ÖSTERREICHISCHE AKADEMIE DER WISSENSCHAFTEN
PHILOSOPHISCH-HISTORISCHE KLASSE
DENKSCHRIFTEN, 299. BAND

ASTRONOMICAL DIARIES AND RELATED TEXTS FROM BABYLONIA

Volume V

Lunar and Planetary Texts

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Lunar and planetary data for year 7 of Cambyses. I had the benefit of collations and comments by C. B. F. Walker: he is not responsible. however. for any errors found here.

Obv.

I

1 Year 7 of Cambyses.

2 Month I, the 1st (of which followed the 30th of the preceding month). ....: the moon became visible:

3 1 bēru sunset to moonset.

4 Night of the 13th. ....: moonrise to sunset: at 9°.

5 The 13th, moonset to sunrise: 2° 30′.

6 Night of the 14th. ....: sunset to moonrise: 8° 20′.

7 The 14th, sunrise to moonset: 7° 40′.

8 The 27th. ....: (moonrise to sunrise:) at 16°.

9 Month II. (the 1st of which was identical with) the 30th (of the preceding month: sunset to moonset:) 23°.
10 The 13th, moonset to sunrise: 8° 20′.
11 Night of the 14th, moonrise to sunset: 1°.
12 The 14th, sunrise to moonset: 1° 40′.
13 Night of the 15th, sunset to moonrise: 14° 30′.
14 The 27th. (moonrise to sunrise:) 21°.

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15 Month III. (the 1st of which was identical with) the 30th (of the preceding month, sunset to moonset:) 18° 30′.
16 Night of the 14th, moonrise to sunset: 9° 30′.
17 The 14th, moonset to sunrise: 4°.
18 Night of the 15th, sunset to moonrise: 5°.
19 The 15th, sunrise to moonset: 8° 30′.
20 The 27th, (moonrise to sunrise:) 15°.

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21 Month IV, the 1st (of which followed the 30th of the preceding month, sunset to moonset:) 27°.
22 The 13th, moonset to sunrise: 11°.
23 Night of the 14th, moonrise to sunset: 4°.
24 The 14th, sunrise to moonset: 4°.
25 Night of the 15th, sunset to moonrise: 8° 30′.
26 The 27th, (moonrise to sunrise:) 15°.

II

1 Month V. (the 1st of which was identical with) the 30th (of the preceding month, sunset to moonset:) 10+[x]°.
2 The 14th, [moonset to sunrise:] 3° 30′.
3 Night of the 15th, [moonrise to sunset:] 2° 20+[x]′.
4 The 15th, sunrise to moonset: 11°.
5 Night of the 16th, sunset [to moonrise:] 7° 30′.
6 The 27th, (moonrise to sunrise:) 22° 30′.

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7 Month VI, the 1st (of which followed the 30th of the preceding month, sunset to moonset:) 15° 40′.
8 The 13th, moonset to sunrise: 11°.
9 The 14th, sunrise to moonset: 4°.
10 Night of the 15th, moonrise to sunset: 1° 20′.
11 Night of the 16th, sunset to moonrise: 8° 40′.
12 The 28th, (moonrise to sunrise:) 15°.

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13 Month VII, the 1st (of which followed the 30th of the preceding month, sunset to moonset:) 16° 40′.
14 The 13th, moonset to sunrise: 6° 30′.
15 Night of the 14th, moonrise to sunset: 7° 30′.
16 The 14th, sunrise to moonset: 12°.
17 Night of the 15th, sunset to moonrise: 3°.

18 The 26th. (moonrise to sunrise:) 22°.

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19 Month VIII. (the 1st of which was identical with) the 30th (of the preceding month. sunset to moonset:) 12° 40′.
20 The 13th. moonset to sunrise: 15°.
21 The 14th. sunrise to moonset: 5°.
22 Night of the 15th. moonrise to sunset: 1°.
23 Night of the 16th. sunset to moonrise: 14°.
24 The 26th. (moonrise to sunrise:) 26°.

(the following paragraph extends over cols. II and III)
25 Month XII$_2$. the 1st (of which followed the 30th of the preceding month. sunset to moonset:) 19°. Night of the 13th. moonrise to sunset: [x]+1° 30′.
26 The 13th. moonset to sunrise: 5° 20′. Night of the 14th. sunset to moonrise: 3°.
27 The 14th. sunrise to moonset: 5° 40′. The 27th. (moonrise to sunrise:) 21°.

III

1′ The 1[3th. moonset to sunrise: ....]
2′ Night of the 1[4th. moonrise to sunset: ....]
3′ The 14th. [sunrise to moonset:] 5°.
4′ Night of the 15th. [sunset to moonrise:] 10° 20′.
5′ The 27th. (moonrise to sunrise:) 24°′.

6′ Month XI. the 1st (of which followed the 30th of the preceding month. sunset to moonset:) 22°.
7′ Night of the 13th. moonrise to sunset: 17° 20′.
8′ The 13th. moonset to sunrise: 4° 40′.
9′ Night of the 14th. sunset to moonrise: 1° 40′.
10′ The 14th. sunrise to moonset: 7°.
11′ The 27th. (moonrise to sunrise:) 17°.

12′ Month XII. (the 1st of which was identical with) the 30th (of the preceding month. sunset to moonset:) 15° 30′.
13′ The 12th. moonset to sunrise: 10° 30′.
14′ Night of the 13th. moonrise to sunset: 5° 20′.
15′ The 13th. there was no "moonset to sunrise" or "sunrise to moonset".
16′ Night of the 14th. sunset to moonrise: 10°.
17′ The 25th[sic]. (moonrise to sunrise:) 23°: the 27th. (moonrise to sunrise:) 12°.

Right edge

1′ [....] ....
2′ [(Mercury's) ....] first appearance ....

3′ [....] last appearance in the east in the
4′ [rear′] foot of Leo.

5′ [.... first appearance] in the west in ....
(break)
1″ [....] .... [....]
2″ [....] .... [....]
3″ Month XII, the 19th, last appearance in the west
4″ in the Ribbon of the Fishes.

Rev.
1 Year 7, month V, the 22nd, Jupiter's last appearance in front of Virgo.
2 Month VI, the 22nd, first appearance behind Virgo. Month X, the 27th, it became stationary in front of Libra. Month XII was intercalary.
3 Year 8, month II, the 25th, it became stationary in the area of Virgo. Month VI, the 4th, last appearance behind Libra.

4 Year 7, month III, the 10th, Venus' last appearance in the west in the beginning of Leo. Month III, the 27th,
5 first appearance in the east in the area of Cancer. Month XII, the 7th, last appearance in the east in the area of Pisces. Month XII was intercalary.
6 Year 8, month I, the 13th, first appearance in the west in the area of the Chariot.

7 Year 7, month VI, the 3rd, Saturn's last appearance in the area of Virgo. Month VII, the 13th, first appearance behind Virgo. Month XII was intercalary.
8 Year 8, month V, the 29th, last appearance.

9 Year 7, month II, the 28th, Mars' last appearance in front of Gemini.
10 Month VI, the 13th, first appearance in the foot of Leo. Month XII was intercalary. Year 8, month V, the 12th, it became stationary.
11 Year 9, month II, the 9th, last appearance behind α Leonis.

12 Year 7, month VII, the 1st, the moon became visible 3 cubits behind Mercury. Month VI, the 24th, Venus was 1+[x cubits'] above Mars.
13 Month VII, the 23rd, last part of the night, Jupiter was 3 cubits above the moon.
14 Month VII, the 29th, last part of the night, Venus on the north side [came near'] 2 fingers to Ju[piter].
15 Month VII, the 12th, Saturn was 1 cubit in front of Jupiter.
16 Month VII, the 11th, Mars came near to Jupiter 2 fingers.
17 Month VIII, the 2nd, Saturn passed 8 fingers above Venus.
18 Month X, the 5th, Mercury was ½ cubit behind Venus.

19 Year 7, month IV, night of the 14th, 1 ⅔ *bēru* after sunset,
20 the moon made a total eclipse, a little remained; the north wind blew.
21 Month X, night of the 14th, when 2 ½ *bēru* remained to sunrise,
22 the moon made a total eclipse; the south and north winds blew in it.

Comments

Obv.

I 2: DIR here (and in lines 4, 6, 8) is not in the usual position for a weather-related remark like "clouds"; also, it would be the only such remark in the whole text. It will therefore have a different meaning.

I 3: there are some scratches above the number 1, but 4 *bēru* is impossible. *ina* (whatever its correct reading) here and in line 4 stands before a measure, in line 8 before a day number. Its meaning is obscure to me. Note that with the other months the interval from sunset to moonset is just listed as a number.

12: At the end of the line, "Venus above Mars" is possible only if later writing conventions are accepted: *e* for "above" (otherwise *e-lat*), and AN for "Mars". This is possible of the tablet is assumed to be a later copy; but note that Mars is written ^{d}*Sal-bat-a-nu* in lines 9 and 16. Also, Venus was *not* above Mars on the date indicated. Kugler proposed to translate "maximum elongation of Venus" but could not read the signs.

19f.: eclipse of -522 Jul 17. This eclipse was rather far from being total.

21f.: eclipse of -521 Jan 10.

Right edge: this column contains the Mercury data which were considered missing by Kugler. Little remains, but it is just enough to see that a last visibility in the east in the [rear] foot of the Lion was mentioned. A first visibility in the west is to follow. The next entries are broken, but the space fits to accommodate four more phases until a last visibility in the west is partly preserved for XII 19 which agrees well with computation.

Rev.

Some of the entries on the reverse seem to be in error, as already noted by Kugler. I refrain from correcting the text.