

# ASTRONOMICAL DIARIES AND RELATED TEXTS FROM BABYLONIA

BY THE LATE ABRAHAM J. SACHS, COMPLETED AND EDITED BY HERMANN HUNGER

## Volume I Diaries from 652 B.C. to 262 B.C.

VERLAG DER OSTERREICHISCHEN AKADEMIE DER WISSENSCHAFTEN  
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Nebukadnezar II year 37. I II III [ ] X XI XII

Copy E. F. Weidner, AfO 16 Tf. XVII

Transcription, translation, and commentary: P.V. Neugebauer and E. F. Weidner, Ein astronomischer Beobachtungstext aus dem 37. Jahre Nebukadnezar II. (-567/66) (= Ber. über die Verh. der Königl. Sachs. Ges. der Wiss., Phil.-hist. Kl. Bd. 67/2. 1915.

*Obv'*

- 1: Year 37 of Nebukadnezar, king of Babylon. Month I (the 1<sup>st</sup> of which was identical with) the 30<sup>th</sup> (of the preceding month), the moon became visible behind the Bull of Heaven; [sunset to moonset:] .... [ ... ]
- 2: Saturn was in front of the Swallow. The 2<sup>nd</sup>, in the morning, a rainbow stretched in the west. Night of the 3<sup>rd</sup>, the moon was 2 cubits in front of [ ... ]
- 3: it rained? Night of the 9<sup>th</sup> (error for 8<sup>th</sup>), beginning of the night, the moon stood 1 cubit in front of  $\beta$  Virginis. The 9<sup>th</sup>, the sun in the west [was surrounded] by a halo
- 3: [ ... The 11<sup>th</sup> ]
- 4: or 12<sup>th</sup>, Jupiter's acronychal rising. On the 14<sup>th</sup>, one god was seen with the other; sunrise to moonset: 4°. The 15<sup>th</sup>, overcast. The 16<sup>th</sup>, Venus [ ... ]
- 5: The 20<sup>th</sup>, in the morning, the sun was surrounded by a halo. Around noon, .... rain PISAN. A rainbow stretched in the east. [ ... ]
- 6: From the 8<sup>th</sup> of month XII<sub>2</sub> to the 28<sup>th</sup>, the river level rose 3 cubits and 8 fingers, **b** cubits [ were missing] to the high flood [ ... ]
- 7: were killed on order of the king. That month, a fox entered the city. Coughing and a little *risitu*-disease [ ... ]
- 8: Month II (the 1<sup>st</sup> of which was identical with) the 30<sup>th</sup> (of the preceding month), the moon became visible while the sun stood there, 4 cubits below  $\beta$  Geminorum; it was thick; there was earth shine [ ... ]
- 9: Saturn was in front of the Swallow; Mercury, which had set, was not visible. Night of the 1<sup>st</sup>, gusty storm from east and south. The 1<sup>st</sup>, all day [ ... ]
- 10: stood [ ... in front ] of Venus to the west. The 2<sup>nd</sup>, the north wind blew. The 3<sup>rd</sup>, Mars entered Praesepe. The 5<sup>th</sup>, it went out of it. The 10<sup>th</sup>, Mercury [rose] in the west behind the [Little Twins ... ]
- 11: The 15<sup>th</sup>, ZI IR. The 18<sup>th</sup>, Venus was balanced 1 cubit 4 fingers below  $\alpha$  Leonis. The 26<sup>th</sup>, (moonrise to sunrise) 23°; I did not observe the moon. The 27<sup>th</sup>, 20+x [ ... ]
- 12: Month III (the 1<sup>st</sup> of which was identical with) the 30<sup>th</sup> (of the preceding month), the moon became visible behind Cancer; it was thick; sunset to moonset: 20°; the north wind blew. At that time, Mars and Mercury were 4 cubits in front of  $\alpha$  [Leonis ...]
- 13: Mercury passed below Mars to the East? ; Jupiter was above  $\alpha$  Scorpii; Venus was in the west opposite  $\vartheta$  Leonis [ ... ]
- 14: 1? cubit. Night of the 5<sup>th</sup>, beginning of the night, the moon passed towards the east 1 cubit <above/below> the bright star of the end of the Lion's foot. Night of the 6<sup>th</sup>, beginning of the night, [ ... ]
- 15: it was low. Night of the 8<sup>th</sup>, first part of the night, the moon stood 2½ cubits below  $\beta$  Librae. Night of the 9<sup>th</sup>, first part of the night, the moon [stood] 1 cubit in front of [ ... ]
- 16: passed towards the east. The 9<sup>th</sup>, solstice. Night of the 10<sup>th</sup>, first part of the night, the moon was balanced 3½ cubits above  $\alpha$  Scorpii. The 12<sup>th</sup>, Mars was **b** cubits above [  $\alpha$  Leonis ...]

17: [ .... ] The 15<sup>th</sup>, one god was seen with the other; sunrise to moonset: 7<sup>o</sup>30'. A lunar eclipse which was omitted [.... ]

18: [ .... the moon was be]low the bright star at the end of the [ Lion's ] foot [ .... ]

19: [ .... ] .... [ .... ]

'Rev.

1': [ .... ] .... first part of the night .... the moon was ]

2': 1 cubit [above/below] the middle star of the elbow of Sagittarius .... [ .... ]

3': When 5<sup>o</sup> of daytime had passed, the sun was surrounded by a halo. The 19<sup>th</sup>, Venus was 2½ cubits below ? Capricorni. Night of the [ .... ]

4': That month, the equivalent (of 1 shekel of silver was): barley, 1 kur 2 sut; dates, 1 kur 1 pan 4 sut; mustard, 1 kur .... [ .... ]

5': Month XI (the 1<sup>st</sup> of which was identical with) the 30<sup>th</sup> (of the preceding month), the moon became visible in the Swallow; sunset to moonset: 14<sup>o</sup>30'; the north wind blew. At that time Jupiter was 1 cubit behind the elbow of Sagittarius [ ... ]

6': The 4<sup>th</sup>, the river level rose. The 4<sup>th</sup>, Venus was balanced ½ cubit below (*sic*) Capricorn. Night of the 6<sup>th</sup>, first part of the night, the moon was surrounded by a halo; Pleiades, the Bull of Heaven, and the Chariot [stood in it .... ]

7': the moon was surrounded by a halo; Leo and Cancer were inside the halo;  $\alpha$  Leonis was balanced 1 cubit below the moon. Last part of the night, 3<sup>o</sup> of night remaining, [ .... ]

8': sunrise to moonset: 17<sup>o</sup>; I did not watch. The sun was surrounded by a halo. From the 4<sup>th</sup> to the 15<sup>th</sup>, the river level rose 1½ cubits. On the 16<sup>th</sup>, it receded. Night of the 18<sup>th</sup> (and) the 18<sup>th</sup>, rain PISAN DIB [ .... ]

9': when the [ .... ] of Bel was cut off from its place, two boats .... went away?. The 2<sup>nd</sup>, overcast. Night of the 23<sup>rd</sup>, [ .... Mars?]

10': was balanced above (*sic*) the small star which stands 3½ cubits behind Capricorn. Night of the 29<sup>th</sup>, red glow flared up in the west, 2 double-[hours .... ]

11': barley, 1 kur?; dates: 1 kur 1 pan 4 sut; mustard, 1 kur 1 pan; sesame, 4 sut; cress, [ .... ]

12': Month XII (the 1<sup>st</sup> of which followed the 30<sup>th</sup> of the preceding month), the moon became visible behind Aries while the sun stood there; sunset to moonset: 25<sup>o</sup>, measured; earth shine; the north wind blew. At that time, Jupiter [ .... Mercury and Saturn, which had set]

13': were not visible. The 1<sup>st</sup>, the river level rose. Night of the 2<sup>nd</sup>, the moon was balanced 4 cubits below  $\eta$  Tauri. Night of the 3<sup>rd</sup>, beginning of the night, 2½ cubits [ .... ]

14': From the 1<sup>st</sup> to the 5<sup>th</sup>, the river level rose 8 fingers; on the 6<sup>th</sup> it receded. Night of the 7<sup>th</sup>, the moon was surrounded by a halo. Praesepe and  $\alpha$  Leonis [stood] in [it .... ]

15': the halo surrounded Cancer and Leo, it was split towards the south. Inside the halo, the moon stood 1 cubit in front of <  $\alpha$  Leonis >, the moon being 1cubit high. Night of the 10<sup>th</sup>, first [part of the night .... ]

16': Night of the 11<sup>th</sup>, overcast. The 11<sup>th</sup>, rain DUL. Night of the 12<sup>th</sup>, a little rain, .... The 12<sup>th</sup>, one god was seen with the other, sunrise to moonset: 1<sup>o</sup>30'; .... [ .... ] Mercury]

17': was in front of the "band" of the Swallow, ½ cubit below Venus, Mercury having passed 8 fingers to the east; when it became visible it was bright and (already) high. 1 ? [... Saturn]

18': was balanced 6 fingers above Mercury and 3 fingers below Venus, and Mars was balanced **b** cubits below the bright star of < .... > towards [ ... ]

19': ....., ....., The 21<sup>st</sup>, overcast; the river level rose. Around the 20<sup>th</sup>, Venus and Mercury entered the "band" of the Swallow. From [ .... Jupiter, ]

20': which had passed to the east. became stationary. At the end of the month it went back to the west.

Around the 26<sup>th</sup>, Mercury and Venus [came out] from the "band" of Anunitu [ .... ]

21': the river level receded 8 fingers. That month, on the 26<sup>th</sup>, a wolf entered Borsippa and killed two dogs; it did not go out, it was killed [ .... ]

Lower edge

1: Year 38 of Nebukadnezar, month I, the 1<sup>st</sup> (of which followed the 30<sup>th</sup> of the preceding month): dense clouds so that [ I did not see the moon .... ]

2: Year 37 [ .... ]

## Comments

1: The last sign visible can be any number from 14 to 18.

5: UGU-ME occurs also in rev. 16' and 19'. It cannot designate a part of the day (as suggested by P.V. Neugebauer and E. Weidner) because in rev. 16 it appears during the night as well as during daytime. It is rather another weather phenomenon, mentioned side by side with rain.

10: ALLA is used here not for the whole zodiacal constellation Cancer but only for Prasesepe since Mars can pass through it within two days, as was remarked by P.V. Neugebauer and E. Weidner.

11: A translation "was balanced" for LÁL was proposed by A. Sachs. This expression seems to occur mostly (but not only) in those cases where both celestial bodies compared have the same longitude. It is restricted to the oldest diaries preserved so far. It probably went out of use because it was redundant: if no difference in longitude was mentioned one could conclude that there was none. - *sin* may be a mistake for the missing sign KUR "moonrise to sunrise".

13: One is inclined to regard *ser-tam* DIB as an equivalent of *ana* NIM DIB, but this is rendered uncertain by the occurrence of the latter expression in line 14 and elsewhere; in addition, *ana serti* is expected.

5': The "elbow of Sagittarius" was identified as the cluster of stars around  $\pi$  Sagittarii by P.V. Neugebauer, *op.cit.*, 50f.

13': in the broken part at the end of the line, a reference to the moon being close to the Normal Star  $\alpha$  Tauri is expected.

15': The broken star name must have been  $\alpha$  Leonis.

17': According to computation, Saturn has to be restored at the end of the line.

## Calendar

Nebukadnezar II	year 36	XII <sub>2</sub> 0	-567	Mar 23/24
	year 37	I 0 = XII <sub>2</sub> 29		Apr 21/22
		II 0 = I 30		May 21/22
		III 0 = II 29		Jun 19/30
		X 0 = IX 30	-566	Jan 13/14
		XI 0 = X 29		Feb 11/12
		XII 0 = XI 30		Mar 13/14
	year 38	I 0 = XII 29		Apr 11/12