding the palace. The gigantic *laḫmus* had the same function, were installed at the same places and given the same size as the colossal figures of the winged bulls *šedu* and *lamassu*. They all come from the realm of the supernatural. The guards of the gates are ubiquitously described by royal inscriptions as huge and lofty (*rabû* [GAL], *šurbu* [BULÛG.GA, UN.GAL. GU.UD], *šīru* [MAḤ]). The depictions of constellations (*lumāšû*), the so-called Assyrian astroglyphs,¹⁰² decorated that very palace of Sargon II at Dūr-Šarrukīn, which was guarded by the gigantic statues of *laḫmus*.



Figure 6. Seal and seal impression with naked hairy hero fighting a stag or a bull with as scimitar. AO 4770.
© 2016 Musée du Louvre / Chipault – Soligny

In the first millennium, when astronomy flourishes in Mesopotamia, there is a great number and variety of depictions of *laḫmus* in Assyria. But the constellation of the Giant is mostly known as an image of a man with overflowing vases on the Babylonian Hellenistic stamp seals.¹⁰³ We have no monumental images of the gigantic *laḫmus* from the Neo-Babylonian period. But the motif of a naked combating *laḫmu* is found on seals again, though rarely. Henry Frankfort pointed that the revival of this motif must be a part of Nabonidus's fashion for archaïsation: "The antiquarian interest of King Nabonidus is well known; we have proof that he collected ancient monuments or copied ancient texts. And we find at least two older motifs revived on neo-Babylonian seals. One is a naked hero of immemorial tradition... ." Frankfort referred to a seal with the naked hairy hero fighting a stag with a scimitar (fig. 6), and its close parallel, a seal impression on a tablet dated to

100. Abusch, T. and Schwemer, D. 2009. The Chicago *Maqlû* Fragment (A 7876). *Iraq* 71, p. 72.

101. Albenda, P. 1986. *The Palace of Sargon, King of Assyria: Monumental Wall Reliefs at Dur-Sharrukin, from Original Drawings Made at the Time of their Discovery in 1843-1844 by Botta and Flandin*, Recherche sur les Civilisations "Synthèse" 22. Paris: Éditions Recherche sur les Civilisations, pl. 15, fig. 7.

102. Place, V. 1867–1870 *Ninive et l'Assyrie*. Paris: Imprimerie Impériale, pls. 26–31.

103. See, e.g., Kurtik 2007: 738, fig. 43.

the reign of Nabonidus. There are two more seal impressions probably of the same seal.¹⁰⁴ Images of a dressed *laḫmu* fighting a lion with a scimitar similar to those found in the Neo-Assyrian iconography are known from the Neo-Babylonian period.¹⁰⁵ One of them even originates from Uruk.¹⁰⁶ Dominique Collon¹⁰⁷ believes that the details of representation of all these three seals are closely based on Middle Assyrian prototypes. It is clear that the Neo-Babylonian seal imagery revived the motif of a fighter with a scimitar. But as well as their Assyrian prototypes, these Neo-Babylonian *laḫmus* are dressed. The only example of a naked hero is the aforementioned seal, published by Frankfort, with its possible impressions. The motif of the Giant fighting the lion inside the moon on VAT 7851 (fig. 7a, b)¹⁰⁸ has two archaizing features: the hero is depicted naked and holds a sickle blade instead of a dagger. The revived motif of a naked hero fighting a lion continued into the Seleucid period as the “constellation” inside the moon—the man in the moon. The scratches on his chest apparently reflect an attempt by Anu-mukīn-aplī to depict a “six pack,” as is clear from the more refined parallel of the seal (fig. 6).¹⁰⁹ The man in the moon on the Seleucid tablet VAT 7851 is a naked hero killing a lion, and also the zodiacal constellation of the Giant, *lumāšu* ^{mul}GU.LA. This is what the *lumāšu* in the mystical explanatory text of Kišir-Aššur, SAA 3 39 rev. 6, is.

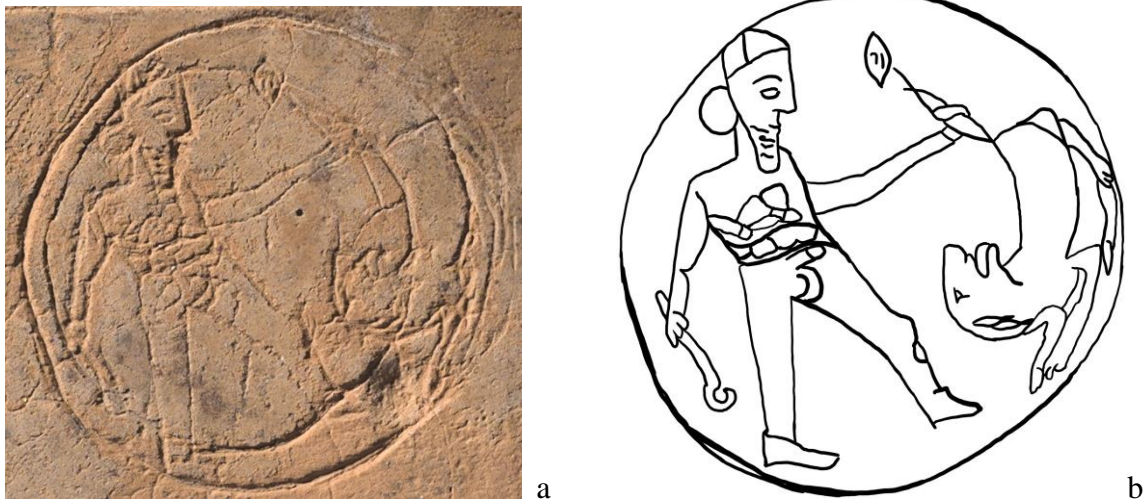


Figure 7a. Man in the Moon. VAT 7851. Obverse. Detail. © Staatliche Museen zu Berlin – Vorderasiatisches Museum, photography: Olaf M. Teßmer. Figure 7b. Man in the moon on VAT 7851. Collated drawing by Nica Reichstein. © Natalie Naomi May and Nica Reichstein

104. Frankfort, H. 1939. *Cylinder Seals: A Documentary Essay on the Art and Religion of the Ancient Near East*. London: Macmillan & Co, pp. 219–220; pl. 36h. For the seal impression, see Delaporte, L.-J. 1920 *Catalogue des cylindres, cachets et pierres gravées de style oriental: Musée du Louvre. Fouilles et missions*. Paris: Hachette, A 776, pl. 120.

105. Collon, D. 2001. *Catalogue of the Western Asiatic Seals in the British Museum. Cylinder Seals V: Neo-Assyrian and Neo-Babylonian Periods*. London: British Museum, pl. 25, nos. 294–296.

106. *Ibid.*: no. 296.

107. *Ibid.*: 155.

108. For the sake of clarity, the inner circle, which comes for the eclipse shadow is not shown here on the collated drawing (fig. 7b); for the complete drawing see fig. 8 below, p. 88.

109. As we have seen, constellations had been represented on seals from the earliest periods.

We can now firmly identify the man in the moon as a hairy hero *laḫmu*, in combat with a lion. This image comes back to Babylonia from Assyria. It is worth noting that in Uruk, whence VAT 7851 originates, there was a community of Assyrian exiles who could bring with them their notion about the images of constellations, which influenced the Urukeans.¹¹⁰ Moreover, a standard scene on Assyrian royal seals is the king killing a lion with a dagger, similar to the constellation inside the moon described in SAA 3 39 rev. 6. All Assyrian royal seals with the lion combat were always stamp seals, which left round impressions.¹¹¹ The imagery of Assyrian seals and royal steles had a great impact on Neo-Babylonian seals and steles. It is conceivable that the round shape of Assyrian royal seals engraved with a lion combat scene influenced the choice of a motif to be represented inside the moon—a combat between the constellation of the Giant with a lion. Finally, VAT 7851 comes from the collection of the Urukean colleague of the Assyrian Kišir-Aššur, the exorcist Anu-aḫu-ušabši, who might use the knowledge accumulated in this tablet to neutralise the negative impact of lunar eclipses, referred to in this microzodiac text.¹¹²

Since it is clear that the “man in the moon” on the drawing of VAT 7851 is not Nabû, the relationship of Marduk and Nabû to the sun and the moon in SAA 3 39 rev. 4-6 has to be discussed. The two deities are said to be *ša libbi* of the sun and the moon respectively and *bašmu* and *lumāšu* to be *ina libbi* of these luminaries. What is the difference that Kišir-Aššur implied by using *ša libbi* in one case and *ina libbi* in the other? *Ša libbi* most often means inside animals or human body etc.¹¹³ In the Code of Hammurabi and in omen texts *ša libbiša* indicates a foetus, literary “that inside her.”¹¹⁴ Livingstone in SAA 3 39 translates “the inside of the sun is Marduk, the inside of the moon is Nabû” as opposed to “inside Sun there is a viper...,” in an attempt to differentiate between the two phrases. But interpreting *ša libbi* as the inside of the sun or the moon is difficult since it is hardly possible that the Mesopotamians imagined the sun and the moon as three-dimensional bodies. *Ina libbi* usually means “therefore, therein, therefrom.”

There is further evidence that can help in the understanding of the expression *ša libbi* as used by Kišir-Aššur to describe the connection between Marduk and the sun and Nabû and the moon. Nabû is not known to be related to the moon in any other texts besides SAA 3 39, but Marduk is firmly associated with the sun.¹¹⁵ A recently edited commentary text¹¹⁶ states clearly that the Babylonians saw the image of Marduk inside—*ina libbi*—of the sun: *aš-šum¹ dUTU : dUTU šá KUR^{ba} NU šá dAMAR.UTU ina lib-bi-šú¹ šu²-ú¹-[ma]*, “on account of Šamaš—Šamaš of the sunrise, the image of Marduk i[s] inside it.” The exegetical remark based on cosmological ideas in the commentary to Marduk’s Address to Demons also speaks of the image of Marduk as *ša libbi* the

110. Beaulieu, P.-A. 1997. The Cult of AN.ŠAR/Aššur in Babylonia after the Fall of the Assyrian Empire. *State Archives of Assyria Bulletin* 11, pp. 55–73; Beaulieu, P.-A. 2010. The Afterlife of Assyrian Scholarship in Hellenistic Babylonia, in J. Stackert, B.N. Porter and D. P. Wright, eds. *Gazing on the Deep: Ancient Near Eastern and Other Studies in Honor of Tzvi Abusch*. Bethesda MD: CDL Press, pp. 1–18.

111. See, e.g., Millard, A. R. 1980–1983. Königssiegel. *Reallexikon der Assyriologie und vorderasiatischen Archäologie* 6. *Klagegesang — Libanonp*. Berlin: de Gruyter, p. 136; Curtis, J. E. and Reade, J. E., 1995. *Art and Empire: Treasures from Assyria in the British Museum*. London: British Museum Press, p. 188, no. 194.

112. VAT 7851: 1 and rev. section 8: 1.

113. CAD L 167 and 169.

114. CAD L 175–176.

115. Reynolds, F. 2019 *A Babylon Calendar Treatise: Scholars and Invaders in the Late First Millennium BC*. Edited with Introduction, Commentary, and Cuneiform Texts. Oxford: Oxford University Press, p. 250.

116. Jiménez, E., 2015. Commentary on Cento of literary texts (CCP 7.2.u93). *Cuneiform Commentaries Project* (E. Frahm, E. Jiménez, M. Frazer, and K. Wagensonner), 2013–2021; accessed June 30, 2017, at <https://ccp.yale.edu/P469976>. DOI: 10079/6hdr85p, accessed June 30, 2017. BM 32574, LB text from Babylon.

sun (A 163 rev. 14). The line reads:¹¹⁷ ([a-na-k]u ^dAsal-lú-ḫi)¹¹⁸ ša ša-ru-ru-šu ú-nam-ma-ru KUR.KUR^{meš}, “I am Asalluḫi, whose brilliance illuminates the lands.” The commentary in A 163 explains: MU šu-lum ša lib-bi ^dUTU ^dMES iq-ta-bi, “This says (that) the blackness within Šamaš (is) Marduk,”¹¹⁹ Both Livingstone¹²⁰ and following him Beaulieu¹²¹ mention with reference to these lines of Kišir-Aššur’s mystical explanatory composition another text, BM 55466 + : i 11’-12’: ⁽¹¹⁾Ti-amat ina lib-bi ^d30 in-n[am-mar...] ⁽¹²⁾[...] ^dAMAR.UTU ina lib-bi ^dUTU in-n[am-mar].¹²² Johannes Koch, however, interprets *ina libbi* not as “inside” but as *in Gegenwart/Beisein*, and accordingly translates “⁽¹¹⁾[... Tiamat stand in Gegenwart/Beisein des Mondes d[a...]] ⁽¹²⁾[...] Marduk-Nēberu stand in Gegenwart/Beisein der Sonne d[a...].” He further explains the passage in terms of the appearance of the stars and constellations in relation to the moon and the sun. Koch interprets Tiāmat here as ^{mul}GAG.SI.SA (α Canis Majoris [Sirius] + α Orionis [Betelgeuze]).¹²³ Frances Reynolds has recently refuted Koch’s argument.¹²⁴ But her translation does not provide any new interpretation. She does not explain what constellation Ti’āmat can be here, although it is clearly a constellation.¹²⁵

The commentary A 163 comes from the N4 library in Assur as well as SAA 3 39. It was written by Kišir-Aššur’s nephew and apparently student, Kišir-Nabû. The commentary of Kišir-Nabû, is more detailed than the explanatory treatise of his uncle and says that Marduk is the image inside (*ina libbi*) the sun. The two LB texts, BM 32574 and BM 55466 +, use *ina libbi* and *ša libbi* interchangeably as well and the former also states that Marduk is the image upon the sun. Thus there is no difference between *ša libbi* and *ina libbi*; Kišir-Aššur or his source just mechanically copied from two different originals which used two different expressions in the same sense. SAA 3 39 rev. 5-6 must be translated as “inside Šam[aš there is Ma]rduki; inside Sîn there is Nabû. Inside Šamaš there is a viper; inside Sîn there is a constellation, a dagger above the lion (is) in [his] hand.” These lines clearly refer to the images that Assyrians saw in the sun and the moon: Marduk and the dragon in the sun, Nabû and the constellation in the moon.

What are these images on the sun? The scribal hermeneutic associates the blackness on the sun with Marduk through the play *šulmu* = MES¹²⁶ and Marduk = ^dMES. Marduk, however, cannot stand for an eclipse. In the *Lunar Eclipse Myth* (below) he is the one, who fights the demons that attack the moon and cause eclipses. Moreover, two of the aforementioned texts explicitly describe Marduk as the image on the sun. It must be suggested with great caution that Mesopotamians could

117. Lambert, W. G. 1959–60. The Address of Marduk to Demons. New fragments. *Archiv für Orientforschung* 19, A 163: 9–10, pl. 26 (copy by R. Frankena).

118. From l. 11; l. 14 reads KI.MIN.

119. Frahm, E., Frazer, M., and Jiménez, E. 2015. Commentary on Marduk’s Address (CCP 2.2.1.A.a). *Cuneiform Commentaries Project* (E. Frahm, E. Jiménez, M. Frazer, and K. Wagensonner), 2013–2021; accessed May 27, 2021, at <https://ccp.yale.edu/P461327>. DOI: 10079/g4f4r4b, accessed June 30, 2017.

120. Livingstone A. 1986. *Mystical and Mythological Explanatory Works of Assyrian and Babylonian scholars*. Oxford: Clarendon Press, pp. 90–91.

121. Beaulieu 1999: 94.

122. J. Koch (2004). Ein astralmythologischer Bericht aus der Zeit der Diadochenkämpfe. *Journal of Cuneiform Studies* 56, p. 126) dates the composition of this text to the time of the Diadochi wars, ca. 299 BCE, but the copy is Arsacid, made in the first century BCE (*ibid.*: 105 quoting King). For the edition, see Reynolds 2019: 192.

123. Koch 2004: 107, 113–114. Koch interpreted the text as describing the appearance of a constellation on a background of the halo of the sun or the moon. In case of Hydra and any other non-zodiacal constellation such an explanation would cause difficulties. Koch’s interpretation was obviously influenced by the fact that Jupiter can be seen in the halo of the sun but not against the backdrop of the sun itself.

124. Reynolds 2019: 14.

125. See BM 55466 + : 10 (Reynolds 2019: 192), which refers to the rising of Ti’āmat.

126. CAD S 240a-241 s.v. *šulmu*.

see some black spots or shadows upon the sun, which they interpreted as Marduk. The idea of a dragon inside the sun (but not inside the moon) could be a precursor for the later tradition of interpreting eclipses as a dragon swallowing a luminary.¹²⁷

Ann Kilmer and Guitty Azarpay were the first to connect the image inside the moon on VAT 7851 with the lunar eclipse described in the text of this tablet (VAT 7851: 1 and rev. sector 8: 1). They discuss the image inside the moon in connection with the later traditions interpreting eclipses as a dragon fight. Kilmer tried to connect this image to the *Lunar Eclipse Myth* (*Utukkū lemnūtu* XVI). The *Myth* describes an eclipse as the attack of the evil Seven (*sebettu*) on the moon. Apparently¹²⁸ Marduk fights the demons and rescues the moon. Beaulieu continues Kilmer's and Azarpay's line of thought and attempts to interpret the image inside the moon disk on VAT 7851 as a dragon fight.¹²⁹ In the last part of his paper he appeals to the so-called *Slaying of the Labbu* text (Rm. 282), a mythological text from the library of Assurbanipal telling the story of Tišpak killing a dragon. Beaulieu concludes that "The term *labbu* is a poetic designation for lion, but in this case, it obviously refers to a composite monster such as a lion-serpent." He suggests that the creature on VAT 7851 is this lion-serpent and a representation of a crescent. This assumption ignores the fact that there is no lion-serpent either in cuneiform texts or in all of Mesopotamian iconography. Franz Wiggermann, on whose research Beaulieu heavily draws in this part of his article, knew this of course, which is why he started with the suggestion that LAB-*bu* in this text is only an epithet.¹³⁰

127. Azarpay, G. and Kilmer, A. D. 1978. The Eclipse Dragon on an Arabic Frontispiece-Miniature. *Journal of the American Oriental Society* 98/ 4, pp. 363–374; Rochberg, F. 2018. *Ina lumun attalī Sîn: On Evil and Lunar Eclipses*, in G. van Buylaere, M. Luukko, D. Schwemer, A. Mertens-Wagschal, eds. *The Sources of Evil: Studies in Mesopotamian Exorcistic Lore*. Ancient Magic and Divination 15. Leiden / Boston: Brill, pp. 307–312; Stol, M. 1992. The Moon as Seen by the Babylonians, in D. J. W. Meijer, ed. *Natural Phenomena Their Meaning, Depiction and Description in the Ancient Near East*. Amsterdam: North-Holland, pp. 260–263.

128. The tablet is broken.

129. Beaulieu (1999: 92) suggested that the drawing on the disc can be taken "as an allegorical representation of a lunar eclipse." Strangely, he did not connect this suggestion with the textual reference to the eclipse in VAT 7851. He departs from the idea that the combat of Nabû with a dragon, which he saw in the image inside the moon disk, symbolises the eclipse. Both F. Rochberg (2018: 307–312) and M. Stol (1992: 260–263) are sceptical about this interpretation, but F. Rochberg points to its importance in the context of later Syriac, Pahlavi, Sanskrit and Arabic traditions associating eclipses with a dragon or a snake.

130. "The problem of the double designation of the monster, as MUŠ.[x-(x)] ... and as LAB-*bu* ..., can be solved only by assuming that one of them is an epithet. Since LAB-*bu*... designates a mythological beast only in this text, while *mušhuššu* (and *bašmu*) is attested as the name of a monster subservient to Tišpak, we assume that LAB-*bu* is the epithet, meaning perhaps 'the Raging One' ... rather than 'lion'... ." Wiggermann, F. A. M. 1989. Tišpak, his Seal and the Dragon Mušhuššu, in O. M. C. Haex et al., eds. *To the Euphrates and Beyond. Archaeological Studies in Honour of Maurits N. van Loon*. Rotterdam: Balkema, p. 118.



Figure 8. VAT 7851 Detail. The eclipse drawn above the moon with the “man” inside it. Collated drawing by Nica Reichstein. © Natalie Naomi May and Nica Reichstein

Beaulieu’s assumption that the lion-serpent is a “penannular ring of the lunar crescent with its two extremities almost joining each other to form a circle”¹³¹ is again based on a defective drawing published by Weidner. It becomes clear when collating the drawing on VAT 7851 that a full circle is drawn above the scene of a naked hero killing a lion inside the moon disc of VAT 7851 (fig. 8). The creature killed by the Giant is a lion, or more probably a lioness, as is suggested by the pronounced tuft at the end of its tail and the absence of a mane.¹³² This same tablet VAT 7851 speaks of the lunar eclipse in Taurus twice. In VAT 7851: 1 we read: *DIŠ 30 ina mál¹GU₄ AN.MI EN.NUN MURUB₄-ma GAR-ma*, “If the moon is eclipsed (when it) stands inside Taurus.” VAT 7851 rev. sector 8: 1 returns to this subject: *30 ina KI MÚL.MÚL AN.MI GAR*, “(If) the moon has an eclipse in the Pleiades (= Taurus—*NNM*).”¹³³ Thus the drawing simply depicts this precise situation, the eclipse of the moon in the Pleiades and Taurus.¹³⁴ The circle incised inside the moon over the *lumāšu* of the Giant killing the lion is the shadow of the earth upon the eclipsed moon. The drawing indicates the location where the eclipse is taking place: the moon is placed between the Pleiades, represented as seven stars with the subscript *MUL.MUL*, and the image of the Bull. The lunar eclipse takes place in the *būt niširti*, a “secret place,” of the moon between the Pleiades and Taurus (fig. 9).¹³⁵ But the constellation of the Giant does not represent an eclipse. It is the image of what

131. Beaulieu 1999: 96 with n. 26.

132. Interesting in this connection is the belief of ancient Greeks that the Nemean lion felt from the moon (Aelianus *De Natura Animalium* XII. 7—2nd–3rd centuries CE; Achilleus Tatius *Isagoge*. XXI. 1–6—3rd century CE; Apollonius Rhodius *Scholia*. XLIV. 10–12—3rd century BCE). The interconnection of Mesopotamian and Greek astronomy, the zodiacal in particular is well known. VAT 7851 was written in ca. 90–100 years of Seleucid era (ca. 222–212 BCE). The earliest Greek evidence by Apollonius Rhodius might be contemporary. Heracles was always conceived and represented larger than other humans. For Greeks he was a model hero, as was the giant *lahmu* for Mesopotamians. The combat of Hercules and the Nemean lion was widely represented in various media and its imagery was no doubt influenced by Mesopotamian combat scenes. Thus the Greek notion about the lion in the moon must have emerged under the Mesopotamian impact.

133. Weidner 1967: 14, pl. 4.

134. J. Wee claims that the lunar eclipse in Ayyaru would have stood in Scorpio rather than in Taurus and on these grounds denies that an eclipse is represented on VAT 7851, since Taurus is the sun-sign and not the moon-sign of Ayyaru (Wee, J. Z. 2014. Grieving with the Moon: Pantheon and Politics in The Lunar Eclipse. *Journal of Ancient Near Eastern Religions* 14, p. 59 with n. 123). The text, however, does not have Ayyaru. This was Weidner’s misreading of VAT 7851: 1. It just speaks of the lunar eclipse in Taurus.

135. Beaulieu, Frahm, Horowitz and Steele 2018: 12.

Mesopotamians saw in the moon. The eclipse is drawn as the second circle above the “man in the moon.”



Figure 9. VAT 7851. Obverse. The eclipse of the moon in the Pleiades and Taurus. Photograph: © Staatliche Museen zu Berlin – Vorderasiatisches Museum; photography: Olaf M. Teßmer; drawing: © Natalie Naomi May and Nica Reichstein; collated drawing by Nica Reichstein

5. Conclusion

From the fourth to the second millennium the iconography of constellations was not firmly established, except for the imagery and most probably the names of “the four corners of the zodiac” and some other constellations¹³⁶ which go back to archaic Uruk. In this period the rising of planets in constellations, later known as zodiacal, were celebrated and apparently marked calendrical events. Pictorial sources from the Akkadian period and the Ur III Mari clearly support the notion that the “path of the moon” traversed the constellations of the Bull of Heaven and the Giant. They clearly show that this notion existed already in the third millennium BCE. Thus, pictorial sources provide earlier evidence for the history of the zodiac than the textual source ^{mul}APIN. The uninscribed tablet VAT 15377 testifies to the existence in the Middle Babylonian period of twelve months of thirty days and the connection of at least some constellations later known as zodiacal with the lunar months. This tablet correlates months either with a constellation or with a deity. The *kudurrus* give clues to the formation and development of the iconography of “Sagittarius” and “Virgo.” Already Middle Babylonian evidence demonstrates close interconnection between the development of calendar and the development of “zodiacal” system. In the second millennium, when the consolidation of the constellations’ imagery takes place, the Assyrians developed their own way to represent the Bull of Heaven as a winged bull with a human head—*šēdu*. He is also conceived as an apotropaic spirit, whose gigantic statues were installed to guard the entrances of palaces and temples and whose clay figurines were buried under the floors of private houses for the same purpose. Similarly, the images of the other constellation—the Giant—were buried under the floor or installed at the palace entrances for protection. The tradition of depicting “zodiacal” signs on seals starts very early and by the MB period was firmly established.

In the first millennium with the rapid development of astronomy-astrology the imagery of constellations was apparently consolidated. Some ancient motifs, such as the naked giant fighter *lahmu* standing for “Aquarius,” were revived. Astronomical phenomena that took place in the Pleiades of Taurus, the seven stars (*zappu*) of the Bull of Heaven, had been observed in Mesopotamia since the proto-Sumerian period. Anu-mukīn-aplī represented an eclipse of the moon in the Pleiades as the moon between the (Seven) Stars and the Bull of Heaven. To depict a man in the moon he has chosen a motif of a hairy giant hero fighting a lioness, one known from time immemorial. This motif was also used in the depiction of the constellation (*lumāšu*) of the Giant. The drawing of Anu-mukīn-aplī is an illustration to the text on the tablet, which uses archaizing imagery on one hand and heavily draws on explanatory works from the Assur N4 archive on the other, thus utilising knowledge from much earlier times. The eclipse is depicted simply as another circle imposed upon the lunar disc with image of the *lahmu* fighting a lioness (fig. 9). This illustration on the obverse of the tablet encapsulates its incipit.

136. Surely “Cancer,” as has been shown by Vaiman, but apparently also the Pleiades, which originally was a separate constellation (see above, p. 69 with fn. 12).

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