

ASTRONOMICAL
DIARIES AND RELATED TEXTS
FROM BABYLONIA

Volume V

Lunar and Planetary Texts

EDITED BY
HERMANN HUNGER

INCLUDING MATERIALS BY
ABRAHAM J. SACHS

WITH AN APPENDIX BY
JOHN M. STEELE



APPENDIX: THE ECLIPSE TEXTS

by John M. Steele

Text 34 appears to contain a report of an observation of a lunar eclipse which is unfortunately badly damaged and has not yet proved datable. Unusually, this report is written at right angles to the other lines of the tablet. In addition to this apparent eclipse observation, Text 34 contains three columns that continue from obverse to reverse and give regnal years (each separated from the previous one by 18 years), the royal name, and the number 18 which is well known as the Babylonian terminology for the Saros period. Thus it has become known as the 'Saros Tablet.'¹¹ The preserved text begins with year 38 of Nebuchadnezzar II and covers the period down to year 213 of the Seleucid Era. However, as noted by Kugler, it is conceivable that the text originally began with the accession year of Nabonassar in - 746. As the text makes explicit reference to the Saros period, it seems most likely that it is somehow connected with eclipses, particularly in light of the apparent observation of a lunar eclipse recorded on the same tablet. In all probability, the years refer to eclipse possibilities separated by one Saros. Assuming these are lunar eclipses, then if the text did originally extend back to - 746, which is not yet proven, it would begin with the eclipse observed in month XII of the year of Nabonassar's accession. This is the same eclipse as is probably reported in line 2 of text 1, and is the first entry in our reconstruction of the large compilation (texts 2, 3, and 4). Moving on by one Saros for each line in the Saros Tablet, the year of the eclipse possibility would increase by 18 and the month would gradually progress from XII to I through to XII again. Only when the month of the eclipse possibility changes from XII or XII₂ to I would the year increase by 19 instead of 18. This would happen in - 656 (or perhaps in - 674 as our knowledge of the calendar is uncertain at this early period). Assuming that the text took into account the correction to the way eclipse possibilities were distributed within a Saros period which took place in about - 250,¹² then it could continue down to year 213 of the Seleucid Era by simply adding 18 years onto the previous year number. However, the eclipse possibility in this year was in month XII₂ and moving on by one Saros we would get an eclipse possibility in month I of year 232 of the Seleucid Era, nineteen years after the preceding year number. It therefore seems significant that the text ends at this point. Perhaps the text did not begin with the eclipse in month XII of - 746, but rather in month I of - 656 or - 674. The text would therefore relate to eclipse possibilities which gradually moved throughout the year from month I to month XII₂, always at an interval of 18 years from the preceding line.

¹¹ For previous discussions, see J. N. Strassmaier, *ZA* 7 (1892), 198-201 and *ZA* 8 (1893), 106-107, and F. X. Kugler, *SSB II*, 362-366.

¹² This correction has the effect of increasing the date of eclipse possibilities in this Saros series by one month. Other corrections to the Saros were also introduced but would not have affected these particular eclipses. For details, see Steele, *op cit*.