

## The Moon as seen by the Babylonians

For the Sumerians and the Babylonians, the moon was a male god, known under various names. Best known are the names Nanna, in the Sumerian milieu, and Suen (Sîn), primarily in an Akkadian context. In Sumerian hymns Suen-Sîn<sup>1</sup> is sometimes named a youthful man (šul), child of divine parents, which is taken as referring to the newly risen moon just after it appears on the horizon<sup>2</sup>. A third Sumerian name for the moongod sounds more like an epithet: Aš.im<sub>4</sub>.babbar, "the lonely white runner"<sup>3</sup>. Much later Akkadian texts render this name as Namra-šīt, meaning "of brilliant rising". This new epithet may have been the startingpoint for Th.Jacobsen for assigning the name Aš.im<sub>4</sub>.babbar to the "new light", Suen (Sîn) to the crescent, and Nanna to the full moon<sup>4</sup>.

### THE CRESCENT

Typical for the moon is its crescent form, both in iconography<sup>5</sup> and in the texts. The latter can be shown by studying the various meanings of the sign combination UD.SAR, often transliterated as U<sub>4</sub>.SAR, or u<sub>4</sub>.s/šakar. The meaning of these signs can be explained as "(day-)light" and "growing", perhaps an apt way of describing the crescent of the moon. On an early seal one indeed sees plants growing out of the moon crescent<sup>6</sup>, a picture which, when transformed into cuneiform, yields a ligature of UD and SAR, or, rather, the sign UD-gunû which can be a variant of UD.SAR<sup>7</sup>. What the Sumerian word for "crescent" was, is another matter. The lexical tradition offers a-aš-gal<sup>8</sup>, and writings like u<sub>4</sub>-sakár, u<sub>4</sub>-saḫar, or the loanword in Akkadian, uskarum/askarum, point to /askar/ or /oskar/<sup>9</sup>, undoubtedly the same word as /ašgal/. We do not believe that we can recognise Aramaic šahr "moon" in this word.

What interests us more than etymologies is that UD.SAR not only stands for the crescent, but also for the full moon: in the Sumerian rites for the full moon it is named "crescent of the fifteenth day". In Akkadian context this ideogram not only stands for "crescent" (*uskarum*) but also for "Sîn", in LÚ.UD.SAR.ŠE.GA = *Sîn-māgir*, or for *sīnu* "moon", and for *nannaru*, a literary epithet of the moon<sup>10</sup> or other luminaries. Our conclusion is that the typical form of the moon is the crescent, even when the moon is full and shaped as a circle<sup>11</sup>. It also served as symbol for the moon god. Nabonidus claimed the temple of Marduk in Babylon for his favourite god, Sîn, after having "seen the crescent" of this temple, and having concluded that Sîn himself "had marked his house with his crescent"<sup>12</sup>.

"Crescent" retained its original connotations in derived meanings in other contexts: in mathematics it stands for "segment of a circle", as drawings on the problem texts show<sup>13</sup>, and it is a segment of the wheel of a wagon or chariot, in Sumerian its "crescent"; in Akkadian *sarru* and *sīnu* (cf. the name Sîn)<sup>14</sup>. "Crescents" as votive objects undoubtedly were shaped as the crescent of the moon; they are often mentioned together with "sun-disks" (*šamšatum*) and were made of gold or silver<sup>15</sup>. The ritual against Lamaštu prescribes drawing on a clay tablet the symbols of moon, sun, a *gamlu*, and the planet Venus. Those symbols are the crescent (UD.SAR), the sun-disk (AŠ.ME), the *gamlu*, and "the star"<sup>16</sup>. In art, we often see the crescent high "in the air", together with the sun and the planet Venus. Sometimes, we see the crescent on a pole<sup>17</sup>, a way of representing the moon that will be common in Neo-Babylonian and Western iconography<sup>18</sup>. The "moons" (*šah'ronīm*) worn by camels and ladies according to the Hebrew Bible undoubtedly were moon crescents<sup>19</sup>. The Hittites had a crescent-shaped kind of bread, in French "croissants" (*armanni-*)<sup>20</sup>.

W.W.Hallo has suggested that the Sumerian rites for days 6 or 7 of the month, named "The Chariot" (*giš.gigir*), are not named after some chariot used in the cult<sup>21</sup>, but that it is an abbreviation of "the crescent of a chariot", i.e., a segment of the wheel. We have already seen that UD.SAR (*sarru*, *sīnu*) can have this meaning and, indeed, a number of Ur III texts from Umma explicitly speak of "the crescent of the chariot"<sup>22</sup>. In Hallo's words, "the

symbolic identification of the half-moon with the two semi-circular blocks of wood which were joined to make up the solid chariot wheels typical of this period"<sup>23</sup>. At this juncture, on the sixth or seventh day, the moon is semi-circular and UD.SAR is now no longer just a small segment of the circle, but half of it. About seven days later, UD.SAR will be a full circle and the rites of the full moon are named "crescent of day 15". The addition "great" (gu.la), however, remains reserved for the real crescent, at the beginning of the month<sup>24</sup>.

We have seen how the three first phases of the moon were in some way or another named after the crescent during the Sumerian periods. Each phase was marked by a rite in a chapel (Sumerian é "house") and for this reason their common name was èš.èš, lit. "chapels"<sup>25</sup>. They were performed on the first, sixth or seventh, and fifteenth day of each month<sup>26</sup>.

Turning now to the Old Babylonian period, we note that in king Išme-Dagan's hymn to Enlil he wishes to visit the temple Ekur "at the House of the seventh day and the House of the fifteenth day"<sup>27</sup>. Offerings continued to be presented on days 1 and 15<sup>28</sup> and we now meet with the Akkadian names for the "holy" first, seventh and fifteenth days of the month: (w)arḫum, sebūtum, šapattum. The èš.èš festivals were now held on days 1, 7, 15, 25<sup>29</sup>. We cannot follow here the increasing number of monthly festivals in the centuries to come, like the eššešu, and Neo-Babylonian hitpu in Uruk, or the animal offerings to statues and cult objects in Sippar. When studying their days, one notes that the second half of the month, in the Sumerian texts so devoid of solemn occasions, is now filling up with sacrificial rites<sup>30</sup>.

#### THE BOAT

In the Middle-Babylonian, or "Kassite", period the crescent stands for the New Moon only. An informative boundary stone (*kudurru*) of king Nazi-maruttaš (ca. 1300 B.C.), covered with symbols for gods, allows us to relate these symbols to the divine names in the inscription<sup>31</sup>. After the symbols of the most important gods, Anum, Enlil and Ea, follow the gods visible on the starry heaven: Šulpae,

the planet Jupiter, as a spade; Iṣhara, Scorpio, as a scorpion. The mother goddess Aruru comes next in the text and is, by way of elimination, to be identified with the "leerer Symbolsockel". Then come Sîn, the moon, Šamaš, the sun, and Iṣtar, the planet Venus. It is remarkable that we indeed see the moon crescent on the relief but read in the text "the crescent (*us-ga-ru*), the trough (*bu-gi-nu*), the boat (*ma-gur-ru*) of Sîn".

These words must refer to the three shapes of the moon, new - half - full. The second word, "trough", with this meaning, is unique<sup>32</sup> but has a predecessor in "bugin of Nanna" in the Gudea inscriptions<sup>33</sup>, as Th. J.H. Krispijn (Leiden) observed at our symposium. Descriptions of parts of a sheep's liver sometimes compare these parts with "a trough"<sup>34</sup> which indicates that *buginnum* had a well-defined shape. Similarly, parts of the liver can be compared with "a crescent"<sup>35</sup>.

One gathers from the second and third new names that the three Sumerian "crescents" were no longer acceptable and that the Babylonians looked for other symbols. But they were always to have difficulties in inventing an apt name for the half-moon: the "trough" never won the day; another new name, "kidney" (*kalītu*), was used only in scientific texts and the myth Enūma Eliš used "half crown" (*agû mašlu*) for lack of a better word (V 17).

At closer inspection, the word "boat" also presents a problem. Any Assyriologist is of course familiar with the moon-god pictured as a boat (*má.gur<sub>8</sub>*, *makurru*) in Sumerian literary texts: like this boat Nanna moves along the heaven<sup>36</sup> - an almost universal symbol. In our Middle-Babylonian boundary stone, however, *makurru* must refer to a particular shape and here, again, we are helped by the mathematical texts - as we were when looking for the shape(s) of the crescent. There, "boat" is the geometrical figure resulting from the intersection of two circles, a "regular concave-sided tetragon" (Saggs), or "Doppelsegment" (von Soden)<sup>37</sup>. According to Saggs, it is "a boat, observed from above, pointed at both ends"<sup>38</sup>. The *má.gur<sub>8</sub>* boat has often been compared with the *mešḫūf* used by the Marsh Arabs, and models found in Ur confirm the continuity of this type of boat in Lower Iraq<sup>39</sup>. Literary imagination on the silvery moon and iconography have this boat in view as seen from the side. Our text, however, looks down on it. We now understand

that the "boat" here represents the moon between half and full: "gibbous", i.e., bossed, hunch-backed, convex; in Greek terminology *amphikurtos*. This is the third phase of the lunar cycle, leading up to the full moon. Only one passage pleads for *má.gur*, as representing the full moon, that on the lunar eclipse hinted at by Sargon II of Assyria: "God *Má.gur*, Lord of the crown, outlasted a watch, foreboding the destruction of Gutium"<sup>40</sup>. This happened at full moon and the eclipse was total. One is reminded of another designation for the moon-god, *Inbu* "Fruit", said to have eclipsed during the reign of Nabonidus on the 13th day of month VI<sup>41</sup>. The Fruit, always named "Lord of the month", is typical for the full moon and the days preceding it, as we presently will see in our discussion of the Crown<sup>42</sup>.

Our conclusion is that the "Boat" is the moon in its last stage of waxing, including its state of fullness. As such it was the literary name for the moon-god in his most majestic manifestation, when he is becoming full<sup>43</sup>. The same can be said of the moon as "Fruit" and "Crown". The three words can represent the moon in all its stages of growth, but particularly the last one which is the brightest. In Sumerian, the moongod Nanna can be named both "the Crescent of heaven"<sup>44</sup> and "the (pure) Boat of heaven"<sup>45</sup>.

#### THE CROWN

"Lord of the Crown", *bēl agē*, is a well known epithet of the moon-god. As was already shown in the early days of Assyriology, the word "crown", *agû*, first stands for the grey part of the moon that can be seen at New Moon, complementing the crescent. The light of the earth is reflected on the larger section of the moon not illuminated by the sun, yielding an ash-grey colouring; in English "earth-shine", in French "lumière cendrée", in German "das aschgraue Licht; das Erdlicht"<sup>46</sup>. "Mirror" seems to be another name<sup>47</sup>. The moon wears this crown as if it were a headgear (*apāru*). One indeed finds in art the crescent wearing the "crown" as symbol of the moon<sup>48</sup>. Another association of the crown (now named *men* in Sumerian) with the crescent is less clear: "Gudea, the able

shepherd, had it (= the temple) wear a crown (men) like the new crescent (UD.SAR gibil)"<sup>49</sup>.

The crown returns in the nomenclature for the moon from the eleventh through the fifteenth days of the lunar cycle: hemerological and related texts say that these are the days "when the new moon (*arḥu*) is wearing a crown of splendour (*tašriḥtu*) (and) the Fruit is happy", as a hemerology puts it<sup>50</sup>. The Babylonians wished to distinguish this crown from "earth-shine" and added the qualification "of splendour": the crown had changed from ash-grey into splendid white. This was *the* crown, as the artificial expression "half crown" for half-moon shows<sup>51</sup>.

THE KIDNEY AND THE VIGIL OF EA

In the "scientific" Babylonian texts one comes across a division of the first half of the month into three periods of five days each, related to the various shapes of the moon and to the three main gods of the pantheon<sup>52</sup>:

days 1-5	<i>uskāru</i> "crescent"	Anum
days 6-10	<i>kalītu</i> "kidney"	Ea
days 11-15	<i>agū</i> "crown"	Enlil

The Greeks gave names for the lunar cycle as follows, describing the moon's shape for days, not periods<sup>53</sup>:

day 1	<i>mēnoeidēs</i>	"crescent-shaped"
day 8	<i>dichotomos</i>	"cut in half"
day 12	<i>amphikurtos</i>	"convex, gibbous"
day 15	<i>panselēnos</i>	"full moon"

The medieval Greek *selenodromia* (in Latin *lunaria*) go so far as to assign a description of the moon for every day<sup>54</sup>.

Returning to the Babylonian division, one first remarks that three five-days periods are too schematic<sup>55</sup>. New to us is the word

"kidney", used for the second period. It is not a bad word for the moon in its second phase. As we have said already, one notices an astounding variety in the nomenclature for the moon in this phase: "segment of a chariot wheel" in Sumerian texts; "trough" in the boundary stone; "half-crown" in *Enūma Eliš*. The Babylonian scholars now opted for "kidney" in their schematic five-days system.

In medical literature there is an incantation addressed to the god Ea, imploring him to "quiet" the kidney. It was Ea who "settled the kidney in its resting place, spreading good fat all over it", the text continues. Just like in the scholarly division of the first half of the month, here, too, the god Ea is associated with "kidney". The incantation immediately following in the medical text is addressed to *nubattu*, "night vigil", clearly one particular night in the month, and the subscription shows that this incantation is "for the kidney on the right side". It is our suggestion to relate this vigil to the "kidney" of Ea. We will first present the text, known from seven manuscripts, three of which had been published already<sup>56</sup>. They all come from the library of Assurbanipal and are kept in the British Museum.

#### Manuscripts:

- A. K. 4609, as published by Craig, *ABRT* II no.11, rev. (!) 20-28.
- B. K. 8447, published by Meek, *BA* X/1 81 no.7, joined to Bu. 89-4-26, 133.
- C. BM. 123385, published by Walker, *CT* 51 202, col. IV.
- D. K. 10221+14623.
- E. Bu. 81-7-25, 205, in another context.
- F. K. 15239.
- G. K. 1289, in another context.

#### Transliteration:

- (1) *ÉN a-na-ku nu-bat-tum a-ḥat <sup>d</sup>Marduk*
- (2) *<sup>d</sup>Za-ap-pu e-ra-an-ni <sup>d</sup>Ba-a-lum ú-li-da-an-ni*
- (3) *<sup>d</sup>Lú.ḥuš.a ana li-qu-ti-šú (var. kal-lu-ti-šú) il-qa-an-ni*
- (4) *ÍL-ši ŠU.SI.MEŠ-ja ina bi-rit <sup>d</sup>Za-ap-pi u <sup>d</sup>Ba-a-lum  
a-šá-kan*
- (5) *ul-te-šeb ina pa-ni-ja <sup>d</sup>Iš-tár be-el-tum a-pi-lat  
ku-mu-ú-a*
- (6) *ŠEŠ <sup>d</sup>Marduk um-mi šá-pat-tú AD-ú-a a-ra-aḥ*
- (7) *it-ti-ja lip-šu-ru ka-lu-ú ta-ma-a-ti*
- (8) *ma-mit at-mu-ú la tu-qar-ra-ba re-mé-nu-ú <sup>d</sup>Marduk*

**Variants:**

- (2) B: *<sup>d</sup>Ba-a-lum ul-dan-ni*. A, C, F: *Bal-lu*. E, G: *Ba-lu*. D, G: *ú-lid-an-ni*.
- (3) B: var. *kal-lu-ti-šú*. E, G: *li-qu-ti*.
- (4) E: [...] *-áš-ši* for *ÍL-ši*. B: *<sup>d</sup>Za-ap-pi u <sup>d</sup>Ba-a-lum  
a-šak-kan*. A: *Zap-pi u Bal-lu*. C: *Zap-pi u Bal-li  
a-šá-kan*. E: GAR-na for *aššakkan*.
- (5) A, C, F: *ina IGI-ja <sup>d</sup>XV GAŠAN*. B: *ina pa-ni-ja <sup>d</sup>INANNA  
be-el-tum*. E: *a-na pa-ni-ja <sup>d</sup>Iš-tár GAŠAN*. G: *<sup>d</sup>Iš-tar  
be-el-tú*. B: *ku-mu-u-a*. E: *ki-mu-ú-a*.
- (6) F: [*u*]*m-mi šá-pat-t[ú]*; G: *]-tum*. A, B, C, E: *AMA*. B, E: *UD.15.KAM* for *šapattu*. A, C: *AD a-ra-aḥ*. B, G: *AD ITU*. E: *AD-ú-a ITU*.
- (7) A, C: *DÛ-ú A.AB.BA.MEŠ*. E: *ka-lu*. G: *ka-la ta-ma-te*.
- (8) B: *ma-mit*, E: *ma-mi-ti*. G: *réme-nu-ú*. B, E: *re-me-nu-ú*.

**Translation:**

"Incantation - I am the Vigil, sister of Marduk. The Pleiades conceived me, Bālum gave birth to me, Luḥušû took me into adoption (var. took me as bride). [I] (?) raise my fingers and I put (them) between the Pleiades and Bālum,<sup>57</sup> I (?) make sit Ištar in front of me, the mistress who accounts for me. My brother is Marduk, my mother is the fifteenth day (of the month), my father is the first day of the month. May all the seas absolve with me!

*May you, merciful Marduk, not let come near to me the bad oath that I swore!"*

Frankly, I do not understand this text at all. Behind it must lie a *Mondsage* that is unknown to us. Bālum can be a name for the planet Mars, Luḥušû is the Nergal of the city of Kish and possibly is bird-like<sup>58</sup>. Ištar must be the planet Venus. In an ideal situation, the planets Mars and Venus are situated in "the Path of Ea" in heaven<sup>59</sup>. "Kidney" stands for days 5-10 - are the raised fingers of Vigil the first ten days of a month? It is a better idea to take the ten "fingers" as the "epagomenal" days, being the time difference between the lunar and solar years. The Babylonians assumed this "epact" to be ten days<sup>60</sup>. The Babylonian "Diviner's Manual" tells the scholar to "keep in hand" the "length (*minātu*) of New Year (*zāgmukku*)" when computing the length of the year<sup>61</sup>. We assume, with S. Langdon, that this refers to the days of the epact<sup>62</sup>. If this interpretation of the "fingers" is correct, we are able to situate the *Mondsage* at the beginning of the year, when the moon starts its journey in the Pleiades (see below).

Absolving by "all the seas" may have to do with Ea as the god of the waters; this phrase has a parallel in the Lipšur Litanies<sup>63</sup>. The first person in the last line is no more the Vigil, but the patient, so we presume. "Bad oath" (*mamītu*) seems to be the cause of the kidney ailment. One of the manuscripts, E, says in its subscript that the incantation is meant "to absolve bad oath".

Insiders have known this text for quite some time<sup>64</sup> but the central word in the first line, "Vigil", *nu-bat-tum*, preserved on ms. F and a new piece of ms. B, was not available. The contents of the text suggest that vigil refers to the second phase of the lunar cycle, half-moon, day 7, the "father" and "mother" being days 1 and 15. And, indeed, the hemerology from Assur tells us that day 7 is "vigil of Ea"<sup>65</sup> and the Lipšur texts, directed against "bad oaths", have the same name for this day<sup>66</sup>. We are aware of the fact that there are more "vigils" in a month<sup>67</sup>; our text is only interested in this one<sup>68</sup>.

THE PLEIADES

The Pleiades in the text just discussed deserve some more attention. Their name is *zappu*, lit. "bristle, mane", presumably the "mane" of the constellation Taurus. The Hyades are named *is lê*, "jaw of the Bull"; the Sumerian name is "Bull of Heaven". Both are part of the sign Taurus. The Ebla lexical texts give for the Pleiades the name *kà-ma-tù* in which one easily recognizes Hebrew *kīīmā*, "Pleiades", always together with *k'sīl* "Orion"<sup>69</sup>. The Sumerian name is more interesting: MUL.MUL, literally "the stars". As a matter of fact, "the stars" is a name for the Pleiades among several peoples in the world<sup>70</sup>, perhaps also in Ugarit<sup>71</sup> and among the Arabs<sup>72</sup>. The reason is that the appearance of this relatively small but very marked and easily recognizable group of seven stars has in the past been used by many peoples for determining the beginning of the season of growth, or the year<sup>73</sup> - read simply Hesiod's Works and Days, lines 383 ff.<sup>74</sup>. Even the word for "year" can, for this reason, literally mean "stars"<sup>75</sup>; is there any relation between the Sumerian words *mul* "star" and *mu* "year"?<sup>76</sup>

According to the Babylonians, the Moon begins its path through the ecliptic in the cluster of the Pleiades; this is the beginning of the year, on the first day of Nisan. Their scientific texts, like the Diaries, follow this rule<sup>77</sup>. The scholars in India seem to have adopted this system<sup>78</sup>. The Babylonian rule for predicting an intercalation, the so-called "Pleiaden-Schaltregel", says: "If the Moon and the Pleiades are in conjunction on the first day of Nisan, this is a normal year. If the Moon and the Pleiades are in conjunction on the third day of Nisan, this is a leap year"<sup>79</sup>. Looking back at the incantation presented in the previous section of this article, we now understand a little why the Vigil claims to have been "conceived" by the Pleiades: the moon begins his journey in this constellation.

The Pleiades consist of seven stars and one of the meanings of the expression "Seven Gods" (*ilū sebetti*) can be "Pleiades", as some passages show<sup>80</sup>. One now readily understands why in Mesopotamian iconography the moon crescent is so often seen together with the seven stars<sup>81</sup>: this is the propitious moment of New Year. The identification of the seven stars (or "dots") with the Seven Gods is certain thanks to some explanatory inscriptions

on reliefs of Sargon II (the Larnaka stela) and Sennacherib (the Bavian inscription)<sup>82</sup>, and a drawing on an astrological clay-tablet<sup>83</sup>.

#### THE SHINING MOON

The moon "comes up (*aṣû*) in pure carnelian and in lapis lazuli", i.e., in red and blue<sup>84</sup>; "he comes up, *Sîn*, the Lord of the horn (and) the halo"<sup>85</sup>, a Babylonian hymn to *Sîn* says. The lower heaven, that of the stars, is that of jasper, a stone showing shades of blue<sup>86</sup>. Sumerian hymns and litanies, taken over by the Babylonians, give the moon-god the epithets "growing a beard", the beard being made of lapis lazuli, or "growing a horn". A lapis lazuli beard is a well known attribute of Nanna and other gods, including the male Morning Star<sup>87</sup>. The beard seems to be a metaphor for rays of divine light. Incidentally, according to the classical tradition Berossus wrote that the unlit part of the moon is blue (*caeruleus*)<sup>88</sup>. Sumerian texts also name Nanna "a carnelian calf"<sup>89</sup> and compare the light of the moon with electrum<sup>90</sup>.

As to the "horns" of Nanna-*Sîn*, one can first think of three aspects. One, "horns" can refer to rays of light<sup>91</sup>. Next, one can think of Nanna as a "calf" growing horns<sup>92</sup>. Thirdly, his boat has "horns"<sup>93</sup>. All this may be true for poetical imagination, but it is most plausible to take the horns as the cusps of the moon, bearing in mind that in the Middle East they can lie parallel to the horizon. Astrological texts often speak of the "horns" when indicating the position of the moon in the sky. First, the horn is "stretched" (*tarāṣu*) and when the moon is waxing, the horns are more and more "looking" at the earth and at full moon they "embrace"<sup>94</sup>.

#### FULL MOON

When the course of the moon is "quiet" (*nēḥ*), it reaches fullness on the fourteenth day. Should this already take place on day 13, then the moon is "lagging behind" (*nēḥesu*) in following the sun. It is "hasty" (*ezû*) if full moon falls on day 15 or later<sup>95</sup>. At full moon the moon and the sun are "seen together". This is the general

expression; there are many more which may have bearing on the various relative positions of both heavenly bodies: "reach", "found together", etc.<sup>96</sup>. We will make a remark on still another expression, "they stand (on the horizon) together" (*ištēniš izazzū*), attested in a medical text. A man with migraine is pestered by spirits of the dead; this ought to be done to cure him<sup>97</sup>:

*"On the fifteenth day, the day that Sîn and Šamaš stand together, you clothe that man in a linen sheet, you incise his temple with an obsidian knife and make his blood flow. You have him sit in a reed hut, you will direct his face to the North. To Sîn, to the West, you set up an incense altar of juniper, you libate cow's milk. To the East, you set up an incense altar of cypress, you libate beer. That man will speak as follows: To my left side (is) Sîn, the crescent of the great heaven; to my right side (is) Šamaš, the judge, father of the black-headed (etc.)."*

So in this dawn ceremony the full moon is setting in the West and the sun is rising in the East at the moment of prayer. The first thing that strikes us is that in this situation sun and moon do not stand "together" (the first meaning of *ištēniš*) on the horizon; on the contrary, they are in opposition, so "simultaneously" is a better rendering of *ištēniš* here, as Professor J.D. North (Groningen) made clear to this writer. This is why the ancient scribe had to be explicit by adding that the ritual is to be done on the fifteenth day. Clearly, "standing together" could be used for both conjunction, at the end of the month, and opposition. This will remind us of the similar ambiguous terminology used in *Enūma Eliš* V 18 and 22: *šapattu lu šutamḫurat* and [... UD.3]0.KAM *lu šutamḫurat lu šanat*, where *lu šanat* means: let this happen a second time. "Let her be made equal (*lu šutamḫurat*)" is used here both for days 30 and 15. The beginning of the last line remains a problem, but the "dual meaning" of *maḥāru št* now has a parallel in *ištēniš izazzū*<sup>98</sup>. Erica Reiner, however, gave the following translation for this expression in the medical text: "when moon and sun are equally present"<sup>99</sup>.

The second detail in the ritual that strikes us is the blood-letting, a rare feature in medical literature<sup>100</sup>. Can we

assume that the Babylonians had similar ideas about the "plethora" of blood in the body at full moon as the Europeans had?

Lastly, we note that full moon looks like a most favourable point of time for praying to Sîn. We have one more reference for a prayer to Sîn to be pronounced on day 15<sup>101</sup>. The medieval Sabaeans at Harrān also prayed to the moon at this time<sup>102</sup>.

In normal circumstances the full moon falls on day 14 and this was considered a good omen<sup>103</sup>. Why, then, is it that day 15 so often is considered full moon day? We cannot give a satisfactory answer to this question but point out that since the earliest Sumerian times people reckoned with a month of thirty days - for practical reasons<sup>104</sup>. In the Neo-Babylonian period this system was formalised in the sense that they divided the month into a "former" and a "later" fifteen-day period (*šapattu maḥrītu* / *arkītu*)<sup>105</sup>. And each period could be cut into halves (*mišlu*)<sup>106</sup>. Already in older times there was a tendency to divide the thirty-day month into six periods of five days each<sup>107</sup> and in the handbook of astronomy MUL.APIN heliacal risings are dated only on days 1, 5, 10, etc.<sup>108</sup>. "The middle of the month" is in a lunar calendar the night of the full moon; in the standard calendar of thirty days, day 15 was also considered as "full moon" - be this true or not.

#### ECLIPSES

In this last part of our contribution we will make some remarks about popular beliefs on lunar eclipses. We hope that there is no overlap with a book by Francesca Rochberg-Halton that is now in print, "Aspects of Babylonian celestial divination: the Lunar Eclipse Tablets of Enūma Anu Enlil"<sup>109</sup>.

An eclipse can take place around full moon. The problems the Babylonians had in fixing the first day of the month led to lunar eclipses on days 12-14 according to one tradition, 14-16 and 20-21 according to another<sup>110</sup>. Rituals and prayers reckon with eclipses on days 12-14, 14-15, and 12-16<sup>111</sup>. The normal day would be 14<sup>112</sup>. This day falls in the period of "the crown of splendour", days 11-15. A Late Babylonian text, commenting on the moon-god Sîn pictured as "weeping, pure-of-water, with tears running", offers "crown of splendour" as explanation for "pure-of-water"

(*ellam-mê*)<sup>113</sup> and continues by speaking about a total lunar eclipse<sup>114</sup>. Now, the weeping (*bakû*) moon, full of sorrow (*lumun libbi*), is a well known figure of speech for "lunar eclipse"<sup>115</sup>. The period of "the crown of splendour" are the days that Sîn is most likely to "weep", i.e., be eclipsed. Our commentary also speaks of "the house of four" (*é.lam<sub>4</sub>.ma*); does this refer to the moon's four quadrants, so important in evaluating an eclipse?<sup>116</sup>.

The text commented on is the well known incantation "The Cow of Sîn"<sup>117</sup>. This author has suggested that this text was composed for a princess or queen with the name Geme-Sîn, "Slave girl of Sîn", living in the time of the Third Dynasty of Ur. She was in labour and the incantation intends to facilitate birth; her son received the name Amar-ga, "Milk Calf"<sup>118</sup>. The god was weeping when he saw her in travail - does this mean that a lunar eclipse took place at the same time?

What could be done at an eclipse ? An eclipse always is a bad omen<sup>119</sup> and one of the questions is: for whom? Hopefully for the enemy. When the welfare of the king or empire was at stake, the diviners resorted to divination by the liver (extispicy) in order to get more specific answers; we have three examples for this practice: in a letter from Old Babylonian Mari<sup>120</sup>, in Sargon II's account of the Eighth Campaign<sup>121</sup>, and in Nabonidus' report about the installation of his daughter as priestess<sup>122</sup>. In Ugarit they performed extispicy after a solar eclipse<sup>123</sup>. The poet of Enūma Eliš tells his readers that Marduk placed the "upper world" (*elātu*) of the heavens in the liver of Tiāmat (V 11); he may have wanted to indicate by this that liver divination and astrology are related, obeying the same rules.

Rituals are known for the king and the commoner<sup>124</sup>; an important text informs us about the different rituals to be performed in Late Babylonian Uruk<sup>125</sup>. The introductory remark "As soon as the eclipse will begin..." shows that they could predict the eclipse by computing<sup>126</sup>. We want to draw the reader's attention to the noise people have to make: wailing priests have to sing lamentations, the common people have to shout a short apotropaic formula, as do seven craftsmen and priests, in the next ritual. Mrs. E.Cassin has

contrasted this noise in the streets with the "silence" of the moon when eclipsed and the silence kept in the royal palace, according to a hemerology. She sees a contrast between noise and fires outside, and silence inside the houses, both symbolising "chaos"<sup>127</sup>. Whatever the merits of this interpretation that links various traditions, in our ritual we cannot discover the contrast inside - outside. The shouting is apotropaic and making noise is an almost universal mode of behaviour when the moon has darkened. This is known of Arabic tribes<sup>128</sup>, and the Romans were beating on brass objects<sup>129</sup>. In the early Middle Ages the Christians, still half-heathens, shouted "Overcome, o Moon !" (*vince Luna*)<sup>130</sup>.

The most natural explanation for this shouting is that people want to chase away something threatening the moon. A dragon, for example. But the Romans did this in order to prevent witches from drawing down the moon with magic. The moon is besieged (*obsessa*) and by making noise they make the witchcraft ineffective. This is a well known theme in Roman poetry<sup>131</sup>. Drawing down the moon and causing an eclipse was the evil art in which the Thessalian women were experts, so the Greeks believed<sup>132</sup>. A vase painting shows how they did it (see fig. 1)<sup>133</sup> and the women in Northern Africa still do it: the moon descends into a vessel with water and this water has great magical power<sup>134</sup>. To our surprise, we find the same belief in a Neo-Assyrian letter sent to Esarhaddon: "*The woman Zazâ, wife of Tarašî, and her sons: these are people not to be kept alive, o king my lord. The priest is the brother-in-law of Tarašî; and the women of these people, they would bring down the moon from the sky!*"<sup>135</sup>. Again, women are able to do this and their machinations are evil. One wonders whether Arabic *kasafa* "to become eclipsed" (*kusūf* "eclipse")<sup>136</sup> has anything to do with Akkadian *kašāpu* or Hebrew *kiššef* "to perform black magic".

One additional remark on the "vessel with water" may be made. The idea that the power of heavenly bodies can descend into fluids exposed to them is a well known item in Babylonian medical prescriptions. "To let the preparation stand overnight" means that the stars enhance their effectivity by shining on it, as has been shown by Erica Reiner<sup>137</sup>. She does not mention the moon. A similar explanation may apply to the holy "water of the sun", attested in a few rituals<sup>138</sup>.

Did the Babylonians have myths about the moon taken away by hostile forces? They knew at least one, told in the handbook against the evil *Utukkū* demons<sup>139</sup>. The hostile powers are here seven monsters: winds, serpents, wild animals<sup>140</sup>. They were sent by Anu and surround (*lamû*) Sîn. Note that according to the Babylonian learned traditions the first day of the month was Anu's day; his number, 60, can also be read "one"<sup>141</sup>, so he may have claimed this first position in the month. What exactly happens is not clear due to the fragmentary state of the central passage<sup>142</sup>. The dire role played by these Seven is hinted at at the end of the moon omina in the astrological handbook<sup>143</sup>, and in the Late Babylonian ritual the priests have to recite the incantations "Goring Storms" and "Evil Utukku's"<sup>144</sup>.

A duplicate text to this same ritual has a passage of its own which may reflect some eclipse myth<sup>145</sup>: "Sîn, lord of Ur, is weeping...". A throne of Anu is also mentioned. Unfortunately, the ends of the lines are broken off and the text is interspersed with glosses introduced by "they say" or "otherwise".

A third candidate has been the myth about the slaying of Labbu. A small fragment is known to us<sup>146</sup>, speaking of a giant serpent, drawn (*eṣēru*) in the heavens by the god Enlil. A parallel text suggests that the dragon was the *bašmu* snake. As we will see below, scholars are very reluctant to see an eclipse myth in this tale. The Chicago Assyrian Dictionary recently rekindled this dying fire by translating Sîn's behaviour at the threat as follows: "the gods bowed in heaven before Sîn and Sîn's [face?] was darkened with the edge of his garment"<sup>147</sup>.

From time to time, an alluring theory about a Dragon devouring the moon comes up in literature. The latest article was written by G.Azarpay, with a note by A.D.Kilmer<sup>148</sup>, who are not aware of the discussion by G.Furlani<sup>149</sup>, nor of the remark made by E.F.Weidner as early as 1911<sup>150</sup>. Again, quite recently two articles appeared, written by Roger Beck, touching upon the same subject-matter, and not aware of Furlani<sup>151</sup>. Fully independent of all these authors was J.Duchesne-Guillemin when reading his paper on the eclipse dragon at a meeting of the Académie des Inscriptions et des Belles

Lettres, Paris. The suggestion of most of these authors is that we may trace back to Mesopotamian art and Chaldaean mythology the Eclipse Dragon of the Greeks. This dragon, known from Greek and later sources, was thought to wind full-length through half of the Zodiac, its head and tail diametrically opposed. Head and tail (*caput* and *cauda*) are supposed to darken the moon at moments that the path of the moon intersects with the the path of the sun, the ecliptic. These are the ascending and descending "lunar nodes", in Greek *anabibázōn* and *katabibázōn*<sup>152</sup>. The period between two successive passages of the same node is named "the Draconitic month", a time span known to the Babylonians<sup>153</sup>. Azarpay and Kilmer discover behind representations of this dragon in Islamic art, that originate in Mesopotamia, a Zoroastrian tradition which may go back to the Babylonians. A Seleucid astrological clay tablet bears a drawing where we see within a circle (the moon) a male figure (the god Marduk) killing a dragon; the Pleiades and Hyades "Taurus" stand to the left and right sides<sup>154</sup>. A Neo-Assyrian cylinder seal shows a fight with a dragon, next to the crescent<sup>155</sup>. Beck starts with the unique zodiac adorning the ceiling of the Ponza Mithraeum and, going back in history, arrives at an old theory that the coiling snake on the Babylonian boundary stones represent this dragon, a theory he rejects<sup>156</sup>. For the origin of this dragon he does not want to go back to times earlier than Hellenistic astrology. Duchesne-Guillemin identifies the omega-shaped symbol on Babylonian boundary stones with the letter Omega used for the lunar nodes in Greek astrology. It is seen together with the sun, moon and Venus and has rightly been identified with the mother goddess to whom Duchesne-Guillemin now ascribes astral qualities<sup>157</sup>. We already mentioned at the beginning of our discussion of "the Boat" the "leerer Symbolsockel" for this goddess, Aruru, occurring among the astral symbols on the Nazi-maruttaš boundary stone. Traces of an effaced Omega have been seen on this socle<sup>158</sup>.

Weidner, Furlani and Beck also concentrate on the textual material. At the beginning of this century a "Chaldaean creation myth" preserved in medieval astrological texts was published telling how "the all-wise god" created the Dragon who was to bear six zodiacal signs on its back and moved through the zodiacal belt, chasing away

the terrified planets<sup>159</sup>. Weidner took this story very seriously and saw traces in it of the three heavenly "paths" of the Babylonians. Furlani is very critical and sees in it "a true myth concocted by an astrologer in order to explain the positions of the planets and the zodiacal signs"<sup>160</sup>. One tends to believe Furlani.

Another philological aspect is the fact that Akkadian *attalû* "eclipse" appears in Syriac as *'ātaljā*, clearly a loan-word, in other forms attested in Mandaic, Hebrew and even Greek (*talīa*, *talī*, *athália*)<sup>161</sup>. And this Syriac *'ātaljā* is a serpent (*tannīnā*) devouring (*bl'*) the sun or moon, resulting in an eclipse<sup>162</sup>. Unfortunately, we know nothing about the mythical tale behind this expression.

What can our conclusions be? As to the myth on the slaying of Labbu, we simply know too little of its full story<sup>163</sup>. Discovering the lunar nodes in the omega of the mother goddess is a very bold theory, but we admit that the context is astral. Linking the dragons of Mithraic or Islamic art with the coiled serpent on the Babylonian boundary stones of the second and first millennium B.C. has been rejected unanimously<sup>164</sup>. Still, the iconography of the serpents on those stones deserves more detailed study because there are so many differences between them: snakes have or do not have horns<sup>165</sup>; some snakes are coiled up on top of the stone, others are winding along the entire surface. In any case, the serpents are often larger and far more conspicuous than other images - what is so special about them? Professor Lambert wrote: "This deity [Nirah, or Irhan] is identified with the river Euphrates, as a cosmic entity, *the River*, which also runs around the edge of the universe. Thus when on the boundary stones the snake is put in a position suggesting it has a special place in relation to the other symbols, such as being on the very top of the stone, or having its body extending around the other symbols, this reflects its cosmic function of surrounding the universe"<sup>166</sup>.

This author would like to point out that an "astral" explanation is still possible, looking at the positions of Sun and Moon in relation to this serpent. They are depicted very close to its head<sup>167</sup> or tail<sup>168</sup>, often accompanied by the planet Venus. In no case does the serpent threaten these astral bodies - which would be a bad omen. In one case, head and tail are opposed and stick out

from the coiled up body; *behind* the protruding head are the sun and moon<sup>169</sup>.

Turning now to the scene of slaying a dragon in the moon circle, for the first time related to the Eclipse Myth by Azarpay and Kilmer, the best we can do is to adduce the evidence we have of what the Babylonian saw in the face of the moon<sup>170</sup>. Our sources are speculative texts, first telling us that the disc of the sun measures 40 double hours and that of the moon 60 double hours<sup>171</sup>. They add that the god Marduk is inside the sun and Nabû, his son, inside the moon. Inside the sun a serpent (*bašmu*), ..., inside the moon his mother (?)<sup>172</sup>. Another text says that the monster Tīāmat is seen inside the moon<sup>173</sup>. Fascinating data, but we still do not know a Babylonian myth on the Eclipse Dragon.

Is it possible to link Babylonian art motifs with much later Islamic iconography ? This author is not qualified to answer this question. There seems to be an example: one Medieval tradition of presenting planets as human figures, attested in Michael Scot (Sicily, 1243-1250), seems to go back to the Orient and ultimately to the Babylonian gods with their attributes<sup>174</sup>. "What remains to be discovered is how the Babylonian types could survive and be transmitted across the centuries to the Arabs", Sez nec wrote in his summary of this discovery made by Saxl<sup>175</sup>. The huge serpents with sun and moon continued to be depicted on boundary stones up to Nabonidus (555-539 B.C.)<sup>176</sup> and the slaying of the dragon is drawn on a Seleucid clay tablet.

#### NOTES.

1. H. Waetzoldt, NABU 1990 95: *Suen* in the third millennium, *Suin* in Old Assyrian. Note the writing Ur-<sup>d</sup>Si-i-na, variant of Ur-<sup>d</sup>SUM-na, in the Ur III text published by C.-G. Janneau, *Une dynastie chaldéenne* (1911) 35, tablet and seal impression. Dr. F.A.M. Wiggermann (Amsterdam) gives me the following references for the personal name Ur-<sup>d</sup>SUM-na in Ur III texts: ITT II/2 3977b rev. 3; less certain: MVN V 213:10; cf. Ur-<sup>d</sup>SUM in MVN IV 36:3, NATN 690:4.

2. Diss. Hall, 447, 472, 699 f., 879 f.

3. Cf. M.Lambert in *La Lune. Mythes et rites* (=Sources orientales, 6) (1962) 73 f., J.Krecher, *ZA* 78 (1988) 258.
4. Th.Jacobsen, *The Treasures of Darkness* (1976) 121. Contrast diss. Hall, 536.
5. U.Seidl and B.Hrouda, *RLA* III (1969) 485a, §4 a); 491b, §3.
6. Ward 126 no. 361, reproduced by Weber, *Siegelbilder* 391.
7. J. van Dijk, *HSAO* (1967) 248-250. Note ITU.SAR "crescent" in Sargonic Nippur; A.Westenholz, *Early Cuneiform Texts in Jena* (1975) nos. 82:5, 84:6, cf. 51:18 (ITU.GAL); *OSP* I (1975) 4.
8. M.Civil, *RA* 81 (1987) 187, using school texts from Nuzi and Emar. In Akkadian *sīnu*.
9. Cf. M.Civil, *RA* 60 (1966) 92, and S.Lieberman, *The Sumerian Loanwords in Old-Babylonian Akkadian I* (1977) 423 no. 529.
10. See simply CAD N/1 260 f. Earlier lit.: R.Borger, *ABZ* 155 no. 381; cf. K.Watanabe, *ASJ* 6 (1984) 102, and add the epithet of Nanna in Late Sumerian context, U<sub>4</sub>.SAR.an.na, in H.Limet, *Les légendes des sceaux cassites* (1971) 87 no. 6.14, line 4.
11. The prime importance of the day of the New Moon and the Crescent is also shown by Semitic words for "month": they originally mean "New Moon": Hebrew *hodēš*, root "new" (cf. *jm hdt* in Ugaritic and *arḫu eššu* in the Nuzi texts); Akkadian *arḫu*, primarily the month's first day; Arabic *šahr*, originally the crescent (*hilāl*), see Ibrahim Al-Selwi, *Jeminitische Wörter in den Werken von al-Hamdānī und Našwān und ihre Parallelen in den semitischen Sprachen* (1987) 127.
12. S.Smith, *Babylonian Historical Texts* (1924) 86 and Plate IX, Verse Account of Nabonidus, v 18-22; see *ANET* 314.
13. F.Thureau-Dangin, *TMB* (1938) 37 no. 73; O.Neugebauer, A.Sachs, *MCT* (1946) 56 Eb., MLC 1354; Plates 21 and 47. For its coefficients, see A.D.Kilmer, *OrNS* 29 (1960) 285. See now also *Baghdader Mitteilungen* 21 (1990) 487-493.
14. For *sarru* see CAD S s.v. *sarru* B (and add *OECT* 8 18:19, 33, etc.); for *sīnu*, see again CAD and K.Deller, *Assur* 3/4 (1983) 9 [= 145].
15. A.Westenholz, *Early Cuneiform Texts in Jena* (1975) 37 f. (ITU.GAL; more often UD.SAR); in Ur III Ur: *UET* 3 401:1, 5 (gold and silver); Old Babylonian: *UET* 5 533:7, 552 I 1, 561 II 20, III 18, 565:12 (silver). Note the early Old Babylonian year name from Tell Asmar *mu giš.šu.nir U<sub>4</sub>.SAR KÜ.GI kù.babbar.gar.ra 4Tišpak.ka ba.dīm*, "Year: Tišpak's golden crescent-shaped emblem inlaid with silver was made", after Th.Jacobsen, *OIP* 43 (1940) 192 no. 116. See also *AHW* 1438a *uskāru* 3., "als Gegenstand"; J.Krecher, *RLA* III (1969) 498b,e. See, for example, the hemerology *CT* 51 161:14, and duplicates. In Hittite texts: H.Ehelolf, *ZA* 46 (1940) 43; H.A.Hoffner, *Alimenta Hethaeorum* (1974) 152. For the sun-disk, see

J.-M. Durand, *MARI* 6 (1990) 149-158; D. Charpin, *ibidem* 159-160. A new example for GUR<sub>7</sub>.ME "sun-disk" is BaM 21 (1990) 172 no. 117:1; the "crescent" follows.

16. LKU 33 rev.18 f., and duplicates, with E.Reiner in *Monsters and Demons in the Ancient and Medieval Worlds. Papers presented in honor of Edith Porada* (1987) 35 f.

17. E.Porada, in: *Le temple et le culte. Compte rendu de la 20ème Rencontre Assyriologique Internationale* (1975) 164 ff., on Nuzi, with Old Babylonian examples on Plate XXXV.

18. Neo-Babylonian: for example Th.Pinches, *PSBA* 15 (1893) 417; H.Frankfort, *Cylinder Seals* (1939) 218 with Plate XXXVI, j. In *Western iconography: A.Spycket, Revue biblique* 80 (1973) 384-395, and 81 (1974) 258 f.; O.Keel, *Jahwe-Visionen und Siegelkunst* (1977) 284-313 (note that the Lamp represents Nusku, son of Šin!).

19. Judges 8:21, 26 and Isaiah 3:18. See K.Galling, *Biblisches Reallexikon* (1977) 11a (art. Amulett, §3) and 79 (art. Feldzeichen).

20. H.A.Hoffner, *Alimenta Hethaeorum* (1974) 152.

21. A "holy chariot of Nanna" is known only from the hymn Šulgi H, III 6; see diss. Hall 427.

22. W.W.Hallo apud M.Civil, *JAOS* 88 (1968) 3 note 13, and apud M. deJong Ellis, *JAOS* 90 (1970) 266-269, "A note on the 'Chariot's Crescent'".

23. HUCA 48 (1977) 6 f.

24. See the basic study by H.Limet, "L'organisation de quelques fêtes mensuelles à l'époque néo-sumérienne", *Actes de la XVIIe Rencontre Assyriologique Internationale* (1970) 59-74. See also G.Wilhelm, *JCS* 24 (1983) 83, or *SACT* II 271. Cf. Early-Dynastic UD.SAR.ITU.TAR-ka "full moon", in A.Alberti and F.Pomponio, *Pre-Sargonic and Sargonic texts from Ur* (1986) 41 ff., Text no. 13; diss. Hall 255.

25. Th.Jacobsen, *The Treasures of Darkness* (1976) 122. Proof in Šulgi hymn E 60-62, 254-257; see diss. Hall 418.

26. M.Sigrist, "Les fêtes èš.èš à l'époque néo-sumérienne", *Revue biblique* 84 (1977) 375-392, an article overlooked by Hall in his dissertation. For A.Goetze's equation of the word é in this context with Akkadian *nubattu* there is no real proof; see *JCS* 9 (1955) 21 note 8.

27. W.H.Ph. Römer, *SKIZ* (1965) 47, line 168, read after diss. Hall, 567.

28. C.Wilcke, R.Kutscher, *ZA* 68 (1978) 114:16, meals of Anum (Takil-ilissu). Note that *TCL* 10 66:2-4 records offerings at New Moon, day 15, and the end of the month, u<sub>4</sub>.ná.a. A new text from Larsa lists sheep for "l'entretien de Šamaš des cieux, la fête

èš.èš.SAG.UD.SAR de Šamaš, l'offrande KI.SÌ.GA, le thrône royal"; D.Arnaud, *Larsa et Oueili* (1983) 234 no. 54.

29. B.A.Levine, *HUCA* 38 (1967) 45; D.Charpin, *Le clergé d'Ur* (1986) 310, 316 (Ur). The evidence for Nippur is not so clear: days 7, 9, 14, 24; see M.Sigrist, *Les sattukku dans l'Ešumeša durant la période d'Isin et Larsa* (1984) 79 f., 151-3. Day 25 in PBS 8/1 60.

30. Rituals in Ugarit also are only interested in the first half of the month, as far as this author sees; cf. *KTU* 1.41 with *TUAT* II/3 (1988) 311-4, and G.del Olmo Lete, *Aula Orientalis* 5 (1987) 257-270.

31. *MDP* 2 Plates 16-19. We are interested in the inscription, col. IV 10-11 (cf. W.J.Hinke, *Selected Babylonian Kudurru Inscriptions* [1911] 3 no. 1), comparing this with the photos in Hinke, *A new boundary stone ...* (1907) 90 f., U.Seidl, *Baghdader Mitt.* 4 (1968) Tafel 19, b-c (with p. 33 ff.).

32. Cf. *PSD* B 172 f., *bugin* "bucket, trough"; H.G.Güterbock, *Festschrift Heinrich Otten* (1973) 79 f., "Trog". Cf. A. Tsukimoto, *ASJ* 13 (1991) 287-8.

33. Gudea Cyl A XXI 18; cf. A. Falkenstein, *Die Inschriften Gudeas von Lagaš. I. Einleitung* (1966) 83f., "Schale des Nanna"; Th. Jacobsen, *The Harps that once...* (1987) 414, "Nanna's canebrake", reading *sug*.-- This reference of *bugin* is not given in *PSD* 2 (B).

34. Ulla Jeyes, *Old Babylonian Extispicy. Omen Texts in the British Museum* (1989) 112 no. 2:10f.

35. *AEM* 1/1 66 no. 3:25; *KUB* 37 167:5-9; I. Starr, *BiOr* 43 (1986) 640:8; G. Frame, *ARRIM* 5 (1987) 9:18.

36. Å.W. Sjöberg, *MNS* (1960) 27f.; also 44 no. 3:1-14; diss. Hall 675ff., with an explanation on 886f.: its shape is like that of Sumerian river boats, and Nanna brings in it the fruits of prosperity.

The name of Nanna-Sîn's processional boat in the cult is *má.nu.ri*, *MSL* 5 (1957) 177 Hh IV 312. Note the Old Babylonian personal name *Lú-má.nu.ri*, *Riftin* 123:16, *Tell Sifr* 87:16, *YOS* 8 14:25 (he is a boat-man), or *Lú-má.nu.úr(!).ru*, *YOS* 14 348:18, 30 (text from Uruk). There was a festival *ezen má.nu.ru* in Ur; see D.Loding, *JCS* 28 (1976) 236 no. 8; H.Figulla, *Iraq* 15 (1953) 174 no. 58 (= *UET* 1 253), cf. 191; *UET* 5 746:8, 752:13, 782:17.

37. H.W.F. Saggs, *RA* 54 (1960) 133 BM. 15285, left column, below, with drawing (problem Q), and remark on p. 143, on XII 3; *AHw* 591b gives an own drawing. See A.A. Vajman, *Vestnik Drevnij Istorii* 83 (1963) 76 no. 23 and 77f., and now Hirsch, *Afo* 34 (1987) 51f.

38. *RA* 54 145. Professor Hirsch wrote me that he thinks of a boat, seen from the side, with "Aufbau" on top of it.

39. *Sumerian Art. Illustrated by Objects from Ur and Al-Ubaid* (The British Museum, 1969) 21 and Plate XIII b (made of bitumen); L.Woolley, *UE* II (1934) 71 and Plate 169, a (PG 789), see Woolley

and Moorey, *Ur of the Chaldees* (1982) 64, 117, 154 (made of silver). Silver models of these boats as votive offerings are mentioned in the texts from Ur: *UET* 3 754; 5 532:7, 553 I 17, III 9, and the refs. given in the index, p. 72a, below.

40. *TCL* 3 318, with A.L.Oppenheim, *JNES* 19 (1960) 137b .

41. *YOS* 1 45 I 9.

42. Contrary to current opinion, seeing in the Fruit the crescent.

43. The "Boat of Sîn" in the Sumerian introduction to the astrological handbook, though not without problems of reading or interpretation, does not contradict this; otherwise J.Bottéro, *Mythes et rites de Babylone* (1985) 316 f. ("Le Croissant"); cf. W.Heimpel, *JCS* 38 (1986) 131 ("gondola").

44. H.Limet, *Les légendes des sceaux cassites* (1971) 87, no. 6.14, line 4.

45. *CT* 15 17:1 etc.; see diss. Hall 675.

46. F.X.Kugler and E.F.Weidner; see *BA* VIII/4 (1911) 23-29.

47. Schaumberger, 275.

48. As in *BBSt* Plate LXVI (no. VII); U.Seidl, *Baghdader Mitt.* 4 (1968) Tafel 20 a, 27 b; "in einer Scheibe liegend", p. 98.

49. Gudea, Cyl. A XXIV 10; see diss. Hall, 628-630.

50. IV R 32 II 2, cf. 9 (day 13: Sîn is wearing a crown of splendor *ana KUR*; cf. *LAS* 50:12-15). For the passages mentioning days 11-15, see below, under "Kidney".

51. In *Enūma Eliš* V 17, commented on by later scholars; see A.Livingstone, *Mystical and mythological explanatory works of Assyrian and Babylonian scholars* (1986) 22 K. 2164+:11-13, with p. 40 f. - In astronomical lit. "half *hap-rat*", Livingstone, 40.

52. III R 55 no. 3, with E.F.Weidner, *HBA* (1915) 18, Schaumberger, 277, and A.Livingstone, *Mystical...*, 47; *CT* 25 50, with Livingstone, 30; *CT* 26 41 VI 16-19.

53. Geminus IX 11. Other names and traditions are given in the Budé edition by G.Aujac (1975) 144; the Latin terminology in the Budé edition of Vitruvius, Book IX, by J.Soubiran (1969) 122.

54. *Catalogus Codicum Astrologorum Graecorum* XI/1 (1932) 134-144.

55. Schaumberger, 277.

56. Quotations in *CAD* and references in R.Borger, *HKL*, brought the unpublished texts to my attention. They were studied in the British Museum in December 1987. See now also T. Abusch, in: J. Neusner et al. (eds.), *Religion, Science and Magic in Concert and in Conflict* (1989) 55f., note 29. He is interested in K. 1289.

57. *AHw* 1511 s.v. *zappu* , end: "ich stelle Finger" (between the Pleiades and B.).
58. E.Leachy, *TCS* IV (1970) 56, on Izbu III 27. In *CT* 38 5:125 and 25:16 f. Luḫušū is followed by the mythical bird Anzū. Our text preserves the name in ms. B.
59. R.Borger, *Afo* Beiheft 9 (1956) 2 § 2 Ass. A I 39 - II 8; see A.L.Oppenheim, *Centaurus* 14 (1969) 132 note 48, S.Parpola, *LAS* Comm. p. 11, F.Rochberg-Halton, *JAOS* 108 (1988) 54.
60. H.Hunger, *Or.NS* 56 (1987) 405 f.; H.Hunger and D.Pingree, *MUL.APIN. An astrological compendium in cuneiform* (= *Afo* Beiheft 24) (1989) 153, commenting on 94 f., II ii 14-17.
61. A.L.Oppenheim, *JNES* 33 (1974) 200:57-8, cf. 72.
62. S.Langdon, *Babylonian Menologies and the Semitic Calendars* (1935) 107-109. Oppenheim's "Study the length of the year" is not precise. Oppenheim does not mention Langdon's work at all.
63. E.Reiner, *JNES* 15 (1956) 134:63 f., "May the small canals (...) absolve with them". - The subject of *lipšurū* in our text clearly is *kalu*, not the female *tāmāti*.
64. Cf. B.Landsberger, *KK* (1915) 98 note 3, using ms. A and B.
65. *KAR* 178 I 48.
66. D.J. Wiseman, *Iraq* 31 (1969) 178:66, with the addition *ana* "Marduk BAR (?) GAR. - Note that sulphur "absolves sorcery on *bubbulu*-day and *ma-mit* on *nu-bat-ti* UD.7.KAM", Sm. 352 rev. 17, cited *CAD* B 299b (collated). A new reference is K. 6048+ rev. III 9, "seventh day, the *nu-bat-tu* of god(s) [...]", W.G.Lambert in *Ad bene et fideliter seminandum. Festgabe für Karlheinz Deller zum 21. Februar 1987* (1988) 162, 173.
67. B. Landsberger, *KK* 108-111.
68. Or can we take Vigil to be New Year's Eve ?
69. Ebla: *MEE* 4 (1982) 288 Voc. Ebla 792, with C.H.Gordon, *Eblaitica* I (1987) 25. Hebrew: Amos 5:8, Job 9:9, 38:31.
70. M.P.Nilsson, *Primitive Time-Reckoning* (1920) 275: the Caribs, Indians, Arawak.
71. *KTU* 1.43:3, see *TUAT* II/3 (1988) 327.
72. J. Henninger, *Arabia Sacra* (1981) 109 n.21.
73. Nilsson, 129-145, 274-7.
74. D.R.Dicks, *Early Greek Astronomy to Aristotle* (1970) 36; O. Wenskus, *Astronomische Zeitangaben von Homer bis Theophrast* (1990) 42-45, 176-177, and *passim*; F.X. Kugler, *Sternkunde und Sterndienst, Ergänzungen* II (1914) 152 f.

75. Nilsson, 275.

76. According to R.A.Miller, "Pleiades perceived: MUL.MUL to Subaru", *JAOS* 108 (1988) 1-26, Chinese and Japanese notions about the Pleiades can be traced back to ancient Mesopotamia. In Chinese writing the characters "hairy head(s)" stand for the Pleiades; the Chinese word for it, *mao*, goes back to \**mlôg*; p. 4 f., 7a .

77. See, for example, S.Parpola, *LAS Comm.* (1983) 385.

78. D.Pingree, *Studies presented to Erica Reiner* (1987) 295.

79. Lastly, H.Hunger, E.Reiner, *WZKM* 67 (1975) 21-28.

80. R.Caplice, *Or.NS* 40 (1971) 142 no. 48 rev. 6; W.Mayer, *UFBG* (1976) 431 f., 534; MUL.APIN Tablet I I 44.

81. E.Douglas van Buren, "The seven dots in Mesopotamian art and their meaning", *AfO* 13 (1939-41) 277-289; U.Seidl, *Baghdader Mitt.* 4 (1968) 101-103, and *RLA* III (1969) 485, e.

82. *VAS* 1 71, and *OIP* 2 78:1, respectively.

83. E.F.Weidner, *Gestirndarstellungen auf babylonischen Tontafeln* (1967), Tafel 2.

84. E.G.Perry, *LSS* II/4 (1907) 23 no. 5:7-8, combining two manuscripts; cf. M.-J.Seux, *Hymnes et prières aux dieux de Babylone et d'Assyrie* (1976) 478.

85. *EN qar-ni su-pu-ri*, *RA* 12 (1915) 191:7; see Seux, 479.

86. To be discussed by M.Stol in a book on epilepsy in the Babylonian world. See now A.Livingstone, *Mystical...* (1986) 82:33, 86.

87. The references are abundant; for example M.E.Cohen, *CLAM* (1988) I 211 a + 96 f.; II 419 a + 6-9; 434 f + 102. Cf. *CAD* Z 61a s.v. *zaqnu*. Discussions by A.Falkenstein, *ZA* 44 (1938) 7 f., Å.Sjöberg, *MNS* (1960) 173 f. (ad IV R 9:10), and diss. Hall, 430 f., 697.

88. Vitruvius IX II 1.

89. N 1542:3, edited in diss. Hall, 848.

90. Å.W. Sjöberg, *Orientalia Suecana* 19-20 (1970-71) 163 f.; diss. Hall, 695 f.

91. W.H.Ph. Römer, *SKIZ* (1965) 151: si "Licht"; Sjöberg, *MNS* 143 f., 166:10. - Also in Hebrew, as Moses' *facies cornuta* in Exodus 34:29-35 shows; cf. Habakkuk 3:4.

92. Nanna as a calf: Sjöberg, 24 on line 28; diss. Hall 633 f.; Lugalbanda I 200 with C.Wilcke, *Das Lugalbandaepos* (1969) 75-77; diss. Hall, 530 ff.

93. J.Klein, *Three Šulgi Hymns* (1981) 119; cf. CAD Q 139a, S.Lieberman, *Sumerian Loanwords in Old-Babylonian Akkadian I* (1977) 383 note 623.
94. See the discussions by Schaumberger, 256 f., 258 note 1; 269, and C.Bezold, F.Boll, *Reflexe astrologischer Keilinschriften bei griechischen Schriftstellern* (1911) 32-37.
95. This terminology has been clarified by A.Ungnad, *ZDMG* 73 (1919) 167-9, and Schaumberger, 262. Most of it was not seen or not accepted by CAD. Cf. C.Bezold, *ZA* 32 (1919) 210 f. See now F. Rochberg-Halton 1988, 39-40 note 26.
96. *kašādu*, *atū š̄t*, *šaḡālu* Gt, *nentū*, *maḥāru* Gt. See E.F. Weidner, *BA VIII/4* (1911) 75ff.; Schaumberger, 268f., 272-4.
97. *KAR* 184 rev. 37 = *BAM* 4 323:93, dupl. 228:28.
98. For the problem, see Schaumberger, 273 f. H.L.J.Vanstiphout, not accepting a dual meaning, suggested that the full moon of the following month is the subject of line 22; see *JCS* 33 (1981) 196-8.
99. *JAOS* 105 (1985) 595b, and in *Monsters and Demons in the Ancient and Medieval Worlds. Papers presented to Edith Porada* (1987) 35. - Does *ištēniš* ever mean "equally" and if yes, in what sense?
100. M. Stol in *Reflets des deux fleuves. Mélanges André Finet* (1989) 119-121.
101. *BAM* 5 449 II 3-4 (against *zikurrudū*); see A.Tsukimoto, *Untersuchungen zur Totenpflege (kispum) im alten Mesopotamien* (1985) 135 f. Column I is about a prayer to Šamaš.
102. M.Rodinson in *La Lune. Mythes et Rites* (= *Sources orientales* 6) (1962) 205; now in *Picatrix. Das Ziel des Weisen von Pseudo-Magritī. Translated into German from the Arabic by Hellmut Ritter and Martin Plessner* (1962) 235.
103. R.C.Thompson, *Reports* 114 D 4-5, see Weidner, *BA VIII/4* 5, below. Days 13 and 15 are inauspicious; see S.Parpola, *LAS Comm.* (1985) 83 ad no. 74, and 95 ad no. 108:6-10.
104. R.K.Englund, *JESHO* 31 (1988) 122-130 (Ur III), 136 ff. (Archaic Uruk, following A.Vaiman).
105. CAD A/2 287b s.v. *arkū* 6'. Nothing in CAD M/1 s.v. *maḥrū*; nothing in AHw. See S.Langdon, *Babylonian Menologies and the Semitic calendars* (1935) 91.
106. CAD M/2 129b, c. (82-7-14, 1504 is now CT 57 512).
107. B.Landsberger, *KK* (1915) 96 f.
108. E. Reiner, D. Pingree, *BPO* 2(1981) 6 (2).
109. *AfO Beiheft* 22 (1988).

110. F.Rochberg-Halton, *Studies Presented to Erica Reiner* (1987) 331.
111. *CT* 4 5; *Afo* 11 (1936-37) 361, a *tamītu* text; W.Mayer, *UFBG* (1976) 101 note 65.
112. Schaumberger, 251.
113. The difficult word *ellammū* is commonly explained as "pure of rites". Our discussion here suggests that "pure of water" refers to a lunar eclipse. It is not excluded that this "water" has nothing to do with an eclipse but is the nightly dew, so abundant at full moon; see W.H.Roscher, *Über Selene und Verwandtes* (1890) 49-55, "Der Mond und Selene als Thauspender". - Add to the dictionaries the refs. *KUB* 4 13:18, 19, the Cow of Sîn (*i-il-la-a-me-e*), and W.Sommerfeld, *UF* 16 (1984) 303 IV 21 (*kudurru*); see also the next footnote.
114. M.Civil, *JNES* 33 (1974) 332:17-20, with 334. Cf. A.Cavigneaux, *Aula Orientalis* 5 (1987) 254; N.Veldhuis, *ASJ* 11 (1989) 246.
115. F.Rochberg-Halton, *ZA* 77 (1987) 221, on *TCL* 6 13:14.
116. Some lit.: Schaumberger, 246-251; S.Parpola, *LAS Comm.* (1985) 406 f.; F.Rochberg-Halton, *Studies presented to Erica Reiner* (1987) 335. - The identification of the quadrants with parts of the world was taken over in Egyptian astrology, see R.A.Parker, *A Vienna Demotic papyrus on eclipse- and lunar omina* (Providence 1959) 6 f., 30-33 (Crete, Amurru, Egypt, Syria).
117. Recent treatment by W.Röllig, *Or.NS* 54 (1985) 260-273 (p. 272 f. on the weeping Sîn); see also W.Farber in *TUAT* II/2 (1987) 274-7. Now: Niek Veldhuis, *A Cow of Sîn* (1991).
118. M.Stol, *Zwangerschap en geboorte bij de Babyloniërs en in de Bijbel* (1983) 30.
119. Cf. J.Nougayrol, *RA* 44 (1950) 33-35 MAH. 15874:1-9.
120. G.Dossin, *CRRAI* 2 (1951) 46 f., now *AEM* I/1 no. 81. We cannot accept A.L. Oppenheim's explanation given in *Centaurus* 14 (1969) 132 note 47, and in *Dictionary of Scientific Bibliography* XV (1978) 659 note 116, because astrological lore about lunar eclipses did exist in the OB period: *MDP* 18 258 and unpublished BM. texts.
121. *TCL* 3 319, cf. *MDOG* 115 (1983) 100: Šamaš wrote his "yes" on the liver.
122. *YOS* 1 45:15-21, with E.Reiner, *Your thwarts in pieces, your mooring rope cut* (1985) 9 f. See already C.J.Gadd in *La divination en Mésopotamie ancienne* (1966) 33, "to reinforce and refine this decision the king then turned to the sacrifice".- Note the liver omen "If there is a cross-shaped mark in the middle of the 'station', the god Sîn will request an *entu*-priestess; or: an eclipse"; G.Frame, *ARRIM* 5 (1987) 9:11.

123. *KTU* 1.78, see *TUAT* II/1 (1986) 99 f., and W.H. van Soldt, *JEOL* 30 (1987-88) 67-69.
124. *CT* 4 5-6 and *CT* 51 190 (= R.Caplice, *Or.NS* 40 (1971) 166-8).
125. *BRM* 4 6 and dupl., see E.Ebeling, *TuL* (1931) 91-6 no. 24, and now W.Farber, *TUAT* II/2 (1987) 236-9.
126. Lines 16 and 43. - We have two documents about an eclipse that did not take place; those responsible for starting the ritual have to appear before the Assembly of Uruk. Had their calculation been wrong? See A.Boissier, *RA* 23 (1926) 13-17 and *YOS* 7 71.
127. E.Cassin, *La splendeur divine* (1968) 41 f.; *Le semblable et le différent* (1987) 259-261.
128. M.Rodinson in *La Lune...* (1962) 200, cf. 162.
129. Sophie Lunais, *Recherches sur la Lune I: Les auteurs latins de la fin des Guerres Puniques à la fin du règne des Antonins* (1979) 240-2. Examples are Livy XXVI 5, 9 (*cum aeris crepitu, qualis in defectu lunae silenti nocte cieri solet*), Tibullus I 8:22 (*aera repulsa*); Martialis XII 57:16 f.
130. Hugo Rahner, *Symbole der Kirche* (1964) 163.
131. S.Lunais, 234-242, "La magie et les éclipses".
132. Plato, *Gorgias* 513a; Aristophanes, *Clouds* 749-754; Lucian, *Philopseudes* 13 f.; *Papyri Graecae Magicae* XXXIX, 1 (part of a lost Greek romance), Basil of Caesarea, *Hex.* VI 11. See F.Boll, art. *Finsternisse* in *Pauly's Realencyclopädie* VI (1909) 2333, and S.Lunais, 231-33.
133. Cf. W.H.Roscher, *Über Selene* (1890) 88 f. and Tafel III fig.2.
134. M.Rodinson in *La Lune...* (1962) 200 f.; also René Pottier, *Initiation à la médecine et à la magie en Islam* (1939) 103, below. Cf. Lunais, 232 f.
135. *ABL* 633 + *CT* 53 46, rev. 25-27, following F.M.Fales, *Afo* 27 (1980) 144, with the correction by Th.Kwasman, *RA* 79 (1985) 95 f. Erica Reiner made the same discovery independently, as became clear from her paper "Drawing down the Moon", read in Leiden, February 1990.
136. M.Ullmann, *WKAS* I (1970) 191 ff.
137. E.Reiner, *JAOS* 105 (1985) 594.
138. *KUB* 37 64a:12 and IV R<sup>2</sup> 59,1:31; see W.Mayer, *UFBG* (1976) 511:13. Also in *TIM* 5 68:4; see J. van Dijk, *Symbolae F.Th.M. de Liagre Böhl* (1973) 116, with note 19.

139. CT 16 19 f., lines 1-188 (Tablet XVI). Translations by G.Furlani, *Riti babilonesi e assiri* (1940) 267-9; R.Labat, *Les religions du Proche-Orient asiatique* (1970) 138-140; A.D. Kilmer, *JAOS* 98 (1978) 372-4.
140. Labat, 138 note 2, attempts to identify them in art.
141. A.Livingstone, *Mystical...* (1986) 47, 77 f. -- *ina* UD.1.KAM KU <sup>d</sup>A-num in the Nabonidus inscription H 2 A col. II 15, C.J.Gadd, *Anat. Stud.* 8 (1958) 60 and Plate XI, remains a mystery. W.von Soden apud W.Röllig, *ZA* 56 (1964) 231, suggested KU=*uskaru*. Did the scribe play on GIS.KU/TUG=*taskarinnu*?
142. See the interpretation by A.Falkenstein, *LSS NF* 1 (1931) 75f., and Th.Jacobsen, *The Treasures of Darkness* (1976) 123, 137.
143. E.F.Weidner, *Afo* 17 (1954-56) 88 f.
144. *BRM* 4 6:35f.
145. R.C.Thompson, *A Catalogue of Late Babylonian tablets in the Bodleian Library* (1927) Plate I AB 249 col. II. Lines 1-14 duplicate *BRM* 4 6:5-11, translations of lines from Sumerian lamentations. In line 15 starts our passage, not duplicated.
146. CT 13 33 f. Rm. 282, see now J.Bottéro, S.N.Kramer, *Lorsque les dieux faisaient l'homme. Mythologie mésopotamienne* (1989) 464-9. A new interpretation was given by F.A.M.Wiggermann, "Tišpak, his seal, and the dragon mušhuššu", in O. Haex et al. (eds.) *To the Euphrates and Beyond. Archaeological studies in honour of Maurits N. van Loon* (1989) 117-133.
147. Lines 15 f.; see *CAD S* 325a, reading *ur-ru-[pu]* at the end of the line.
148. G.Azarpay, "The eclipse dragon on an Arabic frontispiece-miniature", *JAOS* 98 (1978) 363-374.
149. G.Furlani, "Tre trattati astrologici siriaci sulle eclissi solare e lunare", *Atti della Accademia Nazionale dei Lincei Anno CCCXLIV, Series VIII, Rendiconti, Classe di Scienze morali, storiche e filologiche, Vol. II* (1947) 569-606, esp. 584-88.
150. E.F.Weidner, *BA VIII/4* (1911) 22 f.
151. R. Beck, "Interpreting the Ponza Zodiac", *Journal of Mithraic Studies* I (1976) 1-19, II (1978) 87-147.
152. Cf. the short remarks by A.Bouché-Leclercq, *L'Astrologie grecque* (1899) 121-3.
153. B.L. van der Waerden, *Die Anfänge der Astronomie* (1968) 111, 145.
154. *JAOS* 98 370b with 374a ; Weidner, *Gestirndarstellungen...* (1967) Tafel 1-2 VAT 7851, with p. 8 f. - Quite another

interpretation was given by R.A.Miller, *JAOS* 108 (1988) 9: victory of the new moon over the old.

155. E.Porada, *CANES* I no. 688E.

156. In a polemic against H.Gundel, *Hommages à M.J.Vermaseren* I (1978) 449 f. Hellenistic astrology: Beck, II (1977) 93, 98 f.

157. J.Duchesne-Guillemin, *CRAIB* 1986 243-248.

158. H.Zimmern, *LSS* 2/II (1906) 41 f.

159. First communicated by F.Cumont, *Monuments figurés relatifs aux mystères de Mithra* I (1896) 35 note 1; edition in *Catalogus codicum astrologorum graecorum* V/2 (1906) 131-134, cf. VII (1908) 123-6.

160. Furlani, 595. See also Beck's critical remarks, II 89 f.

161. S.Kaufman, *The Akkadian Influences on Aramaic* (1974) 40 note 46 (with lit.), and Furlani 596-603.

162. Furlani, 569 f., 583. See also *The Syriac Book of Medicines* (1913) I 469, 15 (= II 551) and 484, note (= II 569); Ján Bakoš, *Patrologia Orientalis* XXIV, fasc. 3 [no. 118] (1933) 364 f., note.

163. See the remarks by Furlani, 586, and Beck, II 90, with W.G.Lambert's new interpretation of line 7, "Enlil in heaven designed [the creature]" - not "[the creature] in heaven".

164. Furlani, 587 f.; Beck, II 90 f.

165. With horns: Seidl, *Baghdader Mitt.* 4 (1968) 39 no. 62 (Abb. 8) = Hinke, *A new boundary stone ...* (1907) 17 Fig. 6 = M.Jastrow, *Bildermappe* (1912) no. 38; Seidl, 41 no. 64 (Abb. 10); Seidl, 29 no. 32 (Tafel 15a) = Hinke, 28 Fig. 11 = M.Jastrow, *Bildermappe...* no. 29.

166. Apud Beck, II 138, note 42, without references. For the snake Irhan, see G.J.P.McEwan, *Or.NS* 52 (1983) 215-229, W.G.Lambert, *BSOAS* 48 (1985) 444 note 46.

167. Seidl, 31 no. 40 (Abb. 4) = Hinke, 95 Fig. 30 = Jastrow no. 47; *MDP* VII pl. 27 f.; Seidl, 48 no. 80 (Abb. 14) = Hinke, 30 Fig. 12 = *BBSt.* no. VIII; Seidl, 47 no. 79 (Abb. 13) = Hinke, 34 Fig. 14 = *BBSt.* no. VII; Seidl, 43 no. 68 (Tafel 25) = Hinke, 120 Fig. 47 = Jastrow no. 40; Seidl, 50 no. 84 (Abb. 16) = *UET* 1 165 with Plate S (Nabonidus); Seidl, 61 no. 108 (Abb. 23) = Hinke, 35 Fig. 15 = *VAS* I 70 (Sargon II); Seidl, 45 no. 74 (Abb. 11) = *BBSt.* no. IX; Seidl, 46 no. 76 (Tafel 27) = Hinke, 45 Fig. 19.

168. Seidl, 60 no. 103 (Abb. 22) = Hinke, 97 Fig. 31 = Jastrow no. 43 = *VAS* I 36 (with the Pleiades); Seidl, 38 no. 61 (Abb. 7) = Hinke, 25 Fig. 10 = Jastrow no. 37 = *MDP* VI pl. 9 f.; VII pl. 26.

169. Seidl, 31 no. 40 (Abb. 4) = Hinke, 95 Fig. 30; see above.

170. More general lit. was collected by H.G.Gundel, *Weltbild und Astrologie in den griechischen Zauberpapyri* (1968) 29 note 27.
171. A.Livingstone, *Mystical...* (1986) 82 ff. VAT 8917 rev. 4-6. See also *ACh Suppl.* 2 no. 19:8.
172. See the remark by H.Hunger, *Or.NS* 56 (1987) 406: *lumāšu* could also be possible.
173. Livingstone, 90 f.
174. F.Saxl, "Beiträge zu einer Geschichte der Planetendarstellungen im Orient und im Okzident", *Der Islam* 3 (1912) 151-177.
175. Jean Seznec, *The Survival of the Pagan Gods* (1953) 156-160.
176. Seidl, 50 no. 84 Abb. 16 (the snake's head is broken off).

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Fig. 1



