THE IMPACT OF EMPIRE ON MARKET PRICES IN BABYLON
in the Late Achaemenid and Seleucid periods,
ca. 400 – 140 B.C.

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1. Introduction

With a total of more than 2,000 observations of the silver equivalents of six different commodities, among which the staple foods barley and dates, the Astronomical Diaries (henceforth ADs, or Diaries) and the Late Babylonian Commodity price lists provide us with one of the largest economic datasets for any pre-industrial society in world history. This wealth of material has not failed to elicit scientific interest, and two monographs as well as several smaller articles have already been dedicated to an analysis of the price equivalents of the ADs. The first systematic investigation of this price series was A. Slotsky’s The bourse of Babylon from 1997, it was followed in 2001 by A history of Babylonian prices in the first millennium BC – I. Prices of basic commodities by P. Vargyas. The former certainly chose for a more innovative approach. A trained economist, A. Slotsky attempted a statistical examination of the long-term trends in the datasets of the individual commodities by means of a regression analysis. P. Vargyas on the other hand provided a discussion of both short-term and long-term fluctuations, but employed a much cruder methodology and restricted himself mainly to simple discussions of changes in the monthly equivalents and of centennial averages.

However, these investigations have met with severe criticism. An important review of both studies by R. van der Spek and C. Mandemakers (2003) found fault in particular with the failure of both authors to convert the silver equivalents into genuine prices prior to analysis which in both cases lead to several errors in the interpretation, and with their non-consideration of the impact of political history on commodity prices. An elaboration of the former point has been provided in the abovementioned review (especially 523-524 and 535-537), and we shall thus confine us to a brief example. Between February and April 278 BC, the equivalent of barley rose from 156 to 198 litres for one shekel of silver. This rise was in all probability caused by an improved supply situation as the barley harvest in Babylonia took place in April. The difference of 42 litres corresponds to a relative increase of 27% in the equivalent, however, the decrease in the actual price (shekel per ton or kurru of barley) amounts to only 21%. Hence, sticking to equivalents also conveys a flawed idea of the magnitude of actual price increases or decreases. Furthermore, a conversion of the equivalents of the ADs into genuine prices will also facilitate comparisons with other historical periods, from Mesopotamia or other regions.

It is the main aim of this thesis to add a historical perspective to the price data contained in the Astronomical Diaries and the commodity price lists. Rather than providing a mere statistical description of the data, it shall be attempted to explain the general trends found in commodity prices as well as the deviations thereof. Particular attention will be paid to exogenous shocks, hence historical events the occurrence of which had tangible repercussions in the price data. To be sure, there have already been first assessments of the impact of political history and ecological phenomena on the Babylonian commodity prices.

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1 The Astronomical Diaries (henceforth ADs) have been published in several volumes by H. Hunger and A. Sachs, relevant for this investigation are ADART I (1988), ADART II (1989), and ADART III (1996). The tablets from these volumes are quoted with the siglum ‘AD (astronomical year recorded)’. The commodity price lists have been published by Slotsky/Wallenfels 2009, the texts contained are quoted with the siglum S/W (number of text).
2 This principle is best understood by means of a fictitious example of a decrease in the equivalent from, say 60 to 30 litres per shekel, which is a halving (-50%) of the equivalent but a doubling (+100%) of the price. Also, as opposed to modern price quotations the Babylonian way of recording prices tends to emphasize particularly low prices in graphic representations, see Müller 1995/96, 164.
3 Shekels per kurru (180 litres) have been chosen as price unit in order to ensure easy comparison with the price data from the Neo-Babylonian period analyzed by M. Jursa 2010, which the most obvious reference point.
4 Cf. the criticism of Slotsky 1997 by van der Spek/Mandemakers 2003, 523.
Pertinent examples are several papers by R. van der Spek on the impact of warfare and royal policy (especially 2000), a study by G. Müller (2003/2004) on the influence of climate as visible in the changing river level of the Euphrates, or a contribution by the present author (*Locusts*) on the detrimental effect of locust invasions. Furthermore, investigations concerned with the structural background to the price data have been undertaken, a particularly popular question being the level of market integration and trade in basic commodities within and beyond Babylonia (van Leeuwen/van der Spek *Integration* and van der Spek *Volatility*). The following analysis of the price data seeks to advance our knowledge of the impact of exogenous shocks by investigating in a systematic manner which types of events influenced commodity prices to what extent in Late Achaemenid, Early Hellenistic and Seleucid Babylonia. To this end, hitherto uncharted methodological territory in Ancient Near Eastern Studies, namely regression analysis employing dummy variables shall be employed alongside a more traditional historical investigation of the price data in order to integrate historical events in a formal statistical model. Thereby, it is hoped that a piece of genuine “economic history with economy” will be achieved.

Rather than discussing one selective type of potential impact or one particular period only, and in order to avoid oversimplifying monocausal attempts at explanation, we shall opt for a comprehensive approach and try to integrate as much information as possible. To this purpose, both the Classical sources and the cuneiform evidence have been scoured for relevant facts. Before going *in medias res* it is thus apposite to briefly discuss the most yielding sources. In the first place, the ADs have to be mentioned. Not only do they contain the bulk of the price data, their historical sections equally provide us with precious information on all sorts of events that occurred in Babylonia in the second half of the first millennium BC. They are by far the richest source at our disposal, although often in a very fragmentary state, and constitute the backbone of any investigation into the history of Late Achaemenid and Hellenistic – Seleucid and Parthian – Babylon. They often contain information that can be integrated with what is known from other, later texts, but in at least equal measure they record events that were hitherto unknown to historians. To give just one brief example, the local unrests during the 230s BC and in the late 140s BC are not known from other sources, but can reasonably be expected (and in fact will be shown) to influence the prices of the basic commodities. For all these reasons, and in order to depart from the most reliable base possible, it has been decided to draw up a historical commentary for the historical sections of the ADs, which is published as Appendix 1. This work has much benefitted from the excellent *editio princeps* by H. Hunger (Hunger/Sachs 1988, 1989, 1996), without which this investigation could not have taken place in the present form. Contrary to the edition of Del Monte 1997, also the Diaries from the Late Achaemenid period have been added into this commentary. Also, the tablets have been collated and measured in order to establish a frame for eventual completions of broken tablets. For each Diary, a description of the tablet(s) and full bibliographical references are provided. The main difference to the earlier commented edition, however, lies in the amount of information provided. Also fragments that have hitherto been neglected because judged unfruitful have been systematically commented upon and contextualized in order to maximize our knowledge of the political history of Late Achaemenid and Hellenistic Babylonia, and its socio-economic background. Eventual economic repercussions of the events recorded in the historical passages have received particular attention already in the commentary. Furthermore, chapter 2 will respond to a shortcoming addressed by C.

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6 Cf. the criticism in Morris/Manning 2005, 3.


8 Additionally, historical portions of the ADs have been discussed in several articles on Late Babylonian history, see, e.g., van der Spek 1998 and 2003. Also the reconstruction of the political history of Late Achaemenid and Hellenistic Babylonia in Boiy 2004 draws heavily upon the information provided by the ADs.
Zaccagnini (1997, 375), namely the necessity to try and understand the price quotations of the Diaries in their literary context, especially the reasons for their inclusion into this particular corpus. To this purpose, the genre as such will be analyzed and the question regarding its purpose pursued (2.1). Internal developments will be traced and their consequences for the envisaged economic analysis briefly discussed (2.2).

Another important category of texts is the series of Babylonian chronicles from the Hellenistic period (BCHP), published online at http://www.livius.org/babylonia.html.9 These texts bear great similarity to the historical sections of the ADs as regards terminology and composition and likewise give valuable insight into the political vicissitudes of Seleucid Babylonia. With one exception in the so-called Chronicle of the Successors (BCHP 3 = ABC 10), which records the long-lasting conflict between various Greek generals in the aftermath of Alexander the Great’s death in 323 BC, these texts do not provide us with price observations. Similarly, also the works of Greek and Roman authors focus strongly on political history. The most yielding work is the Bibliotheca historica by Diodorus of Sicily. Of particular relevance are his books XIV to XVI on Late Achaemenid history, book XVII on Alexander the Great, and books XVIII and XIX on the history of the Successors, with many events taking place in Babylonia. The later books are very fragmentary only, but still contain occasionally interesting information. The best documented decade is certainly the period of Alexander the Great, whose feats elicited a wealth of literature such as Arrian’s Anabasis (Alexandri) and the Historiae Alexandri Magni of Q. Curtius Rufus. Of course, also the results of modern scholarship need to be duly considered in any attempt to reconstruct the impact of political history on prices, especially as regards controversial subjects. A good case in point is the notoriously uncertain chronology of events during the period of warfare between the diadochi in the aftermath of Alexander the Great’s death in June 323 BC.10 Important reference works for the contextualization of price data and historical information contained in the primary sources include Will 19792 and 19822, Bosworth 1988, Briant 1996, and Boiy 2004.11

A final pertinent group of cuneiform texts are the legal and administrative documents from Babylon and cities in its immediate vicinity, most importantly Borsippa.12 These texts are especially relevant because they give us insight into economic transactions of the temple households (of the Esangila in Babylon and the Ezida in Borsippa) and hence shed light on the prevailing economic structures within which of the prices recorded in the ADs need to be considered. Unfortunately, this material is by no means comparable in terms of both density and variety of aspects covered to the documentation of the ‘long 6th century’ so profitably analyzed by M. Jursa and others.13 Not only is thus the outlook of the present work necessarily different because of the diverseness of the source material, but the lack of pertinent information also means that fundamental parameters of the economy of Hellenistic Babylonia have to remain somewhat elusive. Chapter 2.3 discusses what little material we have at our disposal from the Hellenistic period and aims at its contextualization in the light of what is known about economic structures in the 6th century BC.

Chapter 3 then proceeds to a price history of Late Achaemenid and Seleucid Babylonia. This chapter is partly descriptive in that it traces the development of the prices of the various commodities over time. Also the basic characteristics of the dataset of prices, in the main the mean price and the average deviations thereof, shall be discussed.

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9 See also the extensive commentary provided on this homepage. Also the editions of Grayson 1975 and Glassner 2004 contain several of the Hellenistic chronicles. However, in the last years important new texts such as BCHP 14 describing the establishment of a Greek colony under a king Antiochus have come to light.

10 See Boiy 2007 for an exhaustive discussion of the problems and a convincing proposal for a solution.

11 See also Schober 1981 for the early Hellenistic period. Furthermore the monographs of Bickerman 1938, Sherwin-White/Kuhrt 1993 and Capdetrey 2007 on the Seleucid Empire deserve mention here.

12 To the text copies in CT 49, which constitute the bulk of published material from the Late Achaemenid and Hellenistic periods from Northern Babylonia one can add several scattered text publications e.g. in Stolper 1993, Kessler 2000, and Jursa 2002. A synthesis of Late Achaemenid and Hellenistic archival texts from Northern Babylonia is currently being prepared by J. Hackl (Vienna).

The price data was organized according to four different periods (Late Achaemenid, Early Hellenistic, Early and Late Seleucid), which exhibit each a different structural background, and indeed already in this chapter the historical background will be shown to have exerted a strong influence on the price data. The Hellenistic period for example, was characterized by continuous warfare within but also beyond Babylonia, and a high level of monetization made possible by the capture of the treasures of the Achaemenid kings. It is thus not unexpected that prices during these three decades are significantly higher compared to the preceding and subsequent periods, a fact that needs to be duly accounted for in any assessment of the long-term development of prices in Babylonia. In addition to the descriptive part each subchapter also provides analytical sections. In the first place, it has been sought to explain the overall movement of prices in terms of variations in the three major price-determining factors supply, demand, and amount of money in circulation. Also, in the first subchapter dealing with the price data from the Late Achaemenid period, some basic comments on statistical description and the pitfalls encountered have been made. Another important field of inquiry in this chapter was the shift in the relative prices of dates and barley taking place in the early 2nd century BC. Various earlier attempts at explanation as well as hitherto unmentioned factors have been discussed, and the explanatory strength of the different approaches evaluated.

Chapters 4 and 5 then deepen the issue of price developments under the impact of historical events. Chapter 4 is dedicated to a discussion of outliers, hence particularly high or low prices, and their relationship to political history. Peak and trough prices visible in the graphs of chapter 3 shall be explained in the light of available information from the ADs and other sources. The results obtained are then confirmed and expanded in Chapter 5, maybe the methodologically most innovative part of this thesis. A regression analysis was run on the Babylonian price data, with the information on political history modelled in form of dummy variables. Two different approaches – one summarizing the historical data in form of political episodes, the other focussing on the basic factors underlying price oscillations – were taken and their results compared, also to the findings of the preceding chapters. The repercussions of certain categories of historical events in the price data could thus be shown also in a formal way. The final chapter 6 employs the Babylonian price records in an analysis of the extent of storage of the basic foodstuffs barley and dates in Hellenistic Babylonia. This subject is interesting also in so far as it can be approached by means of diverse cuneiform sources and allows the integration of the price data from the ADs and commodity price lists with administrative documents and other types of records. For further preliminary remarks, we refer to the introductory sections to each chapter.

The research for the thesis took place within the framework of the project "On the efficiency of markets for agricultural products in pre-industrial societies: The case of Babylonia c. 400 – c. 60 BC, funded by the Netherlands Organization for Scientific Research (NWO). A second PhD thesis by J. Huijs is dedicated to the price data of the Parthian period. The time frame of the present investigation is thus the period between the accession of Artaxerxes II to the Achaemenid throne (404 BC) and the Parthian conquest of Babylonia (141 BC). 14 During the term of abovementioned project, several issues that will recur in this thesis have been treated more exhaustively in form of articles and congress papers, most notably the impact of climate on Babylonian commodity prices, and locust invasions as another category of exogenous shocks. 15 The results of these investigations are incorporated where appropriate, but these topics important as they may be did not receive separate treatment in this thesis. Likewise, subjects that had received ample treatment by earlier research – such as for example the nature of the commodities the prices of which are recorded in the ADs (for which see e.g. Slotsky 1997, 23-42) – have not been reproduced in detail or re-examined unless there were sharp disagreements in understanding.

14 The accession of Artaxerxes II suggests itself as starting point because before the 4th century BC, the number of extant price observations is too small to lend itself to analysis, see also Table 3.1.1.
15 Climate theory is applied to the price data of especially the 2nd century BC in van Leeuwen et al., Climate, locust invasions were dealt with in Pirngruber, Locust invasions.
2. The sources and their context

2.1 The Astronomical Diaries: Structure, purpose, and development

Before proceeding to an analysis of the price data, it is appropriate to elucidate the nature of text genre containing both the prices and the lion’s share of historical information on Late Achaemenid and Seleucid Babylon. In the terminology of Abraham Sachs, the Astronomical Diaries constitute a sub-group of the Non-Mathematical Astronomical Texts, their Akkadian designation was naṣāru ša ginê, “regular observation”. In the words of Hermann Hunger and David Pingree, “a Diary is a record of observed phenomena carefully chosen from the realms of the celestial, the atmospheric, and the terrestrial”. A standard Diary was clear-cut divided into several sections: their modern designation is derived from the first, and usually most extensive section, an astronomical-meteorological part containing information on the course of the moon through the ecliptic, of the five planets visible to the free eye (Jupiter, Venus, Mars, Saturn, and Mercury, usually in this fixed sequence) and of other astronomical phenomena such as solstices, equinoxes and meteors, but which equally registered the weather conditions and climate in Babylon. The second section contained information on the prices of six basic commodities, barley, dates, sesame, cress, kasû, and wool, and the third section recorded the fluctuation of the river level of the Euphrates. The interest of the fourth section returned to celestial matters, describing briefly in which zodiacal sign(s) the planets were positioned in the respective month. It is only after this summary of the planetary positions, that a historical section – not always but quite frequently – was added. The scheme just presented has the advantage of being true to the original structure found on the tablets themselves but does not differ as regards content from the division suggested by H. Hunger in the introduction to the first volume of his edition of the ADs (ADART I, 13), in which he divided the information contained in the Diaries into the following rubrics: moon – planets – solstices and equinoxes, Sirius phenomena – meteors, comets, etc – weather – prices of commodities – river level – historical events.

The purpose of writing these ADs is still unclear; broadly speaking one can distinguish two different points of view. The first, suggested by H. Hunger and D. Pingree, and followed among others also by A. Slotsky is to consider the Diaries on the basis of the astronomical information recorded as “intended from the beginning to be the basis of a mathematical, predictive system”, the beginning being most likely the reign of Nabû-nāṣîr (747-734 BC). The main argument for their conclusion is that the Diaries – as opposed to the celestial omen collection Enûma Anu Enlil – recorded almost exclusively phenomena that were periodic and sometimes indeed computed rather than observed. The fact that these events were conceived as being predictable deprived them of any ominous meaning, the main thrust of the Diaries was thus mathematically-astronomically. The second approach to this corpus, represented particularly by F. Rochberg (-Halton) and R. van der Spek assumes a much stronger relationship to astrology and divination; in the latter’s words the Diaries “constituted a kind of source-book and a scientific foundation of divination, e.g. as a source-book for horoscopes and omina” (Van der Spek 1993, 94).

Two remarks are in order here: Firstly, as has been convincingly shown by F. Rochberg, the distinction between astronomy and astrology into two strictly separate fields, the former pertaining to science and the second to superstitious beliefs (or religion) is an entirely modern phenomenon and best avoided when dealing with Mesopotamian culture as misleading anachronism: both aspects were thus of relevance for the

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16 This (overall accepted) classificatory system of astronomical texts goes back to the influential article Sachs 1948. For a convenient introduction to the history and origin of the tablets see Slotsky 1997, 1-3.
17 Hunger/Pingree 1999, 141.
18 Hunger/Pingree 1999, 144 and 139-144. For the so-called Era of Nabonassar cf. Hallo 1988.
Secondly, David Brown has shown that the contention of Hunger and Pingree that with the exception of lunar halos all of the phenomena considered ominous in Enūma Anu Enlil are conspicuously absent from the ADs is in need of qualification. He concludes that the composition of the Diaries was heavily influenced by what he calls the Enūma Anu Enlil-paradigm: divinatory requirements, to say it more bluntly. The fact that the same texts also provide information that goes beyond the basic requirements is explained with the emergence of a new scientific paradigm, the Prediction of Celestial Phenomena (PCP)-paradigm, in the 8th and 7th centuries BC (thus at the same time the ADs are assumed to have emerged), the aim of which was in the first place the prediction of the occurrence of ominous phenomena. In a word, his explanatory model interprets the emergence of mathematical astronomy against the background of the time-honoured Mesopotamian science of celestial divination; it is thus all the more difficult to avoid “the existence of a divinatory purpose behind the Diaries”.

Especially if one looks at more practical texts, notably the letters and reports written by Assyrian and also Babylonian astronomers to Assyrian kings rather than focussing on the scientific treatises, which the omen collections are assumed to be, it becomes immediately clear just how much of the information contained in the ADs was of actual divinatory use. This is, of course, not to say that the Babylonian scholars in the service of the Assyrian kings – particularly Esarhaddon and his son and successor Assurbanipal – can be shown to have made use of the Diaries. It is nonetheless interesting to see just how much information of the purely observational records resurfaces in actual divinatory practice, all the more so since both of these text categories, which after all overlap in time, were presumably written by the same professional groups, the Ṭupšarru Enūma Anu Enlil.

If one takes as example the reports sent by the Babylonian astrologer Nergal-ētīr, who was active during the reign of Esarhaddon (680-669 BC), the first thing one notices is that of the 44 reports known from this astrologer-astronomer, 26 deal with or in most cases are even exclusively dedicated to the appearance of the New or the Full Moon and the day of the month on which they appear – both events which also occupy a prominent position in the ADs. Other phenomena in his reports that might have been derived from an Astronomical Diary are lunar eclipses, first visibilities of planets (attested are Venus, Jupiter, and Mercury), the observation of planets in a halo of the moon, and even one non-astrological ominous event, the occurrence of a monstrous birth, an izbu. Even more striking is the report SAA VIII 207 (= ABL 1408), which is written in the Neo-Assyrian ductus but reads like a direct excerpt of lunar phenomena from an AD: (Lines 3-r1, translation of H. Hunger) [In the month …, on the 1st day], the moon became visible […]. The night of the 11th day [was cloudy]; in the morning [watch] the moon came out. [In the daytime of] the 11th day there was much […], the moon set. [The night] of the 12th day

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19 Rochberg 2004, especially 40-41 and 259-265. She equally refutes the notion that predictable events eo ipso lose all ominous significance, cf. 263.
20 Hunger/Pingree 1999, 144; cf. also Rochberg 2004, 263.
22 This categorization of texts with divinatory interest goes back to the groundbreaking study Bottéro 1974, 74-86, esp. 81. For the notion of commentary texts such as Šumma Sin ina āmartīšu as middle ground between theory as represented in the compendia, and the practical application reflected in the letters see Veldhuis 2010.
23 See Koch-Westenholz 1995, 54-73, Brown 2000, 33-53 and Rochberg 2004, 219-236 on the activities, status, and other aspects of these scholars. At least one Babylonian astrologer in service of a Neo-Assyrian king by the name of Šumaya can explicitly been shown to have been a Ṭupšarru Enūma Anu Enlil (SAA VIII, 499 r4-5). See also the verdicts of the kiništu of the Esangila CT 49, 144 and 186 (the former dating from the Arsacid period) on the appointment of astrologers who explicitly had to prove to be capable of performing the observations (naṣūru); cf. van der Spek 1985, 548-555.
24 The reports of Nergal-ētīr are published as numbers 244 -287 in SAA VIII, referring to either New or Full Moon are No.s 244, 251, 252, and 255-276.
25 See Worthington 2006 on the language of these astrological reports.
[was cloudy; in] the morning [watch] the moon came out. [The daytime of the 1]2th day was cloudy, the setting of the moon was not visible.

Summarizing, it is inevitable to consider the Astronomical Diaries as being intimately connected to celestial (and other kinds of) divination. Also the inclusion of data which extend beyond the more immediate purposes of divination – i.e. data considered necessary to predict ominous events – can be very well explained against the background of D. Brown’s paradigm shift. This drive to include a wide range of cyclical (and sometimes indeed predicted) phenomena might have also provided a rationale for the recording of the river level and the commodity prices, according to H. Hunger and D. Pingree.26 Both categories are indeed cyclical in a certain sense: the commodity prices – at least those of the staple foods barley and dates – fluctuated seasonally, with a low point in the months after the respective harvests, followed by an increase over time arriving with the highest shortly before the next harvest. The existence of seasonal fluctuation in commodity prices has been denied by Slotsky 1997; however, several investigations employing different methodologies have proved her wrong since and removed serious doubts about this issue.27 Similarly, as D. Brown has shown,28 the level of the Euphrates typically reached its peak in spring between March and May, and its low point after the scorching summer heat between August and October. To this, one can now add the findings of G. Graßhoff attesting to a remarkable regularity of the most important meteorological phenomena, in particular of the distribution of rainfalls within a year and the wind directions related to them.29

2.1.2 The development of the historical sections

The river level is also particularly interesting as it is the only of the previously identified categories for which it has been shown that it changed substantially over time. It is only from year -293 that its fluctuations are not only recorded in cubit and fingers but also measured against a fixed point, the *na*-gauge.30 It was, however, already before that period registered in its typical position after the summary of the planetary positions and before an eventual historical section, the earliest attestation being AD -384. Before that date, then, the changes in the level of the Euphrates were inserted among the astronomical day-to-day observations, as emerges from the oldest extant ADs, -651 and -567. This pattern of internal development, in the case of the recording of the river level maybe also influenced by some kind of technical progress,31 is comparable to what is found with regards to the historical sections. The first thing that catches the eye is the fact that their contents are, as has already often been noted, rather diversified, ranging from events of empire-wide importance such as the initial stage of the First Syrian War (AD -273B) to affairs of purely local interest such as the performance of regular sacrifices in the Esangila-temple in Babylon (e.g. AD -226A). Additionally, these historical sections not only display a clear tendency to become longer and more exhaustive during the 2nd century BC, and especially in the Parthian period (as examples one might quote ADs -140C or the famous “prophet-text” -132B), but also occur with higher frequency in later times. This latter claim can be substantiated by dividing the number of ADs with an historical section by the total number of extant Diaries. Thus calculating the ratio, we are able to account for the fact that the 2nd century BC is better covered by Astronomical Diaries than the 4th and 3rd

26 Hunger/Pingree 1999, 140.
27 Temin 2002 demonstrated the existence of seasonal fluctuation for barley and dates by means of a regression analysis employing seasonal dummies, whereas Vargyas 1997 and 2002 as well as van der Spek/Mandemakers 2003 discussed in a more traditional manner all instances of years with pre- and post-harvest prices extant. See also Müller 1995/96 and most recently Földvári et al. 2011.
28 Brown 2002, see conveniently graph 1 (42).
29 Graßhoff 2010, in particular figures 4 and 5.
The basic pattern remains fundamentally unchanged.

producing Diaries (thus ignoring the variants of a same Diary when extant), the difference would diminish

According to their calculation, 82 years are covered in the 2nd century BC, but

If we would calculate the ratio of the years producing Diaries with historical sections to the total number of ADs

Whereas in the earlier periods not even half of the tablets had an historical section, in the Parthian period almost three quarters of the tablets were provided with one.

Table 2.1: The ratio of total fragments to fragments containing historical sections

<table>
<thead>
<tr>
<th>Period</th>
<th>Total</th>
<th>With historical section</th>
<th>➔ ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late Achaemenid:</td>
<td>39</td>
<td>18</td>
<td>0.46</td>
</tr>
<tr>
<td>Hellenistic and Seleucid:</td>
<td>268</td>
<td>111</td>
<td>0.41</td>
</tr>
<tr>
<td>Parthian:</td>
<td>268</td>
<td>111</td>
<td>0.41</td>
</tr>
</tbody>
</table>

32 Table 6 in Slotsky/Wallenfels 2009 provides a convenient overview of the number of years represented by an AD according to century. According to their calculation, 82 years are covered in the 2nd century BC, but only 63 and 37 during the 3rd and 4th centuries, respectively.

33 If we would calculate the ratio of the years producing Diaries with historical sections to the total years producing Diaries (thus ignoring the variants of a same Diary when extant), the difference would diminish but the basic pattern remain fundamentally unchanged.
The impression one gets of the Astronomical Diaries is thus one of a very living corpus, which evolves over time, not only with regards to the recording of the river level and the introduction of the *na*-gauge in -293, but especially as concerns the historical sections. It is tempting to see the rationale behind this observed increase in historical information in relation to the gradual disappearance of the genre of the chronicles. Of the 20 Babylonian chronicles of the Hellenistic period (BCHP), which are currently being prepared for edition by R. van der Spek and I. Finkel (but which are already accessible online), only three, BCHPs 18-20 date from after 160 BC. The bulk of the material, 14 out of 20 texts, can be assigned to the 3rd century or earlier, with a marked concentration on the years of Antiochus I’s reign as crown prince, from which period alone we have 5 texts (BCHPs 5-9), and additionally the first trial reported in the so-called “Judicial chronicle” (=BCHP 17) took place in that same period) – hence the exact period when the historical sections of the ADs still tended to be rather brief. Moreover, the latest chronicles are problematic in their own right: BCHP 18, published in a preliminary version also by van der Spek 2006 (284-288) as “Bagayasha-chronicle” revealed itself as Astronomical Diary of very unusual format. Also BCHP 20 is not easily classifiable, both the “unusual and irregular shape of the tablet” and the script “obviously not made by an experienced hand” can be interpreted as pointing to an exercise tablet or similar. Although it can no longer be upheld that the chronicles were in any case derived from the Diaries (see below), there is a broad formal and thematic congruence between the two genres and many of the features isolated by Jean-Jacques Glassner as characteristic of the Neo-Babylonian chronicle series equally apply for the historical sections of the ADs.

At the other end of the time scale, in the earliest Diaries, the historical information is equally puzzling. It is already the oldest extant diary, AD -651 from the 16th year of Šamaš-šum-ukīn which contains two brief historical notices. Apart from their rendering of the battle at Hirītu, there are two additional reasons why this passage is particularly interesting. Firstly, it is the one of the very few instance of an event known both from a chronicle and an Astronomical Diary and was used by J. Brinkman to refute the notion that the historical passages of the Diaries were employed as sources for the chronicles. The second point of interest concerns the position of the historical notices in the text, which unusually enough are inserted among the astronomical day-to-day observations. When

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34 On http://www.livius.org/babylonia.html.
36 Van der Spek 2009 (oral information), see also the introductory comments to this text published as BCHP 18 at www.livius.org.
38 Glassner 2004, 77-88. Shared features include the pursuit of a most precise chronology, a “desire to hold strictly to statement of facts” (77), as well as, regarding content, narrations of revolts and insurrections. Even the general outlook of the chronicles according to Glassner (2004, 84), to “contribute to an understanding of the present, by clarifying causes and predicting consequences that similar developments might occasion in the contemporary world” is not too dissimilar to the purpose of the Diaries, too.
39 This point of view was tentatively put forward by A. K. Grayson in his edition of the chronicle texts (1975, 13-14). Brinkman’s (1990) argument is based on the fact that the account of the chronicle is much more exhaustive and thus hardly directly derived from the brief notices in the pertinent Diary. The revisionist attempts in Heller 2010, especially 84, are not convincing.
looking for parallels, it becomes clear, that the insertion of historical passages into the astronomical section is not at all exceptional among the early ADs: AD -378, 5 had one now unfortunately broken passage about the king and the crown prince. AD -373A, 9-10 contains a brief note concerning the destruction of houses in the town of Pallukkat, and in AD -343, 12-13 we read and enigmatic note involving the goddess Bēlet-bīti, a temple and oxen (as sacrifices?).

A second striking feature in these oldest extant Diaries of the first half of the 4th century and earlier is the high number of references to ominous events. This particular type of events has hitherto been neglected in the copious treatments which the established categories have received in the secondary literature. Considering the importance of divination in Mesopotamian culture(s), these events are certainly more than mere historical curiosities without further relevance. An analysis of the omen-related occurrences may help to shed further light on the question raised above, about internal developments in the genre of the Astronomical Diaries, about their purpose, and about the motive(s) for the inclusion of the historical sections into this text corpus.

### 2.1.3 History and divination

There is a total number of at least 23 instances which can without doubt be considered “ominous events” in that they clearly resemble omen protases and furthermore can even be distributed among the known omen collections šumma ālu and šumma izbu. The omens attributed to šumma izbu concern monstrous births of different kinds of animals, ewes, she-goats, bitches, sows, and, in one instance, also a malformed human birth. The omen protases of šumma ālu attested in the Diaries concern either the appearance of wild animals, foxes or wolves, in the city, or whimsical occurrences involving dogs. Three things emerge from a cursory glance at table 2, which lists all these events in chronological order and attributes them to their respective series. Firstly, the šumma izbu-type omens are much more numerous, 16 instances of malformed births are accompanied by only 7 omens seemingly affiliated with šumma ālu, although the latter was by far the larger series. This can be explained with the fact that šumma ālu consisted mainly of omens pertaining to the private sphere, whereas the scope of the šumma izbu-omens was the public sphere, thus the well-being of the country and the king. Secondly, the chronological distribution of the different types of ominous events is very uneven, with the exception of AD -207, all the šumma ālu-related events date from the 4th century or earlier. The šumma izbu-types on the other hand are attested throughout the whole period for which we have Astronomical Diaries, and show a remarkable peak of 6 attestations in the years between 133 and 122 BC (with the later years of this time frame, SE 186-189 producing even one instance every year). Also for this phenomenon, an explanation can be offered: The period in question was characterized by significant political instability; an abortive attempt of Antiochus VII

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40 As regards astronomy one can refer to, e.g., Hunger/Pingree 1999. The historical sections have been discussed by Del Monte 1997, the river level by Brown 2002 and the price sections by Slotsky 1997 and Vargyas 2001; on various aspects of the history and economy of Hellenistic Babylonia cf. van der Spek 1993, 1998, 2000, 2003, and 2006.

41 This count does not include the possibly also ominous references to sicknesses in ADs -382, -368, -266B, -117A and, -111D. Equally not considered are the numerous instances of locust invasions (on which see Pirngruber Locust invasions) as well as a reference to pregnant women dying in childbirth in AD -248, r4. These categories are excluded on grounds of the simple consideration that they rather constitute omen apodoses (if there is any connection to divination at all), whereas the ominous events of the Astronomical Diaries under discussion are clearly omen protases. See for example Enūma Anu Enlil 17 fragment F t22 (Rochberg-Halton 1988, 134): ZI-ut BURU316 as consequence of an eclipse on 22 lilitu; or enūma Anu Enlil, tablet 16 fragment H, iv 18: “pregnant women will miscarry their unborn”; cf. Rochberg-Halton 1988, 107.


43 Šumma ālu consisted of 120 tablets, šumma izbu of only 24, and šakikkû of 40. See e.g. Maul 2003-05, especially 49-50 on the different spheres of the omen treatises.

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at a re-conquest of Babylonia is accompanied by regular raids of Arabs and continuous attacks of rulers from Elam as well as Mesene, culminating in a brief reign of Hyspaosines of Mesene over Babylonia. The Diaries of that particular period are characterized by numerous references to “fear and terror in the country”, as well as sacking and pillaging. The tense, anxious atmosphere in the city of Babylon during this period and the concomitant rise in all kinds of supernatural activities is adequately captured by the mysterious episode of the malāhu-boatman acting as a prophet of Nanāya, “the strong, hitting god” (AD -132B). Thirdly, there seems to have been a change in the structure of the ADs as regards the recording of this kind of events. Until roughly the middle of the 3rd century, ominous events tended to be inserted into the astronomical day-by-day observations, the main exception being the very early diary of -567, whereas afterwards they were recorded as parts of the historical sections.

There is one category of event which might shed further light on the issue of the textual position of ominous events. In our first count, the very numerous ‘falls of fire’ (IZI.ŠUB, miqitti išāti), lightning strokes, were not included. This basically meteorological event – which consequently should be listed in the astronomical-meteorological section, one might think – was also invested with an ominous meaning and ranked among the “besonders gefürchteten oder häufig auftretenden Vorzeichen”. The results of our tabulation are indeed surprising, and clearly corroborate the ominous significance of lightning strokes rather than their being recorded in their mere quality as meteorological phenomena: From about the middle of the 3rd century BC onwards, the miqitti išātis are regularly recorded in the historical section rather than among the other meteorological observations.

Before attempting an outline of the development of the historical sections of the Diaries, with due consideration of the ominous occurrences, we shall consider the matter of intertextuality between the ominous events of the ADs and the omen compendia. As was already observed by F. Rochberg, some of the historical events encountered in the Diaries are even quoted verbatim in omen apodeses, such as the phrase “people sold the children for silver” (UNMES DUMUMES-ši-na ana KUBABBAR BURMES) found in AD -273B. Besides these quotations one encounters additionally many instances of similarities. A passage in the famous Diaries AD -330, giving an account of the battle of Gaugamela, “BAD5.BAD5 LÚERÍNMEŠ kab-t[u₄ GAR], “a heavy defeat for the troops they (i.e. Alexander’s Greek army) brought about” is paralleled by a very similar apodosis LUGAL KUR BI BAD5.KUR-šu GAR-an , “the king, his land will defeat the troops of the enemy” in an omen of Enūma Anu Enlil. Additionally, linguistic congruence between omen treatises and the ADs has been identified, for example as regards the occasional proleptic word order object – subject –verb. Another feature that may have its roots in divinatory texts is the fact that usually protagonists in the historical sections are not mentioned by name. The prime example is AD -322 containing the news of the death of Alexander the Great which simply states 29 LUGAL NAMMES, “Day 29, the king died”. There is again a parallel omen apodosis, LUGAL BE (Enūma Anu Enlil 16 A iii 11). Unfortunately, because unfortunately nothing much can be said about the ominous meanings of the events recorded in the Astronomical Diaries. The tablets 50 and 51 of šumma ālu concerning lightning strokes, for example, are not extant. There is only one single example of an ominous reference with a parallel in an omen series. In AD -373, r9 we read [UR.KU a-na UR.KU GU7 [. . . .], [A] dog devoured a dog [. . . .]. There is an
obvious relation to an omen of the šumma ālu-series, on tablet 46 we read: šumma kalbu kalba īkul ālu sū dannata immar, “When a dog devours a dog, this town will see hardship”. Very astonishingly, this prediction fits very well with the historical context of the following fragment AD-373B which concerns the later months of the same year, and which give an account of the abortive campaign into Egypt by Artaxerxes II in 373. Babylonia, maybe due to requisitions to prepare for the campaign, seems to have been struck by a famine so severe that people were forced to sell their own children. The first line of the upper edge of AD-373B reads: ![image]

51 There are also some prices extant on the tablet, but unfortunately only so for dates. Nonetheless, their pattern is highly interesting: The equivalent amounted to 75 litres per shekel in month tašrītu (VII), but in the end of the same month the amount decreased to 60 litres. In month addaru (XII) the equivalent was 66 litres: dates were thus in this year more expensive in the period immediately after the harvest – a telling result that merits further investigation in the light of the usual pattern of the seasonal fluctuation. For time being, we shall only remark that these exchange values are indeed fairly low but not necessarily indicative of famine – the threshold equivalent below which one might speak of famine has been estimated by P. Vargyas 1997 to be at around 50 litres of barley per shekel). The impression of crisis is however strengthened by the very low barley prices of the following year, oscillating between 39 (month VI) and 24 (month XI) litres for one shekel of silver.

2.1.4 Conclusion

Summing up, the development of the historical sections of the Astronomical Diaries could be outlined as follows: in the beginning, historical entries were confined to brief, punctual remarks. Until well into the 4th century BC one cannot fail to notice a preponderance of ominous remarks over genuinely historical events. Both of these categories had no section of their own but were inserted into the astronomical sections. This position can maybe be explained by parallels in similar genres of other, later times. In chronicles from Medieval England for example, preternatural phenomena were considered as evidence of highest importance, as signs of the divine revealing parts of the future to those who were able to interpret it. It is exactly because of this importance, and also because of their ambiguity concerning their actual meaning, that they “demanded closer

50 See Briant 1996, 664-675 on this expedition, as well as van der Spek 1998, 251-252, for a brief discussion of the historical passage of AD-373B.

51 This completion of this line was already suggested by H. Hunger in ADART I, 107 on the basis of the wording in diary -273B (which also treats a military campaign, namely the First Syrian War).

52 On which see e.g. van der Spek/Mandemakers 2003, 525-528 (for barley).
scrutiny than ordinary evidence”. Given that similar importance was attributed by the Babylonians to the omens, especially with regards to the political situation, it might be exactly for this reason that the Babylonians strove for a most precise dating of such ominous events. This interpretation gives additional weight to the idea of the Babylonian Diaries as having initially served for divinatory purposes.

In the course of the 4th century then, historical events gained gradually more weight, and at quite an early point in time they were given a section in their own right. The ominous events then, gradually diminished in importance – a development possibly triggered by the on-going scientific paradigm-shift –, as is indicated particularly by the decreasing number of events related to šumma ālu, were from the middle of the 3rd century incorporated into these historical sections on a regular basis. As a final step, and possibly in relation to the decline of the genre of the chronicles, historical passages not only became much more extensive in scope, but were also composed much more frequently as part of the Astronomical Diaries. Concomitant with this development, also the price sections became more sophisticated, and in the 2nd century BC, even daily notations were by no means an unusual phenomenon.

As to the motive for the inclusion of the historical events into this particular corpus, the most rewarding approach seems again to be focussing on the relationship with divination. There are three broad categories which constitute the main fields of interest of the apodoses of the celestial series Enûma Anu Enlil (and similarly of šumma izbu): climatic phenomena, especially rainfalls and the (spring) flood, economic conditions such as the outcome of the harvest but equally the functioning of the market and price increases, and finally political history, with military events as well as the fate of the king at the centre of interest. This is similar to the situation of the Astronomical Diaries, in which military campaigns and revolts also take pride of place. In addition to such notable events of the political history of the Ancient Near East such as the battle at Gaugamela or the First Syrian War one can add campaigns into Babylonia of rulers of minor importance such as the Elamite Kamnaskires or Hyspaosines from the kingdom of Mesene as well as numerous Arab raids through the latter half of the 2nd century BC and internal strife among the Babylonian citizens. Examples of intertextual references between the ADs and the omen corpora have been given above. Finally, just as all other categories identified thus far – the river level, the weather, and the prices – history could equally be the object of predictive science in the worldview of a Mesopotamian scholar, “being a cyclical process, hence made up of recurrent events and people with avatars” (my italics).

To say that the root of the presence of the three categories historical, meteorological (not only in from of the river level but additionally throughout the day-to-day observations), and economical lies in the divinatory background of the Astronomical Diaries is by no means the same as postulating that their relevance was subordinate – for the purpose of verification or else – to the celestial observations. Contrary to the ominous events discussed above, these categories are not only a very regular component of a Diary, but also “conceptually as differentiated as astronomical events” and providing thus more...
information than required if their purpose was only supportive. 58 In such a case, the
detailed recordings of the level of the Euphrates and the commodity prices would become
inexplicable as it would have sufficed to record whether the level increased, decreased or
remained stable: exact fluctuations measured in qa or na for prices and river level
respectively clearly exceed divinatory requirements in terms of precision. This also means
that it is untenable to reduce the Diaries to a mere source-book for divinatory purposes,
particularly in the light of the fact that omen compendia were already fully standardized
contemporary to the beginnings of the Diary tradition. 59 To consider them as scientific
foundation of a new, predictive science, (D. Brown’s PCP-paradigm) still influenced by
the old, divinatory standards, would certainly do more justice to them. In conclusion, we
hope to have shown in these introductory passages that the Diaries were first of all a very
living corpus, in constant development throughout their history, and secondly, that they are
inseparable from Mesopotamian scientific theory.

58 Graßhoff 2010, 40, on the meteorological sections. If their purpose had only been to explain the absence of
astronomical information due to bad weather conditions, we would expect much less information to be
recorded.
59 See e.g. Grayson 1975.
<table>
<thead>
<tr>
<th>Event</th>
<th>Type</th>
<th>Position in the text</th>
<th>Source, Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>That month, a fox entered the city</td>
<td>Summa ālu</td>
<td>Historical section</td>
<td>AD -567</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Nbk II 37, I)</td>
</tr>
<tr>
<td>That month, the 26th, a wolf entered the city of Borsippa and killed 2 dogs, he didn’t leave, he was killed.</td>
<td>Summa ālu</td>
<td>Historical section (only entry)</td>
<td>AD -567</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Nbk II 37, I)</td>
</tr>
<tr>
<td>one … gave birth to …</td>
<td>Summa izbu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -463</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Art. I 1, VI)</td>
</tr>
<tr>
<td>That month, a fox was seen in a broad street of the city</td>
<td>Summa ālu</td>
<td>Historical section (only entry)</td>
<td>AD -418</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Dar II 5, I)</td>
</tr>
<tr>
<td>A ewe gave birth, and (the young) had no jaw</td>
<td>Summa izbu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -418 (2x)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Dar. II 5, XII)</td>
</tr>
<tr>
<td>A bird hatched and it had three feet</td>
<td>Summa izbu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -418</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Dar. II 5, XII)</td>
</tr>
<tr>
<td>A bitch gave birth and the front feet […]</td>
<td>Summa izbu</td>
<td>Historical section (only entry)</td>
<td>AD -375</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Art. II 29, XII)</td>
</tr>
<tr>
<td>A dog devoured a dog</td>
<td>Summa ālu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -373A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Art. II 31, VIII)</td>
</tr>
<tr>
<td>A dog was consumed by fire (as a consequence of a IZI.SUB)</td>
<td>Summa ālu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -330A+B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Dar. III 5, VIII)</td>
</tr>
<tr>
<td>[…] fire consumed a great […]</td>
<td>Summa ālu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -324B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Alex III 12, II)</td>
</tr>
<tr>
<td>A she-goat gave birth and (the young one) had the jaw and the ears of a fish, on its head were a fungus and a lock like that of a slave</td>
<td>Summa izbu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -324B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Alex III 12, IV)</td>
</tr>
<tr>
<td>That month day [x] an ewe gave birth and (the newborn had) […]</td>
<td>Summa izbu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -322D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(P.A. 1, IX)</td>
</tr>
<tr>
<td>A dog devoured a bitch</td>
<td>Summa izbu</td>
<td>Astronomical day-to-day observations</td>
<td>AD -284</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SE 27, VII)</td>
</tr>
<tr>
<td>That month 5 dogs approached one bitch</td>
<td>Summa ālu</td>
<td>Historical section (only entry)</td>
<td>AD -207A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SE 104, I)</td>
</tr>
<tr>
<td>That month, a she-goat gave birth of there was no right thigh (of the young)</td>
<td>Summa izbu</td>
<td>Historical section (last entry)</td>
<td>AD -133B, 26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SE 178, XI)</td>
</tr>
<tr>
<td>[…] its trachea was open</td>
<td>Summa izbu</td>
<td>Historical section (last entry)</td>
<td>AD -132D₂</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SE 179, XI)</td>
</tr>
<tr>
<td>A bitch gave birth and […]</td>
<td>Summa izbu</td>
<td>Historical section (last entry)</td>
<td>AD -125A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SE 186, V)</td>
</tr>
<tr>
<td>That month, day 7, in the city of Babylon a sow gave birth and the izbu was like […] and had the […]</td>
<td>Summa izbu</td>
<td>Historical section</td>
<td>AD -124B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(SE 187, X)</td>
</tr>
</tbody>
</table>

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60 Not included is a reference of AD -246 (IM.GÚ KUR is-hup: “mud covered the country”), which, although a terrestrial event, is a protasis known from the celestial series enûmâ Anu Enlîl and the menology iqqur īpuš, see Labat 1965, 190-193 (§102,).
| (of) a dog | Summa izbu | Historical section | AD -123A  
(SE 188, IV) |
| --- | --- | --- | --- |
| [...] gave birth and [...]. | Summa izbu | Historical section | AD -122A  
(SE 189, I) |
| [...] a woman gave birth and, and there were two babies joined to each other, they had one head, four eyes, four legs [...]. | Summa izbu | Historical section | AD -96  
(SE 215 XI) |
| [...] their neck and their head [...]. | Summa izbu | Historical section (last entry) | AD -87  
(SE 224 XII₁) |
| [...] its body, it had 8 feet, one neck and one head [...]. | Summa izbu | Historical section | AD -77  
(SE 234, II) |
| That month, a woman gave birth, and (the baby’s) head and hands were like (those) of a lion, his hips and feet were like a frog’s. | Summa izbu | Historical section | |
Table 2.3: Lightning strokes

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Exact location</th>
<th>Position in the text</th>
<th>Source, Date</th>
</tr>
</thead>
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<td>Astronomical day-to-day observations</td>
<td>AD -418 (3x) (Dar. II 5, I-III-XII)</td>
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<td>Astronomical day-to-day observations</td>
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<td>Astronomical day-to-day observations</td>
<td>AD -330A (Dar. III 5, VI)</td>
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<td>Astronomical day-to-day observations</td>
<td>AD -284 (SE 27, VII)</td>
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<td>AD -247B (SE 64, XII₆)</td>
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<td>IZI.SUB GAL-ú</td>
<td>[...] GAL-ši</td>
<td>[KI-(tí) ku-šmar³ DA É.NAM.TILLA]</td>
<td>Historical section</td>
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<td>[...]</td>
<td>Historical section</td>
<td>AD -232, line 24 (SE 79 VIII)</td>
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<td>AD -232, U.E.2 (SE 79, IX)</td>
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<td>AD -210 (SE 109, IV)</td>
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<td><em>ina</em> KI TIN.TIRᵏˡ [[]A]G.1 *ina GÜ ID</td>
<td>Astronomical day-to-day observations</td>
<td>AD -209D (SE 110, V)</td>
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<tr>
<td>IZI.SUB</td>
<td><em>ina</em> KI TIN.TIRᵏˡ</td>
<td>Historical section</td>
<td>AD -197C (SE 114, X)</td>
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<td>IZI.SUB.BA</td>
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<td>Historical section</td>
<td>AD -175B (SE 136, IX)</td>
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<td>IZI.SUB GAL</td>
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<td>Historical section</td>
<td>AD -137D (SE 174, IX)</td>
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<td>Historical section</td>
<td>AD -124A (SE 187, II)</td>
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<td>IZI.SUB GAL-ši</td>
<td><em>ina</em> KI-tí A.HAᵏˡ</td>
<td>Historical section</td>
<td>AD -105 (SE 206, I)</td>
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</table>
The prices of the Astronomical Diaries, which will be at the centre of this investigation are – typically for Mesopotamia – quoted as ‘price equivalents’, thus as amount of the commodity which can be purchased for one fixed unit of silver, namely 1 shekel.°° The commodities at issue are barley, dates, sesame, cress, cuscuta, and wool, almost invariably in this sequence.°° The reality, or rather even the veracity, of these price notations which has been occasionally doubted°° can by now be considered a given fact. To the impressive array of empirical arguments collected in van der Spek 2000 (295-296) one can now add the econometrical analyses of Temin 2002 and Van Leeuwen/Földvári 2010a, both confirming that the behaviour (i.e. the oscillations) of these commodity prices is exactly as expected in a market situation. We would like to emphasize at this point explicitly that we consider the prices to be observed entities just as all other events recorded in the Diaries (with the exception of a few predicted astronomical phenomena).

The rationale for the inclusion of the price quotations has been discussed above: Firstly, oscillations of commodity prices were an important subject in omen apodoses, just as were the two other main non-astronomical categories, the meteorological and historical events. Secondly, just as the other phenomena – the pattern of rainfalls and the river level, as well as (to the Mesopotamian mind) history – prices were considered as cyclical and hence possibly predictable events. Prices are thus an ideal category for the ADs: potentially legible against a divinatory background, they are equally a suitable test-case for the emerging predictive science which underlies the corpus of the Astronomical Diaries as a whole. As has been observed for astronomical phenomena (and as holds equally true for the river level or the historical sections), and in line with the development of Mesopotamian science, more than strictly needed for divinatory purposes is recorded. After all, in omen apodoses only the direction of the price movement – upward or downward – rather than the exact extent of the oscillation in litres is recorded as the consequence of the birth of an izbu, a stellar constellation, or else. An example from the collection šumma izbu (tablet V, line 69) reads in the translation of its editor (Leichty 1970, 78): “If a ewe gives birth to a lion and its face is covered with fatty tissue – trade values (KI.LAM) will fall.”°° An omen from Enûma Anû Enûl reads: “If an eclipse occurs on the 15th day and it (the god) disappears while it is in the eclipse, and a meteor falls. Flood will devastate the land. The economy (KI.LAM) of the land will diminish.”°° One should furthermore note briefly that the economic interest in divinatory texts goes also beyond the mere registrations of increases and decreases of the mahīru. For example, references to the harvest outcome of specific commodities – usually those of the Diaries – are found, which in turn can be interpreted as having influenced the price equivalent. One pertinent instance°° reads: “If Adad thunders, sesame and dates will not flourish”. Instead of mentioning the outcome of specific commodities, also the threat of a general harvest failure impending on the country is encountered: “If an eclipse occurs in nisannu in the

°° Cf. Slotsky 1997, 8-11, for numerous references of this particular manner of formulating commodity prices spanning from the Ur III to the Late-Babylonian periods.
°° Note that there are several ways of translating mahīru (KI.LAM), cf. CAD M I s.v. mahīru, 92-98. For the omen apodoses, translators vary between meanings 2 (business activity or the economy in general) and 3 (price equivalents). As in any case falling equivalents (i.e. rising prices) are one important manifestation of a dwindling economy, either translation amounts to the same outcome, however, a translation as ‘price equivalents’ seems to be more accurate
°° Table 21, § 12; translation Rochberg (-Halton) 1988, 233.
°° Enûma Anû Enûl tablet 22 (II §IV 2, Rochberg (-Halton) 1988, 264).
middle watch, the harvest of the land will not thrive, var., there will be famine” (Enūma Anu Enlil 17 (§ 12, Rochberg-Halton 1988, 123)

As regards the finding of the preceding section of an internal development within the Diaries especially as regards the frequency and length of the historical sections, it has already been stated that a similar result is obtained for the price sections, which equally tend to get more detailed in the later ADs. Until the middle of the second century BC, prices were most commonly recorded either for the whole month or, for a tripartite division of a month into “beginning – middle – end”. The latter formulation occurs especially with the staple goods barley and dates. After ca. 145 BC, there are quite some cases of more precise – even daily – notations, a development which culminated in Diaries such as AD - 82B, r18 with separate barley prices for the morning and the afternoon of the same day.

The table below containing an overview of the price quotations of the Seleucid period shows that in spite of the fact that the ADs tend to get more exhaustive over time, there is actually a decrease in the total number of the months for which barley prices are attested. There are 151 months with at least one barley price reported in the earlier half of the Seleucid rule over Babylonia (counted here 300-225 BC), whereas from the latter half (225-140 BC), there are 141 months containing prices. This phenomenon can be attributed to the inclusion of the price data the commodity price tablets. If one were to consider only the price quotations from the Diaries themselves, the years between 225 and 140 BC would indeed provide us with a higher number of barley prices.

<table>
<thead>
<tr>
<th>Attestations</th>
<th>300-225 BC</th>
<th>%</th>
<th>225-140 BC</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-Mar</td>
<td>40</td>
<td>26.5</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td>Apr-Jun</td>
<td>39</td>
<td>26</td>
<td>30</td>
<td>21</td>
</tr>
<tr>
<td>Jul-Sep</td>
<td>32</td>
<td>21</td>
<td>33</td>
<td>23.5</td>
</tr>
<tr>
<td>Oct-Dec</td>
<td>40</td>
<td>26.5</td>
<td>43</td>
<td>30.5</td>
</tr>
<tr>
<td>Total</td>
<td>151</td>
<td>100</td>
<td>141</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2.4: Distribution of barley prices in the Seleucid period

A potentially influential feature is the distribution of prices within the year. Because of the phenomenon of seasonal fluctuation, a change in this pattern might bias prices and hence distort the analyses envisaged. Organizing the data according to yearly quarters shows that also this is not the case. The most important finding is that the pre-harvest period January to March, which can be expected to contain the highest prices due to the phenomenon of seasonal fluctuation is represented in both periods by roughly one quarter of all attestations. A priori, one would thus not expect significant price differences between earlier and later Seleucid period. The fact that the earlier period contains a slightly higher number of barley price attestations from the harvest time of barley (quarter April to June) usually containing the lowest prices within the year is somewhat countered by the fact that in the later years more attestations from the period after the date harvest (quarter October to December), which is known to have decreased the barley price as well, are extant.

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67 Slotsky/Wallenfels 2009. Four of these tablets (S/Ws 2, 3, 3A, 4) date to the earlier half of Seleucid reign over Babylonia, but only one (S/W 5) to the period 225-140 BC. The adequacy of a division into earlier and later Seleucid period is discussed more exhaustively in the following chapter, in particular 3.6

68 With ‘Attestations’, we intend the number of months that are represented by at least one price rather than the total number of prices attested. The values in table 2.4 are based on the same dataset that was used for the regressions in chapter 5.

69 On which see most recently Földvári et al. 2011.

70 See Varygas 1997, also Földvári et al. 2011. Put simply, because of the increased availability of dates with the new harvest, their prices decreased strongly and hence it became more attractive to substitute the
2.3 The economic background and price quotations in everyday documents

The traditional model of the Mesopotamian economy as a redistributive temple-centred economy with little need for the institution of a market has increasingly met with criticism over the last decades and years.\(^{71}\) In particular, scholarship drawing on the rich private and temple archives from the middle of the 1\(^{st}\) millennium BC, from the reign of the Chaldean and Achaemenid dynasties, has brought to light a great deal of information on the structure of the economy of the later period. For the sake of brevity, we shall single out below some of its most characteristic and influential features in form a list, with no claim for exhaustiveness neither in argument nor in the references. However, all of below conclusions are discussed (and most of them exhaustively) at some point in Jursa 2010, the conclusion of which book we would like to refer to for a convenient overview.\(^{72}\)

- Among the factors of production, land was an abundant and thus inexpensive resource compared to equipment such as plough animals and particularly water-rights (Stolper 1985, especially 125-134).
- Large-scale building projects such as palaces or city-wall repairs as well as regular canal maintenance work had to rely increasingly on free hired (and more expensive) labourers. The major factor conditioning this decision was the scarcity of manpower (Jursa 2005, 173-176 and 2010, 661-681).\(^{73}\)
- Reliance on external labourers is also encountered in the case of minor manufacturing activities such as weaving (Joannès 2008).
- A high degree of monetisation even for small-scale transactions was a necessary prerequisite for the functioning of the system of taxation which exerted substantial pressure upon the temples to convert their harvests (or other cash-crop commodities such as wool) into silver as quickly as possible after the harvest (Jursa 2010, 591-592, 768-772 et passim).
- Cash-crop cultivation became the prevailing economic strategies of both the Eanna temple in Uruk specializing in wool and the Ebabbar in Sippar producing dates on a large scale (Jursa 2004).
- The Kurummatu received by temple dependants are best interpreted as “salaries paid in kind” rather than genuine rations aiming to provide full provisioning of the recipient. Additionally, there was a growing propensity to substitute “rations” with silver payments (Jursa 2008), also in the case of travel rations, šiditu (Janković 2008).
- The period is furthermore characterized by an increasing reliance on rent-farmers and other entrepreneur-type middlemen as mediators between temple/palace and farmers (Stolper 1985, e.g., 36-51 on the management of the canals, van Driel 1999).
- Regional market integration was favoured by comparatively low transport costs within Babylonia due to the increasingly dense network of navigable canals (Jursa 2010, contribution of M. Weszeli, 140-152).

In general, it can be stated with confidence that Babylonia (at least from the late 7\(^{th}\) century BC onwards) is best described as a fairly well-integrated economic region with a comparatively expensive barley with cheaper dates. This shift in demand in turn caused also barley prices to sink.


\(^{72}\) See in particular chapter 6.1: Summary of principal findings, 754-783.

\(^{73}\) According to Jursa 2010 the demand for labour was so elevated as to create ‘something like an urban working class’ (681).
considerable amount of market activity. It is exactly within this framework that the price quotations of the Astronomical Diaries need to be considered. An important observation in this regard is the fact that thinking in terms of price equivalents is frequently encountered with temple administrators in the Neo-Babylonian period. It should be stressed that the ADs are not the only text corpus employing price equivalents. A particularly interesting corpus is the letters written by various officials of the Neo-Babylonian Eanna-temple in Uruk, dating from the (long) 6th century BC. Although these documents precede the bulk of the data treated here – there is unfortunately no pertinent material from the Seleucid or Parthian periods extant –, they are contemporary to the earliest Diaries and in any case cast light on the historical reality of the price quotations in Babylonia around the middle of the 1st millennium BC. Furthermore, they elucidate material conditions and the everyday workings of the temple as an economic household. In these texts, we find several references to quantities of mostly barley and dates, and sometimes other commodities which could be acquired for one shekel of silver, or also the rate at which one commodity could be exchanged for another. The value of these instances, which stem from a more immediate context – daily accounting practices – than the abstract notations of the Diaries, cannot be emphasized sufficiently. To be sure, it was certainly not the primary purpose of the price quotations of the ADs to facilitate daily transactions or enable the administrators to operate in the most economical manner possible. The passages in the letters, however, betray a firmly rooted awareness of price equivalents and, even more sophisticated, of regional price differences in the ambience of the Babylonian temples as well as they attest to a practice of mutual conversions of commodities on a large scale. In sum, these documents provide examples of the practical implementation of the abstract quotations of the Diaries in everyday business transactions of the large, institutional households.

We shall thus quote some pertinent passages in full, explicating their respective connection to the data of the price sections of the Diaries. A suitable starting point is YOS 345, 21-25:74 a-di la-i ŠE.BAR ta-maṭ-šu-ū 1 LIM GUR ZÚ.LUM.MA EN-a lu-še-bé-el-MU a-na ŠE.BAR lud-din u PADHLA a-na ku-šu lu-hi-ir, “Before barley is becoming scarce, my lord shall send 1,000 kurru of dates to me so that I can exchange them for barley; I wish to make ready rations for the winter”. Two things are interesting about this passage. First of all, it shows that the commodities quoted so regularly in the Diaries equally constituted the economic basis of the temples, their regular observation had thus as a corollary at least potentially some practical application. 1,000 kurru of barley correspond to 180,000 litres, giving an impression of the scale at which the institutional households occasionally operated. Secondly, it nicely illustrates the pattern of seasonality which characterises the price quotations of the ADs. With the barley harvest taking place in spring, the stocks on hand were nearly depleted at the dawn of autumn. As however dates were harvested around October, they were at this time of the year readily available to be either directly distributed as rations or, as in this instance, to be exchanged against the more sought-after barley.

Another most interesting passage is possibly found in YOS 381, lines 6-8 and 16-20:75 ŠE.BAR-aš šá ina TIN.TIRŠE.BAR ma-at-ta ina lib-bi a-na te-li te-lu-ū (…) ŠE.BAR a-kan-na ina UGU ZÚ.LUM.MA i-ba-āš-šū 1 GUR 1 (PI) 4 (BAN) ZÚ.LUM.MA a-nq I GUR ŠE.BAR 40 GUR ŠE.BAR a-na 1 ma-na KÚ.BABBAR pe-šu-ū 2 LI.DUMU DU3.MES ZÚ.LUM.MA lu-še-lu-im-mu a-na ŠE.BAR ina UD.KIB.NUN⁷⁵ lid-din-u’ ia-a-nu-ū 10 ma-na KÚ.BABBAR pe-šu-ū liš-ku-nu-im-mu a-kan-na a-na ŠE.BAR lid-din-u’ a-di la-i ŠE.BAR ta-maṭ-šu-ū, “(Concerning) the barley in Babylon, much of it has been expended (…) barley is valued higher here than dates: 240 litres of dates for 180 litres of barley; 40 kurru (7,200 litres) of barley (are given) for one mina of white silver. 2 mār bānē shall bring up dates and exchange them for barley in Sippar; if not they shall make available 10 minas of silver and exchange it here for barley before barley gets scarce”. The knowledge of the economic circumstances of the author of this letter,

74 See Stolper 2003, 281-283, for an edition with translation and commentary. See also Kleber Hungersnot for a partial translation of the letter.
Innin-ahhē-iddin is remarkable even by modern standards. Not only is he informed of a difference in value between dates and barley at his current location, but even of the precise range – one litre of barley being worth 1.33 litres of dates – and furthermore of the fact that in nearby Sippar, located around 60 km to the north of Babylon the rate of dates to barley was seemingly more convenient for the purposes of the temple. The letter also clearly indicates that the temple when intending to buy commodities on a larger scale chose the means of payment, either dates or silver in our instance, according to the prevailing economic circumstances, with the aim to take advantage as much as possible from the considerable resources at their disposal.

The letter YOS 3 79 similarly reports rather substantial regional price differences: 76 (22-27) li-mur ša 1 PI ZŪ.LUM.MA a-na 1 GĪN KU.BABBAR ina UNUGKI iqt-ta-bu-i

na-a-šu KI.LAM ul ni-ip-pu-us a-kan-na 2 PI SE.BAR ü 2 PI ZŪ.LUM.MA a-na 1 GĪN KU.BABBAR qa-lu-ú i-qab-bu-ú ü t-ba-‘e-ma ul am-mar, “See, they told us that 1 shekel of silver (buys) 36 litres of dates in Uruk and we did not make purchases. Here they say that one shekel of qarû-silver (buys) 72 litres of dates or 72 litres of barley, I am searching but cannot find any”. As has been established by K. Kleber (Hungersnot), this letter as well as the two preceding ones dates from a period of famine at the beginning of the reign of Cambyses. YOS 3 79 shows the temple official Nabû-ahu-iddin striving to acquire commodities to be disbursed as rations to labourers at what he considers a reasonable price during this difficult period. The equivalent at Uruk, merely 36 litres of dates per shekel was judged to be unacceptable, the supply situation in Bīt-Amukānu, situated to the south of Uruk in the Sealand whence the Eanna regularly acquired larger quantities of in particular barley seems to have been hardly any better: although the equivalents were nominally double the amount of Uruk, the commodities do not seem to have been available after all. 77 A practice that finds confirmation in the fragmentary letter W 3381 z for the first time quoted in Jursa 2010 (8210), equally adduced by Kleber Hungersnot is that the temples seem to have even systematically gathered information on the price situation in different towns within Babylonia, at least in periods of exceptionally high prices: (1; 4-8) KI.LAM (…) 1 (p) 2 BĀN ŠE.BAR ina TIN.TIRKI ü BAR.SIPA a-na 1 GĪN ü 1 (p) 4 BĀN ina UD.KIB.NUNKI ü URU ú-pi-ia, “The equivalent is 48 litres for 1 shekel in Babylon and Borsippa, and 60 litres in Sippar and Opis”. It is telling that the Eanna temple in southern Babylonian was informed of barley equivalents in towns as distant as Sippar and Opis, the passage just quoted reinforces in an impressive manner the notion of market integration throughout Babylonia.

As opposed to the letters dealt with thus far, a more optimistic picture of the economy is drawn in YOS 3, 68, 78 conveying the impression of a period of abundant supplies. The generic statement in the letter of the officials Zēru-ukīn and Nabû-gənû, (9-10) KU.BABBAR ina mush-hi ŠE.BAR ma-a-du, “Silver is much (worth) with regards to barley” is specified a few lines later: (13-15) 1 LIM ŠE.BAR a-na pi-i 1+išu 2 GUR a-na 1 MA.NA, “1,000 (kurru) of barley, at the rate of 62 (kurru) for 1 mina of silver”. This equals an equivalent of 186 litres of barley per shekel of silver, a very convenient rate not encountered in our dataset throughout the 4th century BC – it was only during the Seleucid period that the barley equivalent could occasionally rise to such notable amounts. In the same letter also transport costs at what would seem to be a convenient rate of 6.7% of the value of the merchandise is mentioned (15-17): ½ DANNA qaq-qar a-na mush-hi ID ru-qī-it i-na 1 GUR 2 BĀN a-na UGU ID. As the destination is an unnamed, and probably the closest canal, this letter equally illustrates nicely the just mentioned spatial market integration by means of the practice of transporting larger bulks of goods by waterways. Additionally, it shows in a similar way to YOS 3 45 that considerable amounts (again 1,000 kurru) of basic commodities were acquired by the temple for silver. Again, the awareness of the temple dependants of regional price differences is remarkable.

76 Jursa 2010, 92102 and 5513020, Kleber Hungersnot; also Hackl 2007, 55, 57.
77 Kleber Hungersnot. She additionally adduces YOS 3 33 of the same Nabû-ahu-iddin quoting the same barley equivalent of 72 litres per shekel but explicitly referring to the scarce supply situation.
78 On various aspects of this document see Jursa 2010, 101, 146, and 489106, see also Hackl 2007, 105 and 144.
The wealth of archival material yielding comparatively rich price data from the ‘long 6th century’ has been analyzed by M. Jursa 2010, who observed a steep increase in the prices of the most variegated commodities, such as barley, dates, sesame, but also sheep and slaves from the reign Nabonidus onwards and particularly in the early years of Achaemenid rule over Babylonia. The main underlying cause of this phenomenon in his interpretation was an increase in the money supply (rather than a rise in demand or, alternatively, a drain on commodity supply). However, towards the end the reign of Darius I, the prices seem to drop again to the level of the 520s BC, a trend which Jursa tentatively brought in connection with the dislocation of the centre of the empire and a concomitant diversion of the monetary flow. 79 The archival material used by Jursa in his masterful study came to a sudden stop in the aftermath of the rebellions against Xerxes in the king’s second year (484 BC), 80 and although the 5th century BC provides us with several very interesting archives such as most famously the Murašû-archive from Nippur, there is hardly any price data extant.

However, a few hints remain which attest to the same awareness of regional and temporal price differences also during the Hellenistic period: CT 49, 116 (Jursa 2006, 185) for example alludes to both dimensions reading: KÙ.BABBAR ši -mi dan-ša ina K[AŠ.SAG (4) lib-bu]-ú na-dan ša ina 111.KIN MU 49.KAM ina E[X (5) [ina-a]n-din-Ša, “the silver price of said vats of prime beer according to the rate that prevails in Babylon in month VI year 49 (SE = 263/2 BC)”. Interestingly, the terminology employed to designate the rate – nadānu – in this passage is exactly the one encountered in some of the later price lists from the Parthian period (S/W texts 9 and 11, both from the last quarter of the 2nd century BC) as synonym for the more common KI.LAM (mahīru). 81 A corollary of the document just quoted is that it gives some insight into the practical use of specifically monthly equivalents, the most commonly observed entity in the Diaries. An important archival document confirming the reality of price fluctuations as noted in the Diaries is CT 49 111 (= Stolper 1993, text 13). After arranging the repayment (in silver) of a commodity loan similar to CT 49 116 “according to the rate (nadānu) that prevails in Babylonia”, an additional punitive clause specifies that in case of default payment at the appointed date the repayment shall be according to the lowest prevailing equivalent (thus the highest going price) of the year (lib-bu-ú na-dan ma-tu-ú ša MU 43.KAM). 82 If anything, these two examples just quoted show that thinking in terms of price equivalents as well as the awareness of price oscillations was as characteristic of Hellenistic Babylonia as it was for the preceding, better documented Neo-Babylonian period.

Additionally, the quality of the silver and more specifically of the coins used as means of payment in these transactions was important and thus specified in the business contracts, reflecting an awareness of the functioning of a strongly monetized economy. Of particular interest in this regard are the prebend sales contracts from Uruk in southern Babylonia, the bulk of which dates to the 3rd century BC. 83 These contracts habitually stipulate that the payment is to be settled in coins of the reigning king. For example, OECT 9 25, a sale of a temple enterer’s (ērib bīti) prebend worth 32.5 shekels of silver dating to the year 86 SE (226/5 BC) demands the payment of the purchase price to be carried out in (lines 9-10) is-ta-tir-ra-nu ša 1 si-lu-ku bab-ba-nu-ú-tū, “very good silver in staters of Seleucus”, hence Seleucus II (246-226 BC). 84 At first glance this specification is enigmatic

79 See Jursa 2010, 741-760 and 788-791. He also provides brief discussions of the discarded alternative scenarios to increasing monetisation (changes in supply or/and demand) which, in a word, both cannot account in a convincing manner for the universal character of the price increase.
80 On this episode (appropriately titled ‘end of archives’) see Waerzeggers 2003/04.
81 See Stolper 1993, 44 on this particular use of the infinite of the verb nadānu, to give. Van der Spek (oral communication spring 2011) also considers a reading nadānu of the sumerogram KI.LAM for the attestations in the Astronomical Diaries and the Late Babylonian commodity price tablets.
82 Thus the explanation of this clause by Stolper 1993, 44.
83 The most recent discussion of Hellenistic prebend sale (and also lease) contracts is Corò 2005, including editions of hitherto known as well as several unpublished texts. See also Pirngruber/Waerzeggers 2011.
84 According to the Babylonian kinglist BM 35601 (Sachs/Wiseman 1954), year 87 SE was the first full year of his successor Seleucus II, which in the logic of this list should mean that Seleucus II died at some point
as the Seleucid empire was known for its ‘permissive’ stance towards foreign denominations. However, according to H. Seyrig, coins minted in the names of the Seleucid king circulated above their intrinsic value. By specifying the means of payment the sellers of prebendary shares ensured thus to be paid with the most valuable current denomination. This awareness of the different values of the various types of coins in circulation has recently found confirmation in one of the commodity price lists. S/W 6 (lines r12-15) differentiates in year 175 SE (137/6 BC) between a barley equivalent for one shekel of silver in staters of Demetrius and for one shekel of silver staters of Arsaces, the former amounting to 84 litres but the latter to 72 litres only. The coins of the Seleucid king is thus attributed a greater purchasing power, and interestingly, this appraisal seems furthermore to correspond to the greater average weight of the tetradrachms from Seleucia-on-the-Tigris of this king.

The one major exception to the rule of sparse evidence after the second year of the reign of Xerxes is the abovementioned prebend sale contracts from Hellenistic Uruk. Almost 80 prices from the so-called “single profession prebends” could be used in a comparative analysis between Neo-Babylonian and Hellenistic material, the main results of which were to show that a) the alleged sharp rise in prebend prices between Neo-Babylonian and Hellenistic periods is purely fictitious, a misunderstanding based on a change in the contract formulary and that b) throughout the whole Hellenistic period no clear pattern of rise or decline in the prices for any group of prebends can be established, with the exception of the brewers’ prebend. The prices of this latter type of prebend almost double between the period 270-250 BC and 230 BC; after a gap in the documentation of about 50 years their value seems to have risen again by more than 50% in the attestations between 170 and 150 BC. As it seems possible on the basis of this material to make the case for a general congruence of barley prices in the cities of Uruk and Babylon – some of these prebend sales contracts add a (barley?) equivalent of the purchasing prices, which overall aligns nicely with the prices prevailing at the same time in the city of Babylon – we also have a hint at a certain degree of market integration throughout Babylonia as was the case most impressively in the long 6th century BC also for this later period.

A particularly interesting attestation of a certain degree of market integration also in the Late Achaemenid period stems not from cuneiform documents but from the Greek historian Xenophon, who participated at the close of the 5th century BC as mercenary in the abortive revolt of Cyrus the Younger against his brother, the Great King Artaxerxes II. In his *Anabasis* he describes the economic relations of the villages along the Euphrates that were passed by Cyrus and his allies on their march into Babylonia with the city of Babylon thus (I 1.5) “the people who dwelt here (near the village of Pylae on the Euphrates, RP) made a living by quarrying mill-stones along the river banks, then fashioning them, and taking them to Babylon, where they sold (epōloun) them and bought grain in exchange (antagorazontes)” (translation C. L. Brownson), with *antagorazō* specifically implying a purchase made with money. The passage suits also remarkably well with what is known during 86 SE, hence the year to which OECT 9 25 dates. However, there is also numismatic evidence pointing to a death of Seleucus II during 87 SE only; see van der Spek 2010, 376.

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85 See e.g. the assessment in Le Rider/de Callataj 2006, 73-77 and 125-127.
87 Slotsky/Wallenfels 94.
88 I.e. sale contracts involving only one specific type of prebendary activity, such as brewer, butcher, temple enterer etc. See Corò 2005, 26-32 for the terminology.
89 Pirngruber/Waerzeggers 2011, 115 and figure 1.
90 The pertinent contracts are OECT 9 30, 36, and 61, the latter two being partially broken. Also, the commodity at issue is never specified. However, by comparison with the Neo-Babylonian material, barley is the most likely option. See Pirngruber/Waerzeggers 2011, 120 for a discussion.
91 See the definition of *antagorazō*, “to buy with money received in payment for something else” in Liddell/Scott 1968. On this passage see Lendle 1995, 46-47; see also the map on 54 for the location of Pylae.

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about Babylonian soil conditions, viz. a scarcity of natural resources but a productive agriculture with high yield rates. Xenophon indeed seems to have been quite well informed about Babylonian agriculture, e.g. Anab. II 3.14 attests to his knowledge that grain and date beer (which he calls palm wine, oînon ek tēs balanou tēs apo tou phoinikos) were the most important ingredients of the diet of the inhabitant of Babylonia.

Commodities other than prebends are much more scarcely attested in cuneiform sources, also in southern Babylonia. There are two prices of slave women from Late Achaemenid Uruk in sale contracts, one dating to 424 BC and the other to 418 BC. However, the large difference between the two prices – 38.5 shekels and 75 shekels – is indicative of the general problem with slave prices, namely the wide range of fluctuation that arises due to differences in age, physical constitution, education, etc. Considering the usual range established by Dandamaev (1984 (2009), 204) the price of 424 BC, 75 shekels, seems to be more characteristic of the Late Achaemenid period. The prices of two kišubbūs, empty building lots, are roughly comparable, though they stem from two different cities: the one from Uruk fetched a price of 10.6 square meters per shekel, the other one (from Borsippa) was paid for 12.25 square meters/shekel. This impression of rather heterogeneous price for real estate assets is however completely reversed by two contracts involving arable land (ŠE.NUMUN zaqpi u pi šulpi) from Uruk, TCL 13 234 and 249 (van der Spek 1986, texts 3 and 2), whose prices per square meter differ considerably. Other contracts involving real estate, both sales and leases, mention plots consisting of different assets certainly influencing the price (an inhabitable bit qašti of unspecified dimension and a bit ritti in text VDI 1955/4, 3 = van der Spek 1995, text 2) and/or do not mention the size of the plot involved. Most other archival documents mentioning (occasionally considerable) amounts of silver are records of deposit or promissory notes and contain no information on the amount of any commodity that could be purchased with the silver. To my knowledge, they are no straightforward sales of barley, dates, or other staple (food) commodities attested throughout the Hellenistic period. This fact highlights the importance of the price quotations of the Astronomical Diaries, which are our only source on the costs of daily necessities.

Another use of price quotations is found in a text category which is – in accordance with the term given to them by A. Leo Oppenheim, their first editor – commonly designated as “siege documents”. These texts share the characteristic that they were drawn up during a time of internal warfare when the respective city in which they were written lay under siege. These documents mainly come from Nippur from the period of the war between Šin-šar-iškun and Nabopolassar in the 620s BC (texts 2 NT 297, 300, 301, published in Oppenheim 1955, 87-89), but also other examples from Sennacherib’s siege of Babylon in 690 in his campaign against Mušēzib-Marduk (YBS 11377, published in Brinkman 1973, 93) and from the war between the brother Assurbanipal and Šamaš-šum-

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92 The list of prices discussed below has no claims of being exhaustive. Several hitherto unpublished prices from northern Babylonia from the Late Achaemenid and Seleucid periods have been discussed by J. Hackl (Vienna) at a conference in Amsterdam in May 2011. This data consists mainly of prices of slaves and house rents and is difficult to contextualize (or even quantify) due to the reasons outlined above.
93 Edited as texts 2 and 3 in Stolper 1990.
94 Dandamaev 1984 (2009), 204-205. See also 200-202 for the range attested in Neo-Babylonian documents.
95 TCL 13 239, published in van der Spek 1986 as text 7: five shekels of silver a paid as compensation for a plot of ~53m².
96 CT 49 137, published as txt 1 in van der Spek 1995. The price mentioned in the contract amounted to 12 shekels of silver for a kišubbū of roughly 147 m².
97 In TCL 13 249, dating to 316 BC, 2 minas are paid for a ¼ share in a plot of about 3,000 square meters (which are 6.25 m²/sh); in TCL 13 234, dating only 4 years later, 9 minas and 15 shekels are paid for a ¼ share in a parcel of 21.5 hectares – the price equals thus 96.85 m²/shekel. Note that both contracts date to the period of repeated armed conflict between Alexander the Great’s death and the establishment of the Seleucid dynasty. For the impact of warfare on land prices see the assessment in van der Spek 2000, 303-305 (also discussing both TCL 13 234 and 249).
98 Oppenheim 1955; see now also Eph’al 2009, especially 114-151.
ukīn (San Nicolò, 1951, No. 20) are extant. The high prices quoted in these texts are accompanied by other statements such as, most exhaustively, “the land was gripped by siege, famine, hunger, want and hard times” (YBC 11377, translation by J. Brinkman) and serve thus primarily to underline the hardship suffered by the city in this period, their historicity is thus at least questionable. But on the other hand, caution is required because it is exactly one of these topoi, namely the one of parents selling their children that is the transaction at issue in 9 of 25 tablets in the archive of Ninurta-uballiṭ/Bēl-usāṭi from besieged Nippur edited by Oppenheim. Furthermore, the sale of children by their parents in a period of famine is also documented in the Astronomical Diaries (ADs -273B, U.E.1; and possible to be added in AD-373 U.E.1). While the veracity of the prices in these siege-documents is thus disputable, they can thus at least help us to establish a minimum range of what was, probably by quite some margin, conceived as famine prices. The variation of the documents at our disposal is however minimal, and ranges between 2 litres (YBC 11377) and 2 sītu (12 litres) of barley (unpublished document quoted as K. 132 in Eph’al 2009, 1165 and 124) for one shekel of silver.

There is also one barley price quotation extant in AD -273B, reporting as mentioned above that “people sold their children” because of a seemingly grave famine. The price equivalent is with 1 pānu (36 litres) per shekel of silver considerably higher than those of the letters (and note additionally that the equivalent for dates is not even close to being exceptionally low, as is the case in AD -373, unfortunately without a barley equivalent extant). The Diadochi Chronicle (ABC 10 = BCHP 3) quotes – exceptionally for that genre – 6 litres of barley per shekel in the period of extended warfare before Seleucus and Antigonus the One-eyed. However, especially the case of AD -273B modifies the quotations in the letters and gives substance to Israel’s claim that the equivalents ranging between 1 and 12 litres of barley for a shekel of silver are best interpreted as literary topoi. As to the question from what price equivalent onwards one can speak of famine prices, the estimate of P. Vargyas (1997), 50 litres of barley and below, does not seem too far off the mark.

There are also occasional attestations of commodity prices in the Greek authors. Xenophon in his Anabasis (I 1.6) provides a price for grain that Cyrus’ troops could acquire from the Lydian merchants which were accompanying the army on campaign. However, the price given – 4 sigloi for one kapithē of grain (corresponding to 30 obols for 2 choenikes, one choenix containing about 1.1 litres) – is probably to be interpreted as a topical price, too. The price can be converted into 5 drachms or 2.5 shekels of silver for 2.2 litres of grain, hence about one shekel of silver per litre of grain, which is certainly greatly exaggerated. To compare, the lowest equivalent encountered in the dataset of the Astronomical Diaries amounts to 7.5 litres of barley per shekel in 309 BC during the war of the Successors and the mean price of the Late Achaemenid period amounts to 3.37 shekel/kurru, hence about 55 litres per shekel. An additional argument for such a reading of the price stems from its literary context as occurs in a passage dedicated to description of the hardship and deprivation suffered by Cyrus’ troops on their campaign.

100 The range of pertinent 7th century Assyrian documents listed in Eph’al 2009, 125-126, is similar; the same holds true for attestation from Bronze Age Emar (Eph’al 2009, 141-142). The equivalents that serve to underline the hardship suffered by the country are even lower in the Sumerian poetry “The curse of Akkade” (Cooper 1983): During the invasion of the Guteans following the impieties of Naram-Sin, one shekel (of silver?) bought only ¼ litre of sesame, ¼ litre of grain (barley?) and half a mina of silver (lines 176-178).
101 The famine reported in AD -149A, r4 occurred in Antioch-on-the-Orontes rather than in Babylonia and is thus of no use for our purposes; see the commentary to this diary (and cf. van der Spek 1997/98 contra Del Monte 1997, 93-94).
102 There is an even lower equivalent of 6 litres of barley per shekel of silver in the “Chronicle of the Successors” (BCHP 3 = ABC 10) dating to the same year 310/09 BC. For the price data of the Late Achaemenid period, see chapter 3.2.
3. A price history of Babylonia, ca. 400 – ca. 140 B.C.

3.1 Introduction

The aim of the present chapter is to discuss the characteristics such as the level of price volatility and related features – in a word, the statistics of the sample – as well as overall trends of the price data documented by the Astronomical Diaries, with the addition of a considerable number of prices stemming from the commodity price lists edited by Slotský/Wallenfels 2009. The earliest period for which Astronomical Diaries are attested, the 6th and 5th centuries BC, are very scarcely documented, with only one and three extant diaries, respectively (ADs -567 and -463, -453, and -418). Only from the early 4th century BC, December 385 BC to be precise, onwards we have at our disposal a sufficient number of prices, warranting closer analysis. The chronological frame for this investigation is thus the period from the reappearance of price data in the Late Achaemenid period until the Parthian conquest of Babylonia in 141 BC. From the point of view of the historian it is hardly justified to consider this long stretch in time – about 260 years, after all – as a uniform period. Therefore, we will break this period down into several smaller units of time characterized by a rather stable socio-political background. The break lines are if possible placed at moments of major political disruptions such as the Macedonian conquest of Babylonia, hence events which had profound repercussions in the price data.

A first point of interest is the relationship between the prices under discussion to both the data from the “long 6th century” analyzed by M. Jursa in his fundamental Aspects of the Economic History of Babylonia in the First Millennium BC103 and the few scattered price quotations from the Diaries of the 5th century BC, which are collected in Table 3.1.1. Owing to the survival of substantial private and institutional archives throughout Babylonia,104 the 6th century BC is very well documented. This holds especially true for the period between 575-535 BC, a period which was also characterized by very low barley prices ranging mostly below one shekel per kurru, before a dramatic increase in prices set in around 540 BC. The climax of this increase was attained around the year 500 BC, with prices frequently amounting to 10 shekels per kurru, after which the prices fell again to a level between 3 and 4 shekels per kurru.105

As far as the scanty evidence at our disposal allows us to see, the 5th century was characterized by a very high price level. According to AD -419, the most informative source for that period, the barley price in 419/8 BC fluctuated very much in line with the usual seasonal pattern of decreasing prices in the period immediately following the harvest (which seems to have taken place during month II)106 between 5 and 10 shekels per kurru, the mode being 7.5 shekels. A look at the other diary from this century confirms this impression: in the pre-harvest season of 452 BC, the barley price was oscillating between 10 and 12 shekels for a kurru. The general impression is thus one of high prices prevailing throughout the fifth century BC; what according to Jursa was a ‘reversal’ of an inflationary process (i.e. the lower prices of 3 to 4 shekels per kurru in the first decade or so of the 5th century; see the last entries of table 49 in Jursa 2010, 447) seems to have been a temporary consolidation only. However, neither can it be excluded that our extant prices are among the highest of the 5th century BC. The evidence at our disposal is not adequate to sustain any certain conclusions.

103 Jursa 2010, see especially 443-468, 576-94, 595-623 (contribution of K. Kleber) and 745-753.
104 For an overview see Jursa 2005. The most important institutional archives are the Eanna-archive from Uruk and the archive of the Sipparean Ebabbar. Among the private archives, the archive of the Egiibi-family, which stems mainly from the city of Babylon, stands out in size (see Wunsch 2000 and Abraham 2004).
105 Jursa 2010, 447-448. We chose shekels (8.4 grams) of silver per kurru (180 litres) as unit of measurement in order to provide easy comparison with M. Jursa’s data. For the utility of converting equivalents into genuine prices see the arguments in van der Spek/Mandemakers 2003.
106 This year can thus be added to the list in van der Spek/Mandemakers 2003, 526-528.
The few data from private archives published thus far cannot help us any further here. Of the two higher barley equivalents (hence lower prices) of 100 and 90 litres per shekel attested in the 5th century BC, the latter (BE 8, 158) stems from an internal transaction of a temple and thus likely represents a fixed rate rather than prices shaped by supply and demand. The former dates to September 429 BC, in this text (ROMCT 2, 49) 6,000 litres of barley (33 kurru, 1 pānu, and 4 sītu) are specified as equivalent of 1 mina of silver. The transaction in question, however, was a sale of wool by a temple and again the equivalent given is thus not a genuine price. In addition, the text stems from the rural region of Nippur and is thus not necessarily indicative of conditions in or around the city of Babylon. The moderate equivalent of 60 litres per shekel (3 shekel per kurru) given by Vargyas (2001, 64) for August 485 BC is misplaced, as the text given as source, CT 49 150 dates to the Parthian period only. Summing up, the impression is one of rather high prices throughout the 5th century; the prices of 3 to 4 shekels per kurru of the first decades seem to be on the lower side when compared to the prices prevailing in the second half. The scarcity of data, however, renders every conclusion uncertain.

3.2 The Late Achaemenid period

The final decades of the Achaemenid dynasty pose considerable problems to the historian, mainly owing to the scarcity of source material. For Babylonia, and northern Babylonia in particular 484 BC, the second year of Xerxes, was an important watershed: the successful suppression of the rebellions of Šamaš-erība and Bēl-šimânni was followed by some sort of punitive measures against the northern Babylonian urban elites supportive of the revolts. One consequence was the so-called “end of archives”, the widespread disruption of documentary evidence in the cities involved, among which we count such important places as Borsippa, Sippar (including the large temple archive of the Eabbar), and Babylon. For the 5th and 4th centuries, at least three larger archives providing important information on administrative practice and thus potentially supplementing the price data from the Diaries have to be mentioned: the Esangila archive from the city of Babylon, as well as the Brewers’ archive and the Tattannu archive from Borsippa. All three are, however, still largely unpublished. The largest archive of that period, dating to the last quarter or so of the 5th century BC, the Murašû-archive stems from the southern city of Nippur and although important in elucidating the patterns of land tenure in Late Achaemenid Babylonia, the archive is now thought to rather reflect the conditions of the less integrated rural areas on the fringes of the Babylonian plain and is thus of limited use for our investigation.
Archival documents, however, important as they are for elucidating administrative procedures generally provide little information about political history. The few historical sections of ADs as well as chronicle ABC 9 dating to the reign of Artaxerxes III give us rare insights into the activities of the king: the chronicle gives an account of the capture of the Phoenician city of Sidon, AD -381 possibly relates to the subjugation of the Cypriote king Evagoras, and AD -362 (edited by Hunger/van der Spek 2006) refers to otherwise undocumented strife in Babylonia involving the royal family. The most formative sources on Late Achaemenid history, however, are the works of various Greek historians, from Ctesias to Xenophon. Not only outnumber their accounts all other source material at our disposal, they furthermore quite decisively created an impression of a decadent empire in continuous decline: weak kings are being manipulated by women and eunuchs while squandering the heritage of the more positively assessed earlier kings Cyrus II and Darius I (both of which are occasionally awarded the epithet “the Great”). This Greek view of the Achaemenids effectively influenced modern scholarship and it is only since the 1980s, in particular with H. Sancisi-Weerdenburg’s provocatively entitled essay “Decadence in the empire or decadence in the sources” from 1987 that this orientalising stereotype has been abandoned. This more balanced approach to the Achaemenids, culminating in P. Briant’s masterly Histoire de l’empire perse (1996), entailed a re-assessment of various events mainly or even exclusively known through Greek historians. For example, the so-called “Great Satraps’ Revolt” of the 360s BC, described by Diodorus Siculus (especially XV 90) as concerted attempt to overthrow Artaxerxes II was shown to have been a series of loosely related local upheavals hardly reaching beyond the main scene of friction Asia Minor. The furthest that this rebellion might have expanded was Upper Mesopotamia, but it is by no means certain whether AD -366 actually does refer to this episode.

Localized warfare and attempts at sedition were a rather common phenomenon throughout the 4th century BC, in particular in the western parts of the Achaemenid realm. In addition to rebellious satraps, we know of frequent incursions of Spartan kings (Agesilaus) affecting the coastal cities of Asia Minor in the aftermath of the revolt of Cyrus the Younger. We furthermore have evidence of conflicts on Cyprus, in Phoenicia and in Egypt, the latter culminating in a short-lived re-conquest in 342 BC after several abortive attempts. Also in Babylonia, and thus in the very core of the empire, there was occasional conflict as attested by the Astronomical diary -362 quoted above. However, the magnitude of these events should not be overestimated. The mere fact that the Great king could repeatedly campaign against a province as far away as Egypt, which was notoriously difficult to access, too, betrays considerable resources at his disposition, financially as well as in terms of manpower. The same holds true for the interventions on Cyprus and for the deportations into Babylonia of captives taken after the Phoenician city of Sidon was pacified. The revolts and skirmishes in Asia Minor even took place without any kind of royal involvement; it was left to loyal satraps deal with their colleagues perceived as rebels and with pugnacious Spartan kings. None of the events cited here is likely to have influenced the prices in Babylonia. More likely is an economic repercussion of the events in 363/2 BC (described in AD -362), some kind of rebellion and fighting within Babylonia involving a son of the king. Unfortunately, not only is the historical part still quite elusive, but equally there is no price data extant for almost two decades after this event (see below the graph on barley prices).

112 Of importance in this respect are mainly their date formulas, which are indispensable in establishing the precise duration of the reign of kings. See on this aspect Oelsner 1974 and Boiy 2007 et passim.
113 See Van der Spek 1998 for this interpretation (cf. also Briant 1996, 1010-1011).
114 Weiskopf 1989, whose view was accepted and expanded by Briant 1996, 675-694.
115 Van der Spek 1998, 253-256, but see the critical remarks of Briant 2001, 93-94; cf. the commentary to AD -366A.
116 See Briant 1996, 803-809 and 815-820 (and cf. also 799-800) for an analysis of the heavily biased accounts of various Greek historiographers of the Late Achaemenid army, which were “très généralement paraphrasés par les historiens d’aujourd’hui” (804); see 820-832 on the economy. See now also Harrison 2011 for a critical review of recent Achaemenid scholarship.
Just as is the case for historical information, also the price data for the period between 400 and 330 BC is still rather meagre. However, the patterns that emerge are highly interesting. The prices of all commodities, the five foodstuffs as well as wool, can be shown to decrease considerably in this period. The explanatory power ($r^2$) of the (exponential) trend-lines is quite high for all commodities, usually between 0.5 and 0.7 or more. In spite of the paucity of price date, this overall trend seem thus beyond doubt.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Value of $r^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>0.52</td>
</tr>
<tr>
<td>Dates</td>
<td>0.62</td>
</tr>
<tr>
<td>Cuscuta</td>
<td>0.70</td>
</tr>
<tr>
<td>Cress</td>
<td>0.74</td>
</tr>
<tr>
<td>Sesame</td>
<td>0.38</td>
</tr>
<tr>
<td>Wool</td>
<td>0.87</td>
</tr>
</tbody>
</table>

This evidence can be taken as another argument against the over-simplifying portrayal of an empire in straight decline. The graph for the barley price (in shekel per kurru) shows at first glance not only a decrease in price level, but also a decline in the price volatility. This impression is however in need of qualification: one reason for the reduced volatility in the period between ca. 350 and 330 is certainly the fact that the data comes for two years only, ADs -346 and 332. Contrary to P. Vargyas’ assertion that “the price of barley fluctuated strongly within the economic year”,117 it could be shown that the intra-annual price variation in Babylon is rather low compared to e.g. Medieval England, mainly due to the dual crop structure of barley and dates of the Babylonian agriculture.118 P. Vargyas’ (2001, 130) conclusion of 50 percent fluctuation within a harvest year and up to 100% fluctuation around harvest time based on the price data of the ADs gives a very inflated impression of the magnitude of intra-annual price movements.119 By accounting also for the negative growth rate of the barley price in autumn, which was caused by the demand-alleviating effect of the date harvest, an average intra-annual growth rate of 15.3 percent for barley (and a similar value for dates) gives a more realistic idea about the magnitude of seasonal fluctuation.120 This result compares well with the intra-annual wheat price variation in Egypt ranging between 20 and 30% given by von Reden 2010 (155). The higher values of Egypt compared to Babylon can be readily explained by its single crop structure, however, this value is still low by the standards of antiquity. Compared to regions dependent on larger scale import of grains such as the island of Delos, these figure are very moderate: during the year 282 BC, the wheat price on the island more than doubled from 4,5 drachmae per medimnos in the immediate post-harvest period to 10 drachmae/medimnos five months later.121

118 For a comparison of the level of inter-annual price fluctuation between Hellenistic Babylonia and Medieval England see Földvári et al. 2011. The interdependency of barley and dates was already established by Vargyas 1997, 339 and 2001, 177-183.
119 Also, he confuses changes in the barley equivalent with changes in the barley price; see van der Spek/Mandemakers 2003 for the frequent confusions of this kind in both Slotsky 1997 and Vargyas 2001.
120 See Földvári et al. 2011, 180 and tables 4a, 4b, 5a, and 5b (183-186).
121 Reger 1994, 307 (Table III.5.). Unfortunately, this is the only year to provide satisfactory information on intra-annual fluctuation in the wheat price. We do not know of any exogenous shocks that might have caused this substantial fluctuation. The variation in the barley price seems to have been considerably lower, but it has to be noted that most of the data available pertain to barley as feed for the sacred geese of Apollo.
3.2.1 Barley prices of the Late Achaemenid period

Because of the scarcity of data, further corroboration of these results for the late Achaemenid period is difficult, and achievable only by means of crude methodology. One solution is simply to compare the standard deviations from the mean of the periods -386 until -366 and -346 until -332 to the mean of the intra-annual standard deviations of all known cases. The results thus obtained confirm our expectations: the standard deviation from the mean of the barley price (in shekel per kurru) for the earlier period amounts to 1.65, but in the later period, which is based on two diaries only, it decreases to 0.37. The mean of intra-annual fluctuations as measured by the standard deviation is even lower, only 0.31. These results find confirmation in other periods. For example, for the totality of the reign of Antiochus I (281-261 BC), the standard deviation was 1.14, but the mean intra-annual value (based on ADs -278B, -277, -273B, -270B as well as S/W 3) only 0.15. The intuitive assumption of van der Spek 2000 (297) that considerable price jumps do not

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122 All trend lines in section 3.2 are exponential which accounts best for both the scarcity of the price data on which the graphs are based, and the pattern of decreasing prices for all commodities.

123 A similar pattern is obtained when looking at the coefficient of variation (CV) which decreases from 0.41 in the period between -389 and -366 to a mere 0.23 in the years -346 to -332. Although the CV is generally a more reliable means of comparison, due to the scarcity of the data especially as regards the intra-annual oscillations, the cruder standard deviation was judged more appropriate, at least for the period under investigation.

124 This value is the mean of the standard deviations of the price data of ADs -384, -381A and B, -380B, -379, -378, -375A and B, -372, -369, -366, -246, -332. AD -370 was not considered because only one price is extant in this diary. Note however, that three of the included diaries (-380B, -378, and -366) have only two identical prices for one month. Their deviation of zero was included in order to avoid a disproportionate impact of exceptional prices such as the high price of March 346 BC, an outlier in all probability caused by an invasion of locusts (discussed below in chapter 4.2). However, even if those three diaries with zero deviation were omitted, the value would still amount to only 0.42 and be substantially below the value of the earlier, better covered period.
occur frequently within one year can thus be corroborated. Finally, it has to be emphasized again that intra-annual fluctuations in general conform to the expected pattern of seasonality: prices were lowest in the period shortly after the harvest and rose thereafter.\textsuperscript{125} This fact, known as explained (or conditional) volatility also has to be taken account of in order to arrive at a more realistic impression of price volatility.

In general, the Late Achaemenid barley price data aligns remarkably well with the prices found in the late 6\textsuperscript{th} century/early 5\textsuperscript{th} century, for which the mean price ranges between 3 and 4 shekels per \textit{kurru}.\textsuperscript{126} The mean of the Late Achaemenid sample amounts to 3.37 shekel per \textit{kurru} – corresponding to an equivalent of 70 litres per shekel – with a standard deviation of 1.79. As is the general rule with foodstuffs the value of the median (2.79) is lower than the mean of the sample due to demand inelasticity.\textsuperscript{127} These values are much lower than the high prices seemingly prevailing during the 5\textsuperscript{th} century BC, which, it must be kept in mind, rely on few data only. The mean of that period is 7.85 shekels per \textit{kurru}, again the median is lower (7.5). Price volatility is quite high, especially in the period between 385 and 366 BC, when the price oscillated between 1.82 shekels/\textit{kurru} in March/April 370 BC and 7.5 shekels/\textit{kurru} in January 372 BC.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Mean price (shekel per \textit{kurru})\textsuperscript{128}</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>3.37</td>
<td>1.79</td>
</tr>
<tr>
<td>Dates</td>
<td>2.02</td>
<td>0.82</td>
</tr>
<tr>
<td>\textit{kasū}</td>
<td></td>
<td>1.01</td>
</tr>
<tr>
<td>Cress</td>
<td>7.05</td>
<td>7.02</td>
</tr>
<tr>
<td>Sesame</td>
<td>9.67</td>
<td>5.56</td>
</tr>
<tr>
<td>Wool</td>
<td>1.54</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Like barley, also all the other commodities of the Diaries do not only exhibit a price decrease during the 4\textsuperscript{th} century (exemplified below in the graph of the sesame prices) but equally a substantially lower mean than in the 5\textsuperscript{th} century. For dates, the mean diminishes from 4.42 to 2.02 shekel per \textit{kurru},\textsuperscript{129} for sesame even from 30.64 to 9.27. It has to be noted that the first value of the Late Achaemenid sesame series of the ADs (7.5 litres per shekel in May 382 BC) is still close to the values of the 5\textsuperscript{th} century, which oscillate around 5-6 litres per shekel. However, already shortly afterwards the equivalent trebles. We cannot tell whether this price was exceptionally low or whether it was in line with the regular equivalent for sesame in the early 4\textsuperscript{th} century BC. As can be seen from table 50 in Jursa 2010 (452-454) listing sesame prices of the 6\textsuperscript{th} century, during the reign of Darius high prices of around 30 shekels per \textit{kurru} of sesame start to appear with certain regularity. It seems thus plausible that during (most of) the 5\textsuperscript{th} century and also the first decades of the 4\textsuperscript{th} century a high sesame price prevailed. The mean of 9.27 shekels per \textit{kurru} for the period between ca. 390-330 BC is then again closer to and even below the 6\textsuperscript{th} century value of 13.37.\textsuperscript{130} For dates, the mean of the Late Achaemenid period (2.02) lies above the mean

\textsuperscript{125} See most exhaustively Vargyas 2001, 89-130, and in particular 86-89, for the fluctuation of the barley price within a harvest year; see also Van der Spek/Mandemakers 2003.

\textsuperscript{126} See the last entries in table 49 in Jursa 2010 (443-447). For the whole 6\textsuperscript{th} century, the mean was lower and amounted to 2.56 shekels per \textit{kurru} (Jursa 2010, 448).

\textsuperscript{127} On that point see also Van der Spek/Mandemakers 2003, 523-524.

\textsuperscript{128} Wool price in shekel per 5 minas.

\textsuperscript{129} Not considering the dubious reading of 17 litres per shekel of AD -418, month II, which would raise the mean of the earlier cluster even to 5.45.

\textsuperscript{130} For this value and a graph of 6\textsuperscript{th} century sesame prices see Jursa 2010, 454-455.
of the long 6th century of 1.24 shekel per kurru but slightly below the values for late 6th/early 5th century.  

3.2.2 Sesame prices of the Late Achaemenid period

That a downward trend for all commodities for the Late Achaemenid period is beyond doubt was already one of the results of A. Slotsky’s work, however, by confusing equivalent and prices overstated the magnitude of this trend.  

The reasons for this downward trend are not clear. Taking again the barley price as point of departure, it is immediately clear that the cause of the low prices cannot be sought in the periods recorded in the diaries; quite the contrary. The low prices of AD -346 are even pre-harvest prices and consequently ceteris paribus among the higher prices of the year in question. The fact that all commodities are affected militates in any case strongly against explanations in terms of harvest variation of the single commodities. It is remarkable that even the price of wool, which is considered unanimously the most stable of all commodity prices of the Diaries, declines significantly during these decades.

The prices during the first half of the 4th century oscillate between 1.67 and 2.5 shekels per five minas and are thus as is the case with the other commodities above the 6th century mean, calculated at of 1.4 shekels per five minas by Jursa 2010 (618-619). In the 340s and 330s BC, however, the price fluctuates between 0.83 and 1 shekel per 5 minas. This unevenness in the price level is also reflected in the coefficient of variation of the Late Achaemenid period, which is with 0.49 remarkably high for wool, a commodity not prone to seasonal fluctuation and with a higher demand elasticity compared to the basic foodstuffs barley and dates. For comparison, throughout the whole 3rd century BC that

131 Jursa 2010, 586, and 592-594, see in particular the latest values from Darius I, year 17 (505/4 BC) onwards.

132 Slotsky 1997, 57, speaks of a two- to sevenfold price decrease. Taking the mean price as base point, the decrease is rather two- or maximum threefold.
value amounts to only 0.30. It is equally notable that the magnitude of this downward trend in prices amounts to about 50 percent for all six commodities.

3.2.3 Wool prices of the Late Achaemenid period

By and large, there are three different explanatory approaches to explain this universal price decrease. The first possibility to consider is a decrease in the demand. This would imply a decline in the population level, which is a very unlikely suggestion. Although the demographic pattern can vary locally, by and large, a rise in the population level in Mesopotamia can be ascertained, starting about the middle of the first millennium BC and extending well into the Sassanid period. Also the short period in question militates against this hypothesis – unless we want to assume mass deportations or a plague carrying off a large proportion of the population, which are both not attested for this period. After all, the two documented periods (380s-360 and 340s-330s BC) are not very far apart in time and show internally no downward trend, additionally, the decline in prices is rather steep. The second option, an increase in the level of supply is eo ipso improbable as this would presuppose a more or less uniform rise in the productivity level of the most variegated commodities. The third possibility, in a similar vein to M. Jursa’s (2010, 746-753) suggestion for the ‘inflation’, or rather monetization, in 6th century Babylonia is to assume a change of the monetary base. In our case this would mean a contraction of the monetary supply, and an increase in the value of silver with respect to the commodities. But again, there is no plausible scenario as to why there might have been a siphoning off of silver resources from Babylonia in these years. We do read for example that Demosthenes received large sums of money from the Great King in order to organize resistance against the Macedonians in 335/4 BC, but whether those alleged 300 talents of gold constituted a

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133 This difference is all the more remarkable as according to Földvari/Van Leeuwen 2011, the CV tends to be higher the longer the period analyzed is.
major drain of precious metal for the Persians is more than doubtful.\textsuperscript{135} The abortive campaign launched by Artaxerxes II against Egypt in spring 373 BC or the interventions on Cyprus against Evagoras in the 380s BC were certainly more costly enterprises for the royal treasury, but Babylonian commodity prices were not visibly affected. Furthermore, the bribing of the Athenian orator was no singular affair, as we see various Great Kings meddling in Greek affairs – a prominent example is the King’s Peace of 386 BC\textsuperscript{136} – which certainly involved financial outlays. The case of the Late Achaemenid period nicely reflects the difficulties involved in analyzing the data of the Astronomical Diaries: complementary sources are usually scarce, and often a definite explanation cannot be given for apparent trends or even singular phenomena.

Summing up our findings for the Late Achaemenid data, we firstly note that the mean prices are in general higher than the low mid-sixth century prices, but substantially lower than the high prices caused by the monetisation shock in the last quarter of the 6\textsuperscript{th} century BC. Any direct comparison between the two datasets is however rendered problematic by the scarcity of price data throughout the 5\textsuperscript{th} century, leaving all attempts at a solution on a shaky ground. The general impression is one of a fairly high price level in this period. There is no convincing monocausal explanation for the ongoing price decrease in the 4\textsuperscript{th} century. Most striking is the rather high level of price volatility as epitomized in the large range of prices in the period between ca. 385 and 369 BC pointing to some kind of market imperfection. The most satisfactory and probable explanation for the pattern of the Late Achaemenid period of both a comparatively high price level as well as a considerable volatility is an interplay of several smaller factors (and see also the conclusion in chapter 7 on the possible harmful impact of the social structure of Late Achaemenid Babylonia on market performance). The prices of the earlier cluster saw much bellicose imperial activity in various parts of the empire and beyond (Cyprus, Egypt) involving the Great King himself. Some of the campaigns might have had their starting point in Babylonia, for example the one against the land of Razaunda described in AD - 369, and thereby causing a drain on the province’s resources. Ominous references repeatedly point to various difficulties in Babylonia in this period, among which disease (AD -382) and famine (AD -373A), and also the unsuccessfulness of several military enterprises (Egypt, Cadusians) might have played its part. Finally, also the major dark horse of Babylonian price history, the outcome of the harvest, the outcome of the harvest may have favoured the later years in question here, thereby decreasing price and volatility of one or another commodity. The low prices in the 340s seem to be favoured by quite a stable political climate; the only outlier can be explained due to the occurrence of a natural disaster (locust invasion). The even lower prices in September-November 333 put in perspective impact of military actions in regions faraway from Babylonia: the crushing defeat at Issus of the Persian imperial army with a subsequent looting of the Persian camp at Damascus (Just. XI 9.9-11) obviously left no trace in Babylonian commodity prices. The occurrence of disease, famine and high prices in the first half of the 4\textsuperscript{th} century BC may still have been favoured by the continuous campaigning of the king in that period; it is however misleading to assume an automatic causal relationship between military campaigns and high prices.

Unfortunately, the sources do not permit us to investigate the history of these decades in more depth. Finally, it should also not go unmentioned that climatic studies point towards a decline in average temperature between ca. 400 and 350 BC in Babylonia, and hence more favourable conditions for agriculture. An improving climate might certainly have contributed to the price decline of field crops by increasing their supply, however, this explanatory approach cannot account well for the notable decrease also in wool prices.\textsuperscript{137} Also, the fact that prices did not show a downward trend between ca. 385 and 365 BC but remained on a rather high level displaying considerable fluctuation is difficult to reconcile with a strong beneficial impact of climate during the Late Achaemenid period.

\textsuperscript{135} Diod. 17 4.7-9; cf. Heckel/Yardley 1997, 87.
\textsuperscript{136} On this episode see Briant 1996, 668. cf. Diod. 14 110.1-4.
\textsuperscript{137} Van Leeuwen \textit{et al. Climate}. 
A final point remains to be made. It has been suggested above that the level of inter-annual price volatility in the late Achaemenid period – in particular within the period between the 380s and the 360s BC – is quite high. The barley price, for example, was shown to range between 1.82 and 7.5 shekels per kurru. This pattern of comparatively high volatility is also applies to the other commodities not represented in graphs here, although often to a lesser extent. This is not a surprising finding considering that barley as main staple crop is particularly prone to larger fluctuations and especially that arable farming is a much less fruitful type of agriculture in terms of output per surface area when compared to date gardening.\textsuperscript{138} Remarkable is the volatility of sesame, for which commodity the price fluctuates between 2.5 and 24 shekels per kurru, with a mean of 9.67.

It is thus an odd finding for barley that the coefficient of variation, amounting to 0.53 was at a lower level than during the 6th century BC, when this value was 0.99 (Jursa 2010, 448). This impression is in need of qualification, as this high value is determined by the very high prices (exceeding 10 shekel per kurru) prevailing at the end of this century. However, there is also an obvious discrepancy to the coefficient of variation for the densely documented period between the years 573 and 539 BC, which amounted to 0.42 at the very narrow range of a maximum and minimum price of 2.3 and 0.4 shekels per kurru, respectively.\textsuperscript{139} This shows once again that statistical values taken by themselves are not necessarily reliable and need to be contextualized. The main difference in the data sets is that in the Neo-Babylonian period the data clusters around the mean value whereas this is not the case with the widely divergent late Achaemenid data. However, the scatter band has no influence on the value of the mean which is both the denominator in the formula to calculate the coefficient of variation as well as an integral part of the formula for the standard deviation, which itself is the numerator in the formula of the CV.\textsuperscript{140} To concretize by means of a simple example, the mean value of a dataset consisting of two values would be the same if the values were 4 and 4 or 7 and 1. This case is thus a good reminder of the limits of the informative value of conventional gauges and the necessity to always review in detail the data to be analyzed. In the present case, it is less the CV but rather the very wide range of commodity prices that is indicative of imperfect working of the market in the two decades or so between -385 and -366.

\textsuperscript{138} In northern Babylonia, the yield of a date garden of one hectare amounted on average to 5,328 litres, the yield of a barley field of the same size only to 1,728 litres – at roughly equal caloric value, it has to be noted. See Jursa 2010, 48-53 for a full discussion. For the high volatility of staple crops see already, e.g., Braudel/Spooner 1967, 392.

\textsuperscript{139} Jursa 2010, 448. The huge difference in the ranges of the years 573-539 BC and 381-369 BC is immediately visible when comparing his Figure 8 (448) to our graph 4.1 above.

\textsuperscript{140} See Feinstein/Thomas 2002, 47-51 for the respective formulas.
### Table 3.1.1 Commodity prices from the 5th century BC

<table>
<thead>
<tr>
<th>Diary (month)</th>
<th>Date BC</th>
<th>Commodity</th>
<th>Equivalent (litres)</th>
<th>Price ($/kurru)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD -461 (VI)</td>
<td>08/07-06/08 462</td>
<td>Sesame</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>AD -453 (X)</td>
<td>03/01-31/01 452</td>
<td>Barley</td>
<td>18-15-18</td>
<td>10-12-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dates</td>
<td>48</td>
<td>3.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cuscuta</td>
<td>144</td>
<td>1.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sesame</td>
<td>8</td>
<td>22.5</td>
</tr>
<tr>
<td>AD -418 (I)</td>
<td>27/03-25/04 419</td>
<td>Barley</td>
<td>24-23</td>
<td>7.5-7.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dates</td>
<td>16.5</td>
<td>7.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cuscuta</td>
<td>144</td>
<td>1.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cress</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sesame</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wool</td>
<td>1</td>
<td>180</td>
</tr>
<tr>
<td>AD -418 (II)</td>
<td>26/04-24/05 419</td>
<td>Barley</td>
<td>24-18-24</td>
<td>7.5-10-7.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dates</td>
<td>17</td>
<td>10.6</td>
</tr>
<tr>
<td></td>
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<td>Cuscuta</td>
<td>120</td>
<td>1.5</td>
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<tr>
<td></td>
<td></td>
<td>Cress</td>
<td>13</td>
<td>13.85</td>
</tr>
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<td>5</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wool</td>
<td>1</td>
<td>180</td>
</tr>
<tr>
<td>AD -418 (III)</td>
<td>25/05-23/06 419</td>
<td>Barley</td>
<td>30-36</td>
<td>6-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cress</td>
<td>16</td>
<td>11.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sesame</td>
<td>5</td>
<td>36</td>
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<tr>
<td></td>
<td></td>
<td>Wool</td>
<td>1</td>
<td>180</td>
</tr>
<tr>
<td>AD -418 (IV)</td>
<td>24/06-22/07 419</td>
<td>Barley</td>
<td>34-31</td>
<td>5.29-5.80</td>
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<tr>
<td></td>
<td></td>
<td>Wool</td>
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<td>180</td>
</tr>
<tr>
<td>AD -418 (XII)</td>
<td>15/02-15/03 418</td>
<td>Barley</td>
<td>21-24</td>
<td>8.57-7.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Date</td>
<td>52.5</td>
<td>3.43</td>
</tr>
<tr>
<td></td>
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<td>Cuscuta</td>
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<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cress</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sesame</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wool</td>
<td>5/6</td>
<td>21.6</td>
</tr>
<tr>
<td>AD -418 (XII2)</td>
<td>16/03-14/04 418</td>
<td>Barley</td>
<td>25</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dates</td>
<td>48-49.5</td>
<td>3.75-3.63</td>
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<td>Cuscuta</td>
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<td>1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cress</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sesame</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wool</td>
<td>1</td>
<td>150</td>
</tr>
</tbody>
</table>

141 Minas in the case of wool. The statistics of the barley sample are: mean price, 7.85 shekel/kurru; both median and mode are 7.5 shekel/kurru. The standard deviation amounts to 1.98.

142 Separate prices are given for the beginning, the middle, and the end of the month.

143 A second price is given for the end of the month.

144 Again separate prices are given for beginning, middle and end of the month. Additionally, the equivalent for this particular price quotation is one shekel and one-eighth rather than the usual one shekel.

145 Price at the end of the month.
3.3 The Hellenistic period from the conquests of Alexander the Great until the consolidation of the Seleucid kingdom

This period has been repeatedly in the centre of interest of modern research, with the person of Alexander the Great eliciting an abundance of literature since antiquity. The documentation for the decades following Alexander’s death until the consolidation of the Seleucid empire in the huge territory “from Samarkhand to Sardis”, to quote the influential account of Sherwin-White/Kuhrt (1993), is less impressive and varies considerably in quality and quantity. From among the Greek source material, books XVII to XIX of Diodorus stand out in wealth of information provided. For Babylonia, important chunks of source material, both archival and historiographical in the larger sense of the word have been analyzed and made available in a 2006 congress volume entitled La transition entre l’empire achéménide et les royaumes hellénistiques. Also in the reconstruction of the elusive chronology of the period, cuneiform documents play an important role.

With one notable exception – AD -330A+B giving an account of the battle of Gaugamela as well as some details of Alexander’s entry into the city of Babylon – there is little historical information in the Diaries of that period. The most interesting information is a short note inserted into the astronomical section of 11 June 323 BC reading LUGAL NAMMEŠ – ‘the king died’, a reference to Alexander’s death. In the decade between 320 and 311 BC there is no extant diary at all, leaving us with an unfortunate gap in the price data. The most important cuneiform source of the period is the so-called Diadochi chronicle (ABC 10 = BCHP 3). This text covers with substantial gaps the period between ca. 320 and 308 BC and describes the continuous fighting between the Successors of Alexander the Great for the satrapy of Babylonia, of which Seleucus was ultimately to emerge victoriously. It gives a very bleak picture of the circumstances prevailing, providing us with an uninterrupted sequence of battles, slaughter, destruction, and requisitions of silver throughout the country. Uniquely for a chronicle of the Hellenistic period, it also mentions a barley equivalent as literary means to substantiate the level of dearness in Babylonia. In year 8 of king Alexander IV (309/8) one shekel of silver only bought 6 litres of barley. This enormously high price finds confirmation in the Diaries of the same period, which give 7.5 litres of barley per shekel for April 309 BC. These are the lowest equivalents of the whole period covered by ADs, and it is only during the later Parthian period that Babylonia saw again such very high prices (e.g., AD -82).

It has been repeatedly argued that the continuous warfare which in the decades after the death of Alexander the Great took place in Babylonian had major repercussions in the Babylonian prices. A brief glimpse at graph 3.3.1 shows us that there was indeed a massive price increase during that period. There seem to have been economic problems already during Alexander’s lifetime. Not only are prices higher during the 320s BC when compared to the last decades of the Late Achaemenid period and back at the elevated level of the 380s-360s BC, but there even occurred a supply failure in spring 325 BC shortly before that year’s harvest, with no barley to be found in the city (AD -324B). It was only with the death of Alexander, however, that the situation turns into a crisis without precedence, as can be seen at one glance from the graph plotting the barley price of the last

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146 Briant/Joannès 2006. Among the contributions dealing with Babylonia see especially those of F. Joannès, M. Jursa, and R. van der Spek. Note that also the archives referred to in the preceding section 3.2 on the Late Achaemenid period do not suddenly break off with the Greek conquest but continue for quite some decades into the Hellenistic period.

147 The chronology followed here is the one suggested by Boiy 2007, the most complete and convincing attempt thus far. See also the contributions of P. Wheatley, E. Anson and T. Boiy (=2007a) in Heckel et al. (eds.) 2007.

148 The best general history of that period is still Will 1979 and 1982; see also Schober 1981, especially 105-139 and Boiy 2004, 104-137, with a particular focus on Babylonia.


150 See van der Spek/Mandemakers 2003, 528-530 on the interpretation of this and similar passages, against Slotksy 1997, 22 et passim.
30 years of the 4\textsuperscript{th} century BC\textsuperscript{151}. The first decade of the 3\textsuperscript{rd} century has been included to show just how large the difference in prices was between the stable period after the consolidation of the Seleucid empire and the crisis years.

A direct connection between the political history and the movement of the prices seems unavoidable. In the years 325 and 323 BC, prices were high already, at about the level of the earlier cluster of the Late Achaemenid period between 3 and 5 shekels per \textit{kurru}. In January and February 322, after a gap of half year in the documentation, prices were at an unprecedentedly high level of 13-15 shekels per \textit{kurru} (equalling 12 -13.5 litres per shekel). An explanation can be found in the historical circumstances in Babylon after Alexander’s death. There was no heir to the throne and the succession was much disputed. In the end, both Alexander’s mentally deficient brother Philip Arrhidaeus and his yet unborn son with the Sogdian princess Roxana, Alexander IV, were formally accepted as kings whereas actual authority was distributed among Alexander’s generals\textsuperscript{153}. This compromise was however contested by the Macedonian infantry under the lead of Meleager. As a consequence, the higher ranks, notably the cavalry under the lead of

\textsuperscript{151} As opposed to the graphs in the chapter of Achaemenid history, graph 3.3.1. is not on an exponential but on a 3\textsuperscript{rd} degree polynomial scale. The reason for this is very simple: an exponential scale would result in a trend line moving downwards from a higher point at around 330 BC to the low prices in the 290s BC in a one-directional movement at a very low $R^2$. This form would not account in an adequate manner for the high prices recorded between 323 and 308.

\textsuperscript{152} The trend lines of the graphs in this section 3.3 are polynomials of the 3\textsuperscript{rd} order. This way, the rather low prices at the beginning and the end of the period under discussion are best visualized.

\textsuperscript{153} See Will 1979\textsuperscript{2}, 19-26, Boiy 2007, 148. The leading roles were played by a “triumvirat théorique” (É. Will) consisting of Craterus, Antipatros, and Perdiccas. Note also that documentary sources from both Egypt and Babylonia only mention Philipp in their date formula until his death in 317 BC, van der Spek 2010, 371.
Perdiccas left the city, cut it off from its hinterland and put it under siege in order to enforce their settlement of the succession. These measures brought success – the rebellion was quelled and Meleager executed – but caused *inopia primum deinde fames* in the city as according to Quintus Curtius (X 8 12-13) the army cut off grain destined for Babylonia, heavily dependent on its hinterland for foodstuffs.

A correlation of domestic warfare and high prices in the Diaries is also strongly suggested by the events between 310 and 308 BC. The data yields even higher prices of up to 30 shekels for one kurru of barley (the equivalent of 6 litres per shekel mentioned the Diadochi chronicle),154 which are to be interpreted against the background of the tenacious military operations by Antigonus the One-Eyed and his son Demetrius who tried to wrest the satrapy of Babylonia from Seleucus and his general-in-command Nicanor. Some of the military actions and their consequences are described in the chronicle, which in those years specifically refers to repeated plundering of both city and countryside, SAR-*ut URU u EDIN* (BCHP 3 =ABC 9, r 25 and r38), and to illegal requisitions of an unknown commodity (BCHP 3 =ABC 9, r 30). This latter notice responds well to AD -309, which relates requisitions of foodstuffs, dates and possibly also barley. Babylonia was in a desolate state throughout these years: *bikītu u sipdu*, wailing and mourning, are said characterize the country’s emotional state.

It is unfortunate that the decade between these two price peaks is not covered by any price data at all. There are however a few glimpses which indicate that prices were above average throughout the whole early Hellenistic period, but possibly on a more moderate level than during the peaks of 322 and 310-308 BC. There are only few allusions to military activity in the period between the final acceptance of the outcome of the Babylon conference and the recapture of Babylon by Seleucus and the ensuing conflict of the fraction of Antigonus in spring 311 BC. Most of these incidents also seem to have been minor in scale or took place mainly outside of Babylon proper. After the conference at Triparadisus, when Seleucus was installed as satrap of Babylonia, he likely had to remove his predecessor Docimus by military means.155 A few years later, Eumenes on his flight from Antigonus spent the winter of 318/7 BC with a small army in the so-called Carian villages in Babylonia. As Seleucus did not grant him any support, he was forced to leave the region early in 317 BC already and turned eastwards towards the Susiane. Spring 317 BC saw the arrival of Antigonus with his army in Babylonia, but the battles against Eumenes were fought beyond the Zagros mountain range in Paraetacene and Gabiene. In Spring 316 BC, Seleucus was forced to leave Babylonia and Antigonus himself took over the office of satrap, but no military encounters are reported. The period of Antigonus’ rule over Babylon is virtually undocumented as regards political history, and it is only with the return of Seleucus from his Egyptian exile the documentation resumes. Cuneiform sources add one interesting detail to this period characterized by an uneasy ceasefire interrupted by several flare-ups. According to BCHP 3 (ABC 10) 33-35, in October 317 BC the palace in Babylon was captured from someone during some kind of skirmish involving the troops of the kings. The passage is normally interpreted as episode of the conflict between Eumenes and Seleucus (which would not fit the chronology adopted here), but it has to be noted that there is no definite proof that Eumenes ever reached the city or had supporters there.156 Be that as it may, the passage shows that the silence of the sources may be misleading and that we have to reckon with occasional unrest in Babylon as well. Finally, also the economic circumstances remained precarious throughout the 310s BC. The Diadochi chronicle reports a forceful levy of silver in 318 BC upon command of Seleucus.157 Text A2-7 in Stolper 1993 gives proof that the Greek administrators did not hesitate to interfere in the

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153 BCHP 3 (=ABC 10), r29 and r33. The highest price given in the Diaries is with 24 shekels per kurru of barley (or 7.5 litres per shekel) very much in line with the chronicle data.
154 Boiy 2004, 119, with the relevant Classical sources.
155 See now Boiy 2010 (with an ample discussion of previous literature on the subject) for a reinterpretation of the passage as skirmishes between (royal) troops of Antigonus and (satrapal) troops of Seleucus stationed in the city. He rightly points out that there is no evidence whatsoever to identify the Hanean royal troops with the argyraspids under the command of Eumenes.
156 BCHP 3 (ABC 10), 29-30.
temple economy: in October 314 BC, a disbursal of the substantial amount of 3 minas of silver is made on command of a Greek Kallinikos to another Greek.\textsuperscript{158} The peak of the trend-line at about 314 BC is thus an artificial outcome of the mathematics rather than historical reality: although far from being a period of peaceful stability, the 310s saw a certain reduction of bellicose enterprises in Babylonia. Consequently, we have to reckon with a price level somewhat better than in 322 and especially between 310-308, the decisive phase of the warfare between Antigonus and Seleucus for supremacy in the East. The final decades represented in graph 3.3.1 show that the economy recovered quickly from these troubled period of the wars of the Successors. Already by 300 BC, the barley price returned to the level between Macedonian conquest and Alexander’s death, and in the first decade of the 3\textsuperscript{rd} century BC the crisis was definitely overcome: the final consolidation of the Seleucid empire was reflected in a hitherto unmatched low price level.

Comparison by numbers with the preceding Late Achaemenid period pinpoints the markedly higher price level and absolute volatility of the Early Hellenistic period. Whereas in the former the mean value amounted to 3.37 shekel per \textit{kurru} of barley (70 litres per shekel) at a standard deviation of 1.79, the mean during the Hellenistic period (without the very low prices from the beginning of the Seleucid period conveyed in the graph), was almost three times that value, 10.38 shekels per \textit{kurru}, with a standard deviation of 7.08.\textsuperscript{159} The table below shows that barley constituted no exception to a general pattern of massively inflated and volatile prices:

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Mean price (shekel per \textit{kurru})</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>10.38</td>
<td>7.08</td>
</tr>
<tr>
<td>Dates</td>
<td>7.06</td>
<td>3.22</td>
</tr>
<tr>
<td>kasù</td>
<td>0.80</td>
<td>0.40</td>
</tr>
<tr>
<td>Cress</td>
<td>13.09</td>
<td>4.56</td>
</tr>
<tr>
<td>Sesame</td>
<td>29.55</td>
<td>12.43\textsuperscript{161}</td>
</tr>
<tr>
<td>Wool</td>
<td>4.11</td>
<td>1.41</td>
</tr>
</tbody>
</table>

The differences are impressive: the date price more than trebled from 2.02 to 7.06, similarly the price of sesame almost trebled from 9.67 to 29.55 shekels per \textit{kurru}. The cress price almost doubled from 7.06 to 13.06 shekels per \textit{kurru} and the wool price rose from 1.54 to 4.11 shekels per 5 minas. The only commodity not to show a significant increase in its price (from 0.75 to 0.80 shekels per \textit{kurru}) was kasù, a phenomenon which is due to the very high prices of this commodity in 383/2 BC.

The extended warfare of the last quarter or so of the 4\textsuperscript{th} century might, however, not constitute the only reason for the inflationary price movement of that period. P. Temin hypothesized a substantial increase in the monetary supply mainly due to the minting of the treasures of the Great Kings looted in the course of Alexander’s campaigns as major factor behind the massive price increase visible in all commodities. It is indeed remarkable that also non-vital commodities for which a rather elastic demand can be posited such as cress (see graph 3.3.2 below) show a price increase similar in extent to that of barley and dates. In his explanatory approach, the treasures captured by Alexander’s army – a total of 180,000 talents of silver, according to Strabo (XV 3 9) – were minted and put into circulation mainly after Alexander’s death by the Successors.\textsuperscript{162} The question that arises

\textsuperscript{158} Stolper 1993, 82-86, cf. also van der Spek 2000 302-303.
\textsuperscript{159} Also the coefficient of variation is substantially higher than it was in the Late Achaemenid period, (0.70) is a very high result considering the short period of only 30 years under investigation.
\textsuperscript{160} Wool price in shekel per 5 minas.
\textsuperscript{161} This value is inflated by the still regular price for sesame in 331 BC. If we were to omit this instance, standard deviation drops to 8.09, with a concomitant rise in the mean to 33.06 shekels per \textit{kurru}.
\textsuperscript{162} Temin 2002, 56. Also Grainger 1999, 317 allows for an albeit marginal impact of such a monetary shock. On the minting of the Achaemenid treasures see de Callataÿ 1989.
thus is as to how much of the price increase was actually due to the military activities itself and how much is better explained by other factors. Gauging the different magnitudes of the price increases during particular episodes of domestic warfare or sedition, the necessity of complementary explanations, if there is, will emerge more clearly. In order to arrive at a plausible conclusion, several factors need to be considered: the percentage change in the price, the temporal distance to and the general price level of the period taken as benchmark, and the duration of the period of high prices.

\[ R^2 = 0.6055 \]

3.3.2 Cress prices during the wars of the Successors

During the period of the warfare among the successors, taken as starting point, thus between ca. 323 and 308 BC, the barley price oscillated between 12 and 24 (or even 30, if one were to consider the equivalent given in the Diadochi-chronicle) shekels per kurru, with the mean price amounting to 14.35 shekels/kurru. This is still higher than the mean price of 10.38 shekels/kurru given in the table above, which is significantly deflated by the lower prices prevailing during the 320s BC. As already noted, the difference to the Late Achaemenid period is considerable, the mean price being with 3.37 shekels per kurru more than three times lower. In spite of the extended warfare that troubled the region for almost two decades, prices recovered fast once peace was made. In 300 BC, after a gap in the documentation of about eight years, the barley price was back at 3 shekels per kurru in the pre-harvest period. This downward trend continued through the early Seleucid period, and the next attestations in the late 290s BC saw the barley price at below one shekel per kurru.

The difficulty in assessing this pattern is as so often to find source material apt for comparison. The reports of domestic warfare comparable to the period of the successors in terms of army size and/or duration and thus as regards potential economic impact at our disposal are often not accompanied by adequate price data as was the case with the
campaign of Ptolemy II into Syria and Babylonia which started the Third Syrian War (246-241 BC).\footnote{On which see most recently Grainger 2010, 153-170. In his discussion any reference to BCHP 11 giving an account of Ptolemy’s invasion of Babylonia is absent. The chronicle is published online as ‘Ptolemy III’ chronicle (BCHP 11) at http://www.livius.org/babylonia.html.}

However, there are also several cases of correlations between insurrections or outright warfare in Babylon and rising prices. A prime example is the decade or so between ca. 240 and 230 BC, when high prices afflicted Babylonia and the Astronomical Diaries provide us with reports of repeated internal strife involving parts of the army and high officials. Additionally, natural disasters seem to have contributed to the high prices in this period. What is striking is the comparatively to 6.67 shekel/kurru (January 232 BC), compared to a mean price of the Seleucid period of 2.09 shekel/kurru. Graph 3.4.1 below shows that throughout the whole period between ca. 300-225 BC, the barley price never exceeded 8 shekel/kurru, with outliers usually ranging between 4 and 6 shekel/kurru. In the early Hellenistic period, on the other hand the barley price regularly arrived at a level of 12 or 13 shekel/kurru and occasionally could even rise to a level exceeding 20 shekel/kurru. In other words, even the price outliers of both the Seleucid and Late Achaemenid periods clearly ranked below the level of the mean price of the quarter century or so between ca. 325 and 300 BC.

The fact that the price increases during periods of warfare after the early Hellenistic Era are much less pronounced, especially in absolute terms may in any case be taken as indicative of the presence of other factors in the price data for the last quarter of the 4th century BC. It is an unsatisfactory solution to assume that the size of the armies differed on an unexpected scale, as the numbers given by Plutarch in his Life of Demetrius are rather modest (in spite of the fact that generally Greek authors had a tendency to overstate their guesses):\footnote{Plut. Dem., 7 2-3; cf. Diod 19 100.3-7. There is indeed a striking contrast to the often grossly inflated numbers provided by various authors for other battles of the Hellenistic period. According to App. Syr. 6.36, 50,000 (of a total of 70,000) of Antiochus III’ soldiers were killed in the battle at Magnesia ad Sipylum against the Roman army in winter 190/189 BC. The total of the royal armies clashing at Raphia (218 BC) amounted to almost 150,000 persons, according to Polybius V 65, 79, 82. Regarding the troops of Alexander, Justin XI 12.5 gives the size of the Persian army at Gaugamela with 400,000 foot and 100,000 horse – a modest number compared to the 800,000 infantry and 200,000 cavalry in Diod. 17 53.3.} Demetrius was sent out in autumn 311 BC by Antigonus to recapture Babylonia from Seleucus with 15,000 infantry and 4,000 cavalry. Having captured one of the city’s citadels, he immediately returns to the West leaving Archelaus as commander over only 5,000 infantry and 1,000 cavalry for the siege of the second citadel. Similarly, the re-conquest of Babylon by Seleucus was allegedly achieved with 800 infantry and 200 cavalry only.\footnote{Diod. 19 90-91.} There are no reports with quantifications of the army size of Antigonus for his campaigns in Babylonia of 310 and 309 BC. Considering that the resources of what was Alexander’s empire were now divided among several competing fractions (Ptolemy, Lysimachus, Seleucus, Cassander, and Antigonus), and that Antigonus as stratēgos of Asia had a substantial territory to guard, it cannot have been much greater in number than the army at Demetrius’ disposal in 311 BC. This was certainly a considerable number of troops but far below the numbers given by Classical authors for Hellenistic royal armies.

Temin’s hypothesis of a steady increase of the monetary supply adding to the extent of the inflation presents itself thus as tempting explanation. However, there are several problems attached to this approach that need to be addressed before further investigation, the first one being that we do not know precisely over what period the silver stocks of the treasury were minted and put into circulation. The estimates and calculations of previous research on this topic usually give a period of roughly 40 years and thus the whole of the period of warfare between the Successors, which would square nicely with the duration of high prices, to which this increased minting activity will have
However, G.G. Aperghis (2004, 214) prefers a much shorter space of time, assuming that the main part of the treasure had been coined already before Seleucus’ rise to power in Babylonia. This latter approach, which is based on Justin’s (XII 1 9) statement that only 50,000 talents of silver were left at the time of Alexander the Great’s death is rather unconvincing due to historical reasons: all ancient historiographers agree that the bulk of the treasure was stored by the Persian kings in Persepolis and Susa, and according to both Strabo (XV 3 9) and Diodorus (XVII 80 3) Alexander’s central treasury was established at Ecbatana. Considering that the main source of expenditure were the armed forces and that Alexander campaigned with his army in the East for the years to come and did not return to Babylonia before early 323 BC, a major influx of silver should not have taken place before that date, or only slightly earlier with the arrival of advance parties. G. Le Rider additionally points to substantial financial needs of Alexander beyond military expenses during these years on campaign (city building, court expenses, and more). Of particular interest in his discussion are several passages found in Curtius Rufus and Plutarch showing that substantial amounts of precious metals were accompanying the army trek on the backs of mules and camel. On the other hand one has to consider that soon after the capture of Babylon – the exact point in time is elusive – the city was made centre of the financial administration of the empire, and additionally a prolific mint, the first major one operating in the east of the empire, was opened. Especially during the tenure of office of the notorious squanderer Harpalus between ca. 327 and 325 BC one might expect that more silver than was salubrious for the market for basic commodities was put in circulation.

A first quantification of the output of the Babylon mint yields a surprising result: according to G. Le Rider (2003, 318-319), only 1,750 talents of silver were struck during Alexander’s lifetime mainly into tetradrachms, the by far most common denomination of that period. However, as he takes into account only extant obverse dies and additionally assumes a very low per-die productivity of 20,000 coins, his estimate is thus certainly too low. But also a more sophisticated approach gives an only marginally higher coin output. Based on the treasure of Demanhur (630 tetradrachms using 172 different obverse dies from Babylon), we expect a total number of about 203 obverse dies used in the mint of Babylon in the period between ca. 324 and 318 BC according to the Carter method. At an output per die of about 30,000 coins as suggested by de Callataj, we arrive at 4,060 talents of silver minted at Babylon (corresponding to about 6 millions of tetradrachms) in these years: at first glance a low amount compared to the total of 180,000 talents, but when converted into the metric system, the conclusion that the minting activity of these years is

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166 De Callataj 1989, and similarly Temin 2002, 56. Note that Grainger 1999, 318 attributes generally little importance to the silver influx from the Achaemenid treasuries in his explanation of the high prices of the last quarter or so of the 4th century BC.

167 This presupposition that the Persian treasures were mainly used to pay for army wages is virtually undisputed in modern scholarship, see e.g. Temin 2002, 56, Le Rider 2003, 312, Bresson 2005, 48. That the army was by far the largest post in the expenditures of the Seleucid kings has been demonstrated by Aperghis 2004, 189-205, see also 236-245 for his concept of ‘wartime’ coinages. See also the interesting assessment of modern European states by de Callataj 2000, 337-341; this article is generally a powerful case for warfare as major cost factor throughout history, cf. his conclusion that “l’essentiel des monnaies a servi à payer l’armée” (355).

168 Le Rider 2003, 310-316, in particular 311-312 for the accounts of Curtius and Plutarch.


170 He also considers extant dies of dekadrachms and gold staters, which he converts into tetradrachm equivalents, see Le Rider 2003, 318-319.

171 See the concise description of this method in Esty 1986, 203-204. This method was also employed e.g. in de Callataj 1989, 265-266 (with a table of E.T. Newell’s analysis of the tetradrachms of the Demanhur-treasure). Aperghis 2004, 240 in his table 11.3 made used of the still more complex method suggested by Esty 1986, 204-27 (also briefly described by Aperghis 2004, 17). In the light of the ratio coins/dies in the Demanhur-treasure, the results are essentially the same for both approaches, cf. Esty 1986, 204. As regards the date of the issues of the Alexander-type tetradrachms, we follow Le Rider 2003, 297-299.

at least part of the explanation for the increased prices seems inevitable: within six years only, roughly 146 metric tons of silver were put into circulation in form of tetradrachms. The focus on the increased activity of the mint also provides a good explanation as to why prices started to increase Babylon already during the 320s BC and thus during Alexander’s lifetime.

The following question is now for how long money was minted in Babylon at such an elevated level which might be responsible for increased prices. One certainly has to account for the fact that the Achaemenid treasure was spent to a large part in forms other than coinage – one just has to remember Diodorus’ description of the sumptuous chariot which was to transport Alexander’s body back to Macedonia (XVIII 26.3-28.1) as an instructive example of the many ways in which the silver and gold looted were used.

However, there is good evidence that during the reign of Seleucus I (including also the years before his acceptance of the royal title in 305 BC) the mint of Babylon was more productive than under subsequent rulers. As can be seen in the table below, there is quite a discrepancy in the number of annual coin issues particularly from the mints in the eastern half of the empire (Seleucia-on-the-Tigris, Susa and Ecbatana) between Seleucus I and his successors. This can partly be interpreted as resulting from the large reserves of precious metal at still at the disposition of first ruler of the dynasty, who consequently could mint coinage with a frequency no longer possible for the later kings. The frequent military campaigns of Seleucus I – the struggle for Babylonia against Antigonus and his son Demetrius first, then the campaign into India resulting in a treaty with Chandragupta Maurya, and finally his western campaigns culminating in the final defeats of Antigonus (at Ipsus 301 BC) and later Lysimachus (at Corupedium 281 BC) – fail to fully explain this difference in output. A comparison with the output of Antiochus III who similarly spent many years of his reign on campaign shows that the annual output of the eastern mints was significantly higher during the reign of Seleucus I.

<table>
<thead>
<tr>
<th>Ruler</th>
<th>Reign (BC)</th>
<th>Mint</th>
<th>Number of tetradrachm issues</th>
<th>Issues/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seleucus I</td>
<td>311-281</td>
<td>Babylon</td>
<td>46</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seleucia-Tigris</td>
<td>128</td>
<td>9.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Susa</td>
<td>48</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ecbatana</td>
<td>55</td>
<td>1.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Antioch-Orontes</td>
<td>6</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Laodicea-Sea</td>
<td>8</td>
<td>0.4</td>
</tr>
<tr>
<td>Seleucus II</td>
<td>246-226</td>
<td>Seleucia-Tigris</td>
<td>7</td>
<td>0.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Susa</td>
<td>7</td>
<td>0.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ecbatana</td>
<td>7</td>
<td>0.35</td>
</tr>
</tbody>
</table>

173 Coin issues are a very imperfect yardstick only and can especially not be used to calculate total coin output, for which a full die study would be required. However, such a study is at present not available for Seleucia-on-the-Tigris. We have thus to make do with such an approximation, which follows the model provided by the numismatic study of Houghton 2004 (see especially 74, Table 1, listing issues according to geographical region for the Seleucid kings between 246 and 165 BC (Seleucus II to Antiochus IV). On the coinage of Seleucus I see also Golenko 1993.

174 The table was compiled on the basis of the overview in Houghton/Lorber (2002 II, 133-156). In case of a mint producing different types of tetradrachms, e.g. with Zeus Aetophorus or Zeus Nikephorus on the reverse, the different issues were simply added up. An issue is defined by Houghton/Lorber as coinage “with unique types, inscriptions, controls and/or control positions” (133). Only issues that were definitely attributed to the respective mints were considered.

175 The mint at Babylon closed already around 294 BC (Houghton/Lorber 2002 I, 40), on thus has to reckon with a period of 17 year (311-294 BC) during which coins were struck at this mint. Afterwards, the atelier was replaced with Seleucia-on-the-Tigris, to which an active period of 13 years is assigned for the reign of Seleucus I. The ateliers at both Antioch-on-the-Orontes and Laodicea-ad-marem came into the possession of Seleucus I possession only after the victorious battle at Ipsus in 301 BC.
The surprisingly high difference in issues between Seleucus I and Antiochus III needs to be put in perspective. Under the later king, the minting system seems to have been less centralized, to the issues in the table above one has to add notable tetradrachm outputs in Sardis (14 issues), Soli (14 issues) Tarsus (17 issues), the “Rose” mint, perhaps from Edessa (14 issues), the so-called ΔΙ-mint in southern or eastern Syria (14 issues), and especially the “Uncertain mint 68, in Mesopotamia” (36 issues). Another difference is that Antiochus III inherited from his predecessors a well-established monetary system whereas at the moment of Seleucus’ takeover in 311 BC, coinage based on the Greek standard had just been introduced with the arrival of Alexander’s army in Babylonia. Hence, the substantially higher level of coinage issues during the reign of Seleucus I should in part be attributed to an inadequate base supply of money, a factor which gains additional importance when considering the above-average demand of the royal administration for money in order to satisfy its military expenses during the reign of this king. Especially the tetradrachm type depicting Zeus on the obverse and an elephant chariot on the reverse, which with 82 issues is by far the most numerous series from Seleucia-on-the-Tigris seems mainly to have served the purpose of monetization of the new capital city and its environs. These results confirm that period of intense minting activity particularly in the province of Babylonia which began (in the chronology of Le Rider) around 324 BC continued far into the reign of Seleucus I. What we do not know, however, are the exact years during which coinage was struck, not to speak of the respective quantities. In the light of the findings of A. Houghton and G.G. Aperghis of increased minting activity during period of warfare in order to pay for armed troops rather than continuous activity at a somewhat lower level, important outputs of the Babylonian mint should be dated to the years between 323 and autumn 320 BC (arrival of Seleucus, to whom the satrapy was awarded at the conference of Triparadisus), to 318/7 BC when Babylonia was invaded by Eumenes and his troops, and to the years of the final battle for Babylon between Seleucus and Antigonus and Demetrius between 311 and 308 BC. Also for 316 BC, when Antigonus returned victoriously with his army from Gabiene to Babylon with 20,000 talents of silver seized in Susa (Diodorus XIX 55) higher minting activity can be reasonably postulated. The period of intense minting in the city of Babylon

<table>
<thead>
<tr>
<th>Region/City</th>
<th>Issues</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiochus III</td>
<td>222-187</td>
<td>14</td>
</tr>
<tr>
<td>Seleucia-Tigris</td>
<td>24</td>
<td>0.69</td>
</tr>
<tr>
<td>Susa</td>
<td>18</td>
<td>0.51</td>
</tr>
<tr>
<td>Ecbatana</td>
<td>12</td>
<td>0.48</td>
</tr>
<tr>
<td>Antioch-Orontes</td>
<td>44</td>
<td>1.26</td>
</tr>
<tr>
<td>Laodicea-Sea (?)</td>
<td>21</td>
<td>0.6</td>
</tr>
</tbody>
</table>

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176 Houghton/Lorber 2002 II, 152-156.
177 According to Houghton/Lorber 2002 I 52, this type of coinage mainly circulated in Babylonia.
178 An alternative methodology, namely a comparison of extant and estimated obverse dies from Seleucia-on-the-Tigris from the reigns of Seleucus I and Antiochus III would possibly yield a more accurate result as regards total output. However, as the numbers found in the secondary literature vary to a considerable extent such an exercise should ideally start with an exact assessment of both extant obverse dies and extant coins, which clearly lies beyond the scope of present work. In general, the information found in recent secondary literature does not point to fundamental changes of the results here obtained: for the reign of Antiochus III, G.G. Aperghis (2004, 239-240 and table 11.3) refers to a number of 49 extant obverse dies from Seleucia-on-the-Tigris, based on a 1993 counting of G. Le Rider; Houghton 2004, 77 has already 69 obverse dies (see also 53) for that mint under the same ruler. For the reign of Seleucus I, the only count available to me was Newell 1938, which already gave 73 extant obverse dies. In the light of the very low ratios obverse dies: reverse dies and obverse dies: specimens, and accounting for discoveries made since his study, this number is most likely to have increased considerably.
179 Houghton 2004, 52-54, Aperghis 2004, 236-242. The latter distinguishes between peacetime and wartime coinages, representing regularly needed replacement money and additional expenses of warfare respectively.
180 BCHP 3, 29-30 speaks indeed of a forceful levy of silver in September/October 318 BC. Van der Spek in his completion of the line at livius.org hypothesizes that it was destined for army payments.
shortly before and shortly after Alexander the Great’s death (ca. 324-318) as well as the not negligible issues of lion staters during the tenure of office of the satrap Mazaeus (330-328),\(^{181}\) on the other hand, are less problematic to date.

The closure of the Babylon mint in or around 294 BC is unlikely to have caused a negative monetary shock as the city was from that moment on provided with coinage from Seleucia-on-the-Tigris. A coin hoard from the city of Uruk shows that the mint at Seleucia quite likely provided the whole of the satrapy of Babylonia with all kinds of denominations, including bronze coinage.\(^{182}\) According to G.G. Aperghis (2004, 214-216), such a pattern of a major mint in provincial centres is by no means an unusual pattern in the Seleucid empire.

There are, however, also problems with this approach, the major one being the suddenness of the increase. The prices of all the different commodities shoot up immediately after Alexander’s death in June 323 BC to an unprecedented price level. This is of course not what one would expect in a scenario of a steadily increasing money supply. The barley price almost doubled already in the immediate aftermath of Alexander’s passing (June/July 323 BC) from 3.33 to 6 shekels per kurru of barley – both certainly high values but in the general range of prices in the mid-320s BC – and skyrocketed soon afterwards (January 322 BC) to values of 13 and more shekels/kurru. This pattern holds equally true for other commodities, though as so often on a less impressive scale: wool doubles from one to two shekels per five minas between June 325 BC and December 323 BC. The price of cress oscillated around 15 shekels in the first year after Alexander’s death (with one low outlier of 7.5 shekels/kurru in winter 323 BC rising back to 15 shekels by February 322 BC), also conveying a doubling of the Late Achaemenid mean of 7.05 shekels/kurru. Dates show a more peculiar pattern and seem to have risen in two distinct stages. They first about doubled from a price between 2 and 4.5 shekels per kurru in the early to mid-320s BC to values between 7 and 9 shekels in the late 320s BC, and rose even further to levels of 11-12 shekels/kurru in 309 BC. Again, the scarcity of data often prevents us from seeing as clear as would be desired. Sesame was sold at about 5 shekels/kurru in the late 330s BC, after an unfortunate gap the price in winter 323/2 BC had risen six fold to 30 shekels/kurru.

The most plausible scenario for the years between ca. 325 and 300 BC sees a combined impact of all three relevant factors, supply, demand, and monetization level. In addition to being ravaged by armed conflict on various scales on an almost yearly scale, Babylonia saw a massive increase in demand once Alexander’s army returned from its eastern campaign (which also stayed at an elevated level for much of the following two decades as various generals fought for supremacy) as well as a concomitant influx of silver on a large scale. Against this background, it easily understandable that the instable political situation after the death of Alexander the Great and especially the repeated flaring up of hostilities between various fractions has exerted particular strong pressure on the market. The result was that prices soared to unprecedented heights which also in the decades and centuries to come were hardly ever attained again. In chapter 5 we will expand further on the topic of price increases in periods of warfare and attempt a rough estimate of the magnitude of the impact of the factor peculiar to this period, namely monetization on a larger scale, once the average increase of prices during episodes of warfare in period documented by our dataset has been established.

3.4. The Early Seleucid period: Seleucus I to Seleucus III, ca. 305-223 BC

\(^{181}\) On his coinage see Le Rider 1993, 274-276.

\(^{182}\) Leisten 1986, especially 336 his conclusion of a “fast vollständigen Abhängigkeit Orchois von der Münzstätte in Seleukeia”.
The history of the first 80 years of the Seleucid empire is not easily reconstructed.183 The vast territory included culturally most diverse countries, stretching from the thoroughly Hellenized coastal regions of Asia Minor to Babylonia with its time-honoured local culture, and further still, deep into the steppes of central Asia. Not for all of these regions do we have adequate source documentation at our disposal. The works of Graeco-Roman writers such as Justin’s epitome of the work of Pompeius Trogus, Appian’s Syriakē and the very fragmentary later books (book 20 onwards) of Diodorus Siculus are important in that they provide us with a rough framework of Seleucid history, but in general their focus is on the western regions of the empire only and on the (more often than not hostile) interactions with the Ptolemies, the smaller dynasties in Asia Minor, and Rome. It is already with the failure of Antigonus the One-Eyed to wrest control over Babylon and the provinces further to the east from Seleucus and his consequent return to the west in 308 BC that Babylonia disappears from the focus of Greek and Roman historiographers. For many events, nothing is known beyond the mere fact that they happened. To give just one example, even such a well-known episode as the foundation of the new capital city Seleucia-on-the-Tigris cannot be dated with desirable precision.184

For Babylonia, this scarcity of information is to a certain extent compensated by the Hellenistic chronicle series. These documents inform us for example about the activities of Antiochus I in the city of Babylon during his reign as crown-prince and vice-regent in the east (294-281 BC). We see him repeatedly participating in sacrifices in Babylonian temples (and often in a Babylonian manner), organizing the clearance of the rubble of the Esangila by means of elephants, or giving orders to re-settle the Greek population of Babylon into the newly founded city Seleucia-on-the-Tigris.185 Another tablet which has been brought to light only recently, BCHP 11, narrates with considerable detail the invasion of Ptolemy III into Mesopotamia, previously known by means of very brief accounts and boastful inscriptions of Ptolemy III himself.186

Equally valuable is some of the historical information gleaned from the Astronomical Diaries. The best known document is AD -273B which provides in its historical section an account of the preparations for the First-Syrian War fought against the Ptolemies.187 This tablet is not only of high importance because the Classical sources are almost completely silent on this conflict; what is more, it also specifies measures undertaken during the war preparations that were bound to have an impact on Babylonian prices: lines r30/1 specify the requisition of ‘much silver, clothing, valuables and equipment’ from the cities of Seleucia-on-the-Tigris and Babylon alongside twenty elephants from Bactria for the royal army in Syria. These measures seems to have been accomplished by – or were possibly even causing – a scarcity of precious metal resulting in purchases being carried out in Greek bronze coins, or ‘copper coins of Ionia’ (r33) in the words of the Babylonian author of the diary. AD -273B furthermore yields price data which indeed shows a strong increase in the prices for barley and cress, but not for the other commodities. The precise cause of this peculiar pattern is disputed in scholarly literature: whereas Del Monte attributes the pattern in the barley price to a bad harvest and allows only for a minimal role of the war fought in Syria, van der Spek explains the non-occurrence of the expected deflationary effect of silver requisition by the contemporaneous

183 The relevant sections in Will 19792 and 19822 are still fundamental as regards political history. For early Seleucid Babylonia see Boiy 2004, 137-154, see also van der Spek 2010. For more conceptual approaches see Bikerman 1938, Sherwin-White/Kuhrt 1993 and Capdetrey 2007.
184 There is a generic agreement on the last decade of the 4th century BC, cf. Boiy 2004, 135.
185 This corpus is edited online as BCHP (Babylonian Chronicles of the Hellenistic period) by I. Finkel and R. Van der Spek on www.livius.org/babylonia. See also van der Spek 2006 for a commented edition of BCHP 5, 6 and 8.
186 All of the accounts (e.g. App. Syr. 65) including Ptolemy’s own inscriptions (such as the Adoulis-inscription OGIS 54, edited as text 26 in Bagnall/Derow 1981) agree that Ptolemy III campaigned successfully in Seleucid territory as far as Babylonia (or, less credibly, even beyond), but none gives any detail as regards the precise course of events.
187 On the perpetual conflicts between the Seleucids and the Ptolemies see now Grainger 2010, on the First Syrian War especially 81-86, see also Will 19792, 146-150.
confiscation of land (and the harvest of this land) alluded to in following lines r34-38.188 This latter explanatory approach – a deflationary effect of withdrawal of silver from circulation being offset by a decrease in supply – is certainly tempting but also problematic. Above all, we have no indication as to the surface area of the land to be confiscated, and it equally possible that we are dealing with a case similar to the dispute between the royal administration and the Šamaš-temple (of Sippar or Larsa) concerning a single plot of land in 308/7 BC189 – rather not enough to satisfy the demand of an entire army. This issue will be resumed in the following chapter dealing with outliers in the Babylonian prices.

As regards now the general price level of the period under discussion, it is often stated that the Seleucid epoch was an era of low prices in Babylon.190 This view is basically correct, however, it needs to be somewhat modified. The mean price of barley is with 2.57 shekels/\textit{kurru} indeed significantly lower than in the preceding periods (during the Late Achaemenid period that value amounted to 3.37 shekel/\textit{kurru}) but for the other commodities, the picture is less straightforward. Dates for example, cost on average 2.25 shekel/\textit{kurru}, which is considerably below the mean price of the Early Hellenistic period, but still above the value of the Late Achaemenid period of 2.02 shekels/\textit{kurru}. Kasû similarly stood at a mean of 0.86 shekel/\textit{kurru} and was thus slightly more expensive than during the Late Achaemenid period (0.75 shekel/\textit{kurru}), as was sesame (9.90 as compared to 9.67 shekel/\textit{kurru} in the late Achaemenid period). Also wool was slightly less expensive in the Late Achaemenid period (1.54 compared to 1.85 shekel/\textit{kurru} in the first three quarters of the 3\textsuperscript{rd} century). Cress with a mean of 6.19 shekels/\textit{kurru} was again cheaper in the period ca. 300-225 BC than during the Late Achaemenid period (7.05 shekels/\textit{kurru}).

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Mean price (shekel per \textit{kurru})(^{191})</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>2.57</td>
<td>1.63</td>
</tr>
<tr>
<td>Dates</td>
<td>2.25</td>
<td>0.88</td>
</tr>
<tr>
<td>\textit{kasû}</td>
<td>0.93</td>
<td>0.73</td>
</tr>
<tr>
<td>Cress</td>
<td>6.19</td>
<td>4.84</td>
</tr>
<tr>
<td>Sesame</td>
<td>9.90</td>
<td>5.88</td>
</tr>
<tr>
<td>Wool</td>
<td>1.84</td>
<td>1.39</td>
</tr>
</tbody>
</table>

It was thus mainly for barley and cress that the first 75 years of the Seleucid period constituted an era of favourable prices. Dates were still cheaper than barley, but the margin between the mean values of these two commodities had narrowed from 1.35 shekel/\textit{kurru} in the Late Achaemenid period (and about 3 shekel/\textit{kurru} in the last quarter of the 4\textsuperscript{th} century BC) to 0.32 shekel/\textit{kurru} between ca. 300 and 225 BC. It was only from the last decade of the 3\textsuperscript{rd} century BC onwards that the date price would return to a level more pronouncedly below the price of barley. This drop in the date price seems partly to constitute a return to the normal relationship rather than a surprising change.192

189 The text in question is Porter Travels II (1822), pl. 77g, edited with commentary as text 5 in Van der Spek 1986, 202-211. See also van der Spek 1993a, 65-66 and most recently Joannès 2006, 112-115.
190 See the succinct statement in van der Spek 2010, 381; “The Seleucid period seems to have been a fairly prosperous period in comparison with the preceding period of Alexander and his immediate aftermath (330-300) and the succeeding Parthian period as far as the Diaries go (141-61 BC)”. Similarly, Grainger 1999, 315, speaks of a high standard of living for the Seleucid period.
191 Wool price in shekel per 5 minas.
192 This finding is interesting because it sheds new light on an ongoing discussion in scholarship concerning the reasons for this sustained decrease in the date price on which see e.g. Aperghis 2004, 83-84, especially his Figure 5.6. This issue is treated more exhaustively treated in the following section 3.4. on the latter half of Seleucid reign over Babylonia.
3.4.1 Barley prices in the Early Seleucid period, ca. 300 – 225 BC

Graph 3.6.1 comparing the price movements of barley and dates during the whole of the Seleucid period (ca. 300-140 BC) shows furthermore that during the first 20 years or so of the 3rd century BC, date prices were on average still above the barley price. This unusual finding can be explained by the fact that the date price recovered from the ravages of the wars of the Successors only progressively. Orchards destroyed (or also abandoned) during these decades needed to be re-planted, and it takes several years for a date palm to be fully productive. Already J. Grainger (1999, 318) spoke of a delayed price decrease for dates, which according to him took place in the last quarter of the 3rd century BC. However, this is not the whole story as dates already in the first half of the 3rd century were three times cheaper when compared to the Early Hellenistic period (ca. 330-300 BC). After these initial supply problems, the price level fell close to the Late Achaemenid level: the mean price of that period of 2.02 shekel/kurru aligns very well with that of the first half of the Seleucid period, which amounted to 2.25 shekel/kurru. The importance of date horticulture in and around Babylon during the Achaemenid period is unclear, at least during the 6th century BC the regional centre for this crop was clearly Sippar, located some 30 km north of Babylon. If this situation still prevailed after our documentary sources thin out during the reign of Xerxes, the possibility of a substantial reorganization of the agricultural landscape in Babylonia after the takeover of the Seleucid dynasty – in the sense of an increase in date gardening in and around the city of Babylon replacing ‘imports’ from Sippar – cannot be fully discarded. However, the state of the

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193 The extended period of time under discussion and the elevate number of outliers and oscillating price levels in the dataset justify 5th and 6th degree polynomial trend lines in the following sections 3.4-3.6.
194 It takes a date palm at least five to six years to bear fruits for a first time and even longer to be fully productive, see Volk 2003-2005, 290-292; see also Streck 2004, 263-274.
196 As the map of the Sippar countryside in Jursa 2010 (323, Fig. 4) shows, several estates of the Sipparean Šamaš-temple were located halfway between Sippar and Babylon, or even closer to the latter city.
documentation at our disposal does not allow us to investigate this question in greater depth, and in any case, if such a development took place it did not leave a major impact on the price data.

\[ R^2 = 0.8479 \]

![Graph showing price data over time with regression line and R-squared value.](image)

### 3.4.2 Date prices in the Early Seleucid period ca. 300 – 225 BC

A further point of interest is that in spite of the lower general level of the date price, the lowest date prices were higher than the lowest barley prices in this period, as best visible in figure 1 below. The barley price could drop to a level below the one shekel/kurru mark – there are 20 such very low prices attested, the lowest of which amounts to 0.67 shekel/kurru in 278 BC – whereas the date price never fell below 1.2 shekel/kurru. This phenomenon is best explained by the greater volatility of the barley price and the fact the barley as main staple crop was particularly inelastic in demand. The CV of barley for the period ca. 300-225 BC is with a value of 0.63 indeed much higher than the one of dates (0.39). A look at graph 3.4.2 above shows that dates indeed were less prone to producing outliers as compared to barley. After the very high prices during the period of warfare between the diadochi the date price never attained a level above 5 shekels/kurru – this is a conspicuous difference to the barley data. The most notable outlier in the dataset of date prices, 5 shekel per kurru, dates to the winter of 233/2 BC. This point in time coincides with a period of high barley prices between ca. 240 and 230, which will be shown in the following chapter 4.2 to be correlated to a period of both political unrest and natural disasters. Equally, both cress and sesame prices move in this decade significantly above their long-term mean.

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Considering the general vicinity and the good connections via waterways (most prominently via the Euphrates) of the two places, it may be wiser to consider them simply one unified economic space rather than speaking of imports from Sippar into Babylon.

Van der Spek, *Volatility*, Figure 8.
Figure 1: Highest and lowest barley and date prices

The relatively elevate number of outliers immediately visible in particular in graph 3.4.1 containing the barley prices conveys the impression that Babylonia during the Seleucid period was repeatedly afflicted by food crises.\(^\text{198}\) Rather than constituting distinct peaks caused by specific factors, some of these summit prices can be more accurately described extended periods of market instability (with occasional moments of relief) during which exogenous shocks were particularly effective. Especially the crisis period of the 230s BC, but also the high prices on the mid-250s are best interpreted in such terms. Such an approach takes better account of the medium term consequences of exogenous shocks in the region, such as higher prices also the ensuing harvest year caused by the phenomenon of autocorrelation: crop failure not only diminishes the availability of foodstuff but equally of seed-corn, thereby lifting the chances of a smaller than usual harvest also in the following year. According to economic historian K. G. Persson (1999, 61), “high autocorrelation is a property typical of almost all types of prices series”. In combination with an overall low level of consumption and a considerable duration of recovery back to normal prices,\(^\text{199}\) these findings point to endemic problems in the supply of basic commodities.

On the other hand, during periods of relative political stability (and in the absence of other price-driving forces such as natural disasters), prices could also stay stable at fairly low levels, as happened for example in the early 270s BC or the late 240s BC. However, A. Slotsky’s conclusion that “the long-term trend in the prices of the six commodities (…) during the Seleucid period (…) is clearly downward” is incorrect. The trend-lines show a clearly more complex pattern than a universal downward trend. Already during the 290s BC prices were at their lowest, all commodities represented above in graphs (barley, dates, sesame) show a first trough during this decade. The three quarters of a century to come show considerable swings, with peaks in the barley data in the late 270s, the mid-250s and throughout the 230s BC. It is particularly interesting that also date and sesame prices

\(^{198}\) Van der Spek Volatility lists seven periods of high barley prices for the half century between ca. 280 and 230 BC. This aligns remarkably well with the finding of Földvári et al. 2011 that throughout the whole period for which the ADs provide us with prices (ca 400-60 BC), famines occurred approximately every seven years.

\(^{199}\) Van Leeuwen/Van der Spek, Integration.

\(^{200}\) Slotsky 1997, 105.
follow the general pattern of barley, showing prices clearly above average during the latter two episodes. This too supports our notion of more general nature of the food crises. The period of high prices during the 250s is also exhibited by the data for *kasû*, but this commodity seems not to have been afflicted by the crisis of the 230s BC, during which prices remained stable at a fairly low level, between 0.67 and 1 shekel/*kurru*. Furthermore, it has always to be kept in mind that prices can always rise because of a harvest failure, an event which is never mentioned explicitly in the ADs.\(^\text{201}\) The two major peaks in the *kasû* price data, which date to November 301 and April 288 BC can neither be connected to any known potentially disruptive incident, nor is it plausible to assume one in the light of the fact that the price for both barley and dates was at a more than moderate level of 1.5 and 1.43 shekel/*kurru* respectively.

A completely different pattern in this period is exhibited by the wool prices. A quick look at graph 3.4.4 below shows that this commodity by and large was not affected by any of the shortages driving up commodity prices mentioned so far.

![Graph: 3.4.3 Wool prices in the Early Seleucid period, ca. 300 – 225 BC](image)

Quite on the contrary, wool price recovered even slower than the ones for dates and indeed do show a fairly stable decline over time with minor fluctuations. Before 290 BC, prices were persistently above a mark of 2 shekels of silver per five minas, whereas afterwards prices oscillated between one and two shekel/5 minas. This means that wool did contrary to the food commodities not participate in the considerable downswing which took place after ca. 300 BC. It is tempting to follow the model provided by the date prizes and hypothesize that after the protracted warfare which took place in the three decades after Alexander the Great’s death, the number of ovine livestock was depleted to some extent. Consequently, wool prices needed more time than say those of barley to recover fully. An

\(^{201}\) There are however occasional references to crop diseases, e.g. in AD -122, 8: “That year, *samānu* seized the barley during the harvest” (ADART III, 291). The impact in this particular case seems to have negligible, the barley equivalent was above the level of the preceding years. In an earlier instance (AD -346) an occurrence of crop disease might have aggravated the effects of a locust invasion, see Pirngruber *Locusts*.  

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additional factor in the slow recovery might be attributed to the fact that in the Neo-Babylonian and Achaemenid period, the centre of wool production in Babylonia was Uruk.\textsuperscript{202} If these circumstances did not change significantly in the (largely undocumented) Late Achaemenid period, also the disruption of the network of trade and commerce of the earlier period might have had repercussions in the price data.

Summarizing one can say that prices in the first 75 years of Seleucid rule over Babylonia stabilized rather quickly after the havoc wrought by the wars of the Successors and on average even levelled off below the Late Achaemenid values. The price data of dates and wool followed a very distinct pattern, showing a slower recuperation than other commodities. Regarding wool, the particularly low level of volatility and the exemption from exogenous shocks affecting both barley and dates are notable. This pattern is can be simply explained by the higher elasticity of demand of wool, which is of course not a basic foodstuff but a commodity that is quite easily economized upon. The other non-staple commodities cress and sesame on the other hand could be shown to have affected by the periods of high staple crop prices in the mid-250s and the 230s BC. Moreover, and contrary to what one would expect, these non-essential commodities rose stronger in price than the staple goods barley and dates: the peak price for barley in the 230s BC was about two-and-a half times the average and dates did not even double in price, whereas for both cress and sesame the highest price in this decade was about three times the mean.

A general weakening of market integration – a failure to efficiently balance supply and demand – during these periods is a most plausible conclusion of this pattern. Also taking into account the often substantial duration of these periods of higher prices, we can thus make the case for more ample ramifications of politically (or ecologically etc.) troubled

\textsuperscript{202} Jursa 2005 \textit{et passim}; see also the contribution of K. Kleber in Jursa 2010, 595-616.

\Description{diagram}{3.4.4 Sesame prices in the Early Seleucid period ca. 300 – 225 BC}{A general weakening of market integration – a failure to efficiently balance supply and demand – during these periods is a most plausible conclusion of this pattern. Also taking into account the often substantial duration of these periods of higher prices, we can thus make the case for more ample ramifications of politically (or ecologically etc.) troubled
periods than mere supply shocks causing subsistence crises or famine. Also, natural variation in the harvest outcome always has to be accounted for.

A final consideration concerns the gaps in our knowledge: potentially strongly disruptive episodes such as in the invasion of Babylonia by Ptolemy III in 246 BC are not accompanied by any price data. The trend-lines in our graphs are thus only of heuristic value rather than conveying historical truth. Considering the conflict-laden history of the Seleucid empire as well as the extent of natural harvest variation in antiquity, it is likely that several peaks and troughs more would come to light with the discovery of more price data. This, at least, was already the result of the publication of the commodity price lists (Slotsky/Wallenfels 2009) which brought to light hitherto unknown periods of above average prices of barley in the 280s and 260s BC (S/W 2 and 3).

3.5 The Later Seleucid period: Antiochus III to the Parthian conquest, ca. 225-140 BC

The latter half of the Seleucid reign over Babylonia is somewhat better documented than the preceding period, however, there are also larger gaps. Whereas the reign of Seleucus IV (187-175 BC) is still virtually undocumented, the source material on the reigns of Antiochus III and IV is abundant enough to have provided modern scholarship with data for rather detailed biographies. An important source for the fortunes of the empire in the West is the Greek historian Polybius, whose focus is naturally on the interaction of the Seleucids with the ever-growing Roman empire. The conflicts of Antiochus III with Rome culminating in the Syrian War (192-188 BC) and the severe defeat of the Seleucid king at Magnesia ad Sipylum brought about substantial losses for the empire with the treaty of Apameia. Not only were the Seleucids forced to renounce to all of Asia Minor west of the Taurus mountain range, but also the size of the army was severely restricted. Additionally, a huge war indemnity of 15,000 talents of silver was imposed upon them. This war indemnity is traditionally assumed to have been a severe blow to the empire and if not caused then at least accelerated its decline. This claim will be kept in mind in our investigation of commodity price in Babylon, one of the core provinces in terms of population size, level of urbanization and agricultural productivity. The downfall of the empire, however, also had more narrowly political reasons. The relationship between the Roman and Seleucid empires remained strained also after the peace of Apameia was concluded. Exemplary is the story of the ‘day of Eleusis’ when Antiochus IV after his conquest of Egypt was forced to retreat under the threat of war by the Roman legate C. Popillius Laenas in 169 BC. Although the Seleucid empire was thus at times powerful enough to intervene with force in neighbouring Egypt, it was continuously haunted by domestic troubles. The most prominent example is the insurrections in Judea under the Maccabees lasting for several decades. Another important factor in the decline of the Seleucid empire is to be sought the internecine conflicts for the throne between the different branches of the dynasty, notably between those who descended from Seleucus IV.

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204 The locus classicus is Will 1982, 238-240, pointing out the combined effect of the indemnity itself and the loss of revenues from Asia Minor. His view is still largely shared by historians. In a similar vein, it was recently stated that after Apameia “Antiochus was in constant need of money” (Boiy 2004, 156). Aperghis 2004 in his attempt of a quantification of the expenditure of the Seleucid state (esp. 259-260) likewise come to the conclusion of Apameia causing significant “cash flow problems” (260) for the Seleucid empire; similarly Grainger 2002, 347 (although his estimate of annual revenue of the Seleucid kings is clearly too low, cf. Aperghis 2004, 251). An important revision of the opinio communis based on numismatic data was undertaken by Le Rider 1993, who claimed that overall, the financial situation of the Seleucid empire did not deteriorate to any noteworthy degree in the longer run (“una charge irritante, mais nullement aussi insupportable qu’on l’a souvent pensé”, 62).
205 Aperghis 2004, 36-40 and 56-58 on population and urbanization, and 60-63 on productivity.
206 See Fischer 1980 and Bar-Kochva 1989 on this episode.
(Demetrius I and II) and those who descended, or professed to descend, from his brother and successor Antiochus IV (Antiochus V and Alexander Balas). 207

As was the case in the preceding period the Eastern provinces including Babylonia are largely absent from the Classical Sources. One of the few exceptions is constituted by the revolt of the Median satrap Molon, who in the early days of Antiochus III (222-220 BC) defected from central authority and for a short period was able to assert himself also in parts of Babylonia. 208 Of other episodes, such as the anabasis of Antiochus III into the Upper Satrapies (212-205 BC) hardly more than the fact that they happened is known. 209 There are, however, again historiographic cuneiform sources recording otherwise scarcely documented events, though maybe less impressive than those of the first 75 years or so of Seleucid reign over Babylonia such as AD -273B, the diary of the First Syrian War, or BCHP 11, the account of the invasion of Babylonia by Ptolemy III. The most intriguing document is possibly BCHP 14 referring to the settlement of Greek colonists under a king Antiochus, either Antiochus III (223-187 BC) or IV (175-164 BC). 210 From the considerable number of Astronomical Diaries, AD -168A mentioning Antiochus’ IV invasion of Egypt deserves special mention. AD -149A relates the victory of Alexander Balas over Demetrius near Antioch-on-the-Orontes; this event is also narrated by Flavius Josephus in his Antiquitates Judaicae (13 58-61). 211 Frequently appearing subject matters in Diaries of that period are judicial proceedings (e.g. AD -161A, BCHP 17) and cultic and religious matters, especially the performance of sacrifices to Bēl, Bēltiya and the Great Gods in the Esangila-temple. AD -204A reports the participation of Antiochus III in the Babylonian New Year’s Festival upon return from his anabasis. Again there are several references to internal strife and also ethnic tensions between Greeks and natives in Babylonia (AD -162). Especially the period August-November 145 BC is densely documented due to the extensive historical sections of AD -144 (covering months VI-VIII), conveying an interesting glimpse into the state of affairs in Babylonia in the years before the Parthian conquest.

Babylonia remained a province of the Seleucid empire until spring/early summer 141 BC only, when it was conquered by the Parthians under Mithridates I. The Astronomical Diary -140A from year 170 of the Seleucid Era (141/140 BC) already dates according to a king Arsaces (₁Ar-šá-kám LUGAL) – the Parthian throne name all kings adopted. The Parthian takeover must have taken place at some point after April 141 (the Diary AD-141F of the second half of the preceding year recording events between September 142 and April 141 BC is still dated to Demetrius II) but before June/July 141 BC in which month the highest echelons of the provincial administration seem to have been re-organized according to the agenda of the new king, who was staying at this time in Seleucia-on-the-Tigris (AD-140A, lines 3-9). Occasional attempts at re-conquest of the

207 Ehling 2008, 279-284 attributes highest importance to these struggles, playing down other factors (especially the impact of Roman foreign policy), which results in a somewhat unbalanced account. For an interesting approach to the Mediterranean East in later 3rd/early 2nd century BC informed by political theory see now Eckstein 2008.


209 This undertaking and its few sources are analyzed by Sherwin-White/Kuhrt 1993, 197-200. Antiochus’ main aim seems to have been the reassertion of Seleucid suzerainty over the Eastern provinces, which had grown weaker in the previous decades.

210 This chronicle is so far published only online as ‘Greek Community Chronicle (BCHP 14)’ at http://www.livius.org/babylonia.html. Van der Spek 1986, 71-78 argues for a date under Antiochus IV. However, also the reign of Antiochus III cannot be entirely discarded, see the cogent argument in Boiy 2004, 208.

211 We follow here the interpretation of van der Spek 1997/98, 168-169. See also the alternative interpretation of Del Monte 1997, 91-94 who locates these events in the region of the Persian Gulf.
province did not meet lasting success, and after the final failure of Antiochus VII (130 BC), Babylonia was to remain Parthian for centuries to come.²¹²

Contrary to what one might expect in the light of mainstream scholarship declaring the treaty of Apameia a turning point in Seleucid history (see above), the prices in Babylonia until the Parthian takeover were substantially lower for all commodities than during the first half of Seleucid reign.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Mean price (shekel per kurru)²¹³</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>1.59</td>
<td>0.65</td>
</tr>
<tr>
<td>Dates</td>
<td>0.82</td>
<td>0.44</td>
</tr>
<tr>
<td>kasû</td>
<td>0.44</td>
<td>0.17</td>
</tr>
<tr>
<td>Cress</td>
<td>3.3</td>
<td>1.52</td>
</tr>
<tr>
<td>Sesame</td>
<td>6.9</td>
<td>2.35</td>
</tr>
<tr>
<td>Wool</td>
<td>1.42</td>
<td>0.42</td>
</tr>
</tbody>
</table>

Barley, for example, cost on average 1.59 shekel/kurru, compared to the mean value of the preceding period amounting to 2.57 shekel/kurru. It must be emphasized at this point that a difference of almost one shekel per kurru is indeed a noteworthy fluctuation: the scarce data at our disposal points to a monthly wage level for an unskilled worker between one and four shekel per month.²¹⁴ In the same period also the level of volatility as measured by the CV decreased from 0.63 to 0.41. In fact, there is not a single high price exceeding the four shekel/kurru throughout the period between ca. 225 and 140 BC, whereas in the first 75 years of the 3rd century BC the prices on several occasion rose to a level between 4 and 6 shekels/kurru, and even above. The stunningly high equivalents of October/November 188 BC (390 litres/shekel) and August-October 168 BC (372 and 378.5 litres/shekel in months V and VII respectively), on the other hand, appear less exceptional when expressed as prices: the all-time high equivalent of 390 litres/shekel thus amounts to 0.49 shekel/kurru. This is still one shekel below the mean price of the period, but prices quite frequently rise to a level of one or also more shekel above average level.

In addition to a lower fluctuation in the data and the lower average price level, a third phenomenon which becomes evident from the graph is the very low coefficient of determination (r²) amounting to only 0.09. The trend line in graph 3.5.1 above in general moves slightly below the 2 shekel/kurru mark, with small oscillations only. The trend line in graph 3.4.1 depicting the development of barley price in the period ca. 300-225 BC on the other hand oscillates considerably between below 2 and above 4 shekel/kurru. The data of that earlier period, however, is more clearly characterized by periods of peaks and troughs, which enables the trend-line to follow the available prices more closely. The conclusion is that in the later Seleucid period hardly any distinct trends are discernible in the data. Prices fluctuate more at random but within a rather narrow margin, coherent periods of higher or lower prices do not occur with the frequency and intensity of the period between ca. 300 and 225 BC. This is not to say that political events have longer repercussions in the price data. However, their effects seem to last for briefer time spans only, and prices return much quicker to their base level compared to the preceding period. A good case in point is the mid-140s BC. In September/October 145 BC, the barley price rose to 2.73 shekel/kurru, for the same period, AD -144 testifies to the (bellicose?) activities of a certain Aria’bu, the presence of various diseases in the country, as well as preparations made to ward off the impending invasion by the Elamite king Kamnaskires,

²¹² See Wiesehöfer 1993, 163-202 for an introduction to the Parthian empire. The Parthian takeover is discussed by Dabrowa 2005. The contributions in Wiesehöfer 1998 provide an excellent survey of the source documentation of this empire.
²¹³ Wool price in shekel per 5 minas.
²¹⁴ The pertinent sources are briefly discussed in van der Spek 2006a, 291-293.
which finally did happen later the same year (but unfortunately, no prices from this later episode are extant).\textsuperscript{215} However, already in the winter of the following year, prices are back to a much lower level of about 1.35 shekel/kurru (November/December 143 BC). Both cress and sesame show a similar pattern of a brief peak soon followed by relaxation, whereas dates and kasû remained unaffected by this crisis.

3.5.1 Barley prices in the later Seleucid period, ca. 225 – 140 BC

Turning now to the price patterns of commodities other than barley, the most peculiar trend-line is certainly shown by the graph of the date prices. At a very satisfactory $r^2$ of 0.41, price decline steadily from the 230s until well into the 160s BC. After a rather unstable period with two particularly notable price peaks in the later 160s and 150s – late summer 159 BC, and late winter/early spring 154 BC – prices are back to a fairly low level of around 0.5 shekel/kurru and below in the second half of the 140s BC. The peak of late summer 159 BC is simply caused by the phenomenon of seasonal fluctuation as the two high prices of the year date to August and September respectively and thus to the immediate pre-harvest period. The later and higher peak can been shown to have occurred together with a notable increase of the barley price, with the possible cause of inner tensions looming in the background (see chapter 4.2). As was the case with barley, the mean price of dates during the late Seleucid period, 0.82 shekel/kurru, is significantly lower than during the early Seleucid period (2.25 shekel/kurru). The factor by which the price decreased was even larger, almost threefold. The margin between the mean date and barley prices had now widened again, to about 0.7 shekel/kurru. This was indeed below the level of the mean price difference during the Late Achaemenid period when that value amounted to 1.35 shekel/kurru, however, in relative terms that picture changes. Barley was 1.67 times more expensive than dates during the Late Achaemenid period. In the late Seleucid period, barley cost 1.94 times more than dates, which were thus comparatively cheaper in the 2\textsuperscript{nd} century BC than ever before. It has already been stated in the preceding section that the widening of the gap between barley and date prices represents a return to

\textsuperscript{215} See also Del Monte 1997, 98-100 on the longevity of the conflicts between Babylonia and Elam in the decades to come.
conditions before the Seleucid takeover rather than an unexpected novelty, however, the magnitude is indeed surprising.

3.5.2 Date prices in the later Seleucid period, ca. 225 - 140 BC

Concerning this price decrease, several hypotheses have been put forward. It has been interpreted as a sudden drop manifesting itself in a year during the last decade of the 3rd century BC by G.G. Aperghis (2004, 84 and figure 5.6). The trend line in graph 3.5.2 above seems to cast doubt on Aperghis’ interpretation of the price decline as an abrupt shock, as it clearly shows that prices decreased steadily from the 230s onwards already, and especially that the deepest troughs were reached in the 160s BC only, when price regularly moved below the 0.5 shekel/kurru mark (whereas e.g. in the late 190s the price returned consistently above the 1 shekel/kurru mark). Moreover, in the last decade of the 3rd century BC, prices were very favourable for both dates and barley. After a high price of 3.75 shekel/kurru in the immediate pre-harvest season in 208 BC (which receives further treatment in the following section dedicated to outliers, see chapter 4.2), the barley price oscillated between 1.25 und 0.08 shekel/kurru between May 208 BC and March 197 BC, hence at a level considerably below the average price of the period ca. 225-140 BC.
3.5.3 Barley and date prices in the later Seleucid period, ca. 225 – 140 BC

Hence, it is most precise to state that the relationship between barley and dates changed notably in the later Seleucid period. This phenomenon is observable only in the second half of the 190s BC. However, the reasons for this divergence are also to be attributed to the development in the barley price showing an upswing between 195 and 180 BC, and not monocausally related to the development in the date price. The question is best rephrased as to why the date price – contrary to barley – continued to fall throughout the first half of the 2nd century BC. The earlier explanatory approaches of R. van der Spek and G.G. Aperghis attributing the price decrease to a royal decree encouraging the plantation of new date palms or to a tax exemption on dates respectively both focused on the supply side. However, as regards Aperghis’ (2004, 84) hypothesis of the suspension of a 50% tax on dates there is no historical evidence whatsoever, neither for a 50% tax on the date harvest in Babylonia nor for an exemption thereof during the reign of Antiochus III.216 Also the fact that the date prices kept falling until well into the 160s BC cannot be accounted for by this explanatory approach.

Van der Spek’s (2004 and 2006a, 302) idea of a royal decree by Antiochus III encouraging the planting of date gardens is based on a document first published by G. Sarkisian (1974), a rental agreement from Uruk dating to 221 BC. According to Sarkisian’s transcription the texts reads in several lines (10, 34, 42 and 44) a-na al-li za-qa-pu sumer GISIMMAR, in one instance (line 34) the following line refers to a royal regulation (di-’a gi-ra-am … ṭē-e-mu šā LUGAL). Van der Spek translated the phrase as

216 Aperghis 2004, 146. His argument is obviously based on the implausible assumption that the magnitude of the tax exemption corresponds precisely to the price decrease (or increase of the equivalent), thus to about 50%. Half of the harvest is a high but by no means unreasonable estimate for a tax on agricultural produce, in particular fruit crops; see Aperghis 2004, 137-152, especially 146. At a conference in Amsterdam in May 2011, he reiterated his hypothesis by interpreting the difference in the date prices before and after 205 BC as a step function. Even if that were true – an gap in the documentation of almost 10 years during the 210s BC, hence precisely in the crucial years immediately preceding his watershed of 205 BC impedes us to arrive at a clear-cut solution (and note the low barley price in this decade, cf. above) – such a formal structure of the price data could have equally come about by e.g. van der Spek’s explanatory approach.
“for the planting of additional date palms” and suggested that Antiochus III attempted to stimulate the planting of date gardens by means of issuing a royal decree. However, also this interpretation has some difficulties, the first being that the reading al- is in all probability erroneous, the contract formulary would rather require a dul-, and thus read “the work of planting date palms.” Secondly, and more importantly, the text concerns one single plot of land and states nothing about the content of the royal edict. The passage concerning the planting of dates occurs several times in the text, and the one time it is juxtaposed with the royal decree is the passage specifying the modalities of the lease, immediately after the description of the property. It rather appears that the whole transaction is to be carried out under the regulations of a royal decree. It is for example conceivable the some kind of fee had to be paid for the transaction in order to be legally valid. Furthermore, a second reference to the royal diagramma is made in the same section in line 38 in connection with payments to be made to the temple (E DINGIRMES). Hence, as has been rightly recognized by van der Spek in a more cautious commentary to the text from 1995 (234), what seems to be at issue in this passage are the modalities of the payment of the rent. From that angle, the edict in question seems to have specified also income rights of a temple leasing out land. Also, the possibility that we are dealing with different documents cannot be entirely discarded. A third argument against the interpretation of this royal edict as decreeing an increase in the number of date plantations is historical. The lease contract in question bears strong resemblance to the lease contracts ana zaqipānūti, “for the planting (of date palms)” which are known from the Neo-Babylonian period. In these contracts, the lessee obliged himself to plant a date grove on formerly unproductive land, as compensation he was allowed to keep the full amount of the harvest for himself in a number of years. A similar contract type – reclamation of barren land, ana taptē – existed also for agricultural land. Furthermore, the subject matter was already known in the first half of the second millennium BC to the reductor(s) the Law Code of Hammurabi, which envisages in §§60-63 a scenario in which one citizen gives to another citizen a field which is to be turned into an orchard (eqlam ana kirîm zaqāpim). In §60, the Law Code indeed regulated the modalities of rental payment by the lessee in such cases, as was envisaged above. Hence, leases with the specific obligation for the lessee to plant date palms are by no means an unusual phenomenon in first millennium BC Babylonia and even earlier. However, to what use a tract of land was put depended primarily on soil conditions, the availability of water, labour force and farming equipment (such as plow oxen), and the concrete aims of the lessor, whether institutional household or private person. That kings attempted to generate additional income by means of regulating which crops were to be planted in a specific region of their empire is to the best of my knowledge an unknown economic strategy in ancient Babylonia. The specialization in date horticulture of the Ebabbar temple in the 6th century BC came about due to various structural and other factors – such as the availability of manpower required for the intensification of agricultural production – but was certainly not prescribed by means of a decree by the royal chancellery. Finally, at least during the long 6th century BC there were substantial differences in the economic structures of northern (mainly

217 The text is edited with translation in van der Spek 1995a, 227-234. See also van der Spek 1986, 222-232, in particular the commentary to line 10 (230).
218 Van der Spek 1995a and 2006a, 302.
219 A reading dul- was suggested by M. Jursa (without closer inspection of the text). Also J. Hackl independently prefers dul- . This reading is difficult to reconcile with the traces according to his collation, however, neither is al- entirely satisfactory. Allu/û is inconsistent as regards syntax with the remainder of the phrase.
220 See Jursa 1995, 122-124, and 2005, 22 for this type of contract. In his sample text (122, text 31), the lessee is exempted from rental payments for 12 years.
221 Jursa 1995, 140-143.
222 Roth 1997 contains a convenient edition of the text.
223 For the Seleucid empire, see the discussion of the imperial revenue in Aperghis 2004, 137-179.
224 Jursa 2010, 355-360, especially 359: “The preference for intensive horticulture at the expense of extensive grain farming was inextricably linked to the requirements of the strongly monetised economy and the gradual dissolution of the basic structures of the traditional redistributional household economy”.

Sippar) and southern (Uruk) Babylonia, with the former region specializing in the
cultivation of dates and the latter in sheep husbandry. The text under discussion which
stems from Uruk has thus a priori little explanatory power as regards circumstances in
Babylon.

The most recent approach focusing on the supply side was put forward by our
research group (van Leeuwen et al., Climate) and explained the price decrease by an
increase in the supply situation due to improved climatic circumstances during the 2nd
century. This is indeed the only explanatory model also able to account for the price
decrease observable in all other commodities, e.g. sesame which dropped from 9.90
shekel/kurru in the period 300-225 BC to 6.9 shekel/kurru in the years 225-140 BC.
Regarding now the relative prices of dates and barley, it is expected that the date price
would be stronger affected as dates were compared to barley the inferior (i.e. less
expensive) and hence less elastic basic commodity. Once the barley price fell below a
certain threshold, people would substitute the inferior commodity dates with the higher
esteemed commodity barley. Also, contrary to the situation in the Late Achaemenid
period, the price of wool is affected least of all commodities by the general decrease in
prices, correspondingly to its high elasticity of demand.

A second explanatory model can be adduced to complement the results of this
approach focusing on climatic improvements, namely an investigation of the development
of the prices in the light of the quantity theory of money. According to Irving Fisher’s
famous equation MV=PT, the money supply multiplied by the velocity of circulation
equals the price level multiplied by the level of transactions (usually approached via an
estimate of GDP). In the later Seleucid period, which exhibits a lower price level for all
commodities recorded in the ADs, ones needs thus (ceteris paribus) to postulate a change
in at least one other variable for the equation to hold. The first option is a concomitant rise
in T, which is essentially the argument put forward by van Leeuwen et al., who argued for
an increase in the supply situation due to a more favourable climate. The second possibility
is a reduction of the monetary supply. Historically, this is perfectly sensible. As is
demonstrated in greater detail in chapter 4.4, the exceptionally low prices of barley (but
also the commodities) prevailing through the later 190s and the 180s BC can be very well
explained in the context of Antiochus III’s continuous war expenses culminating in the
indemnity payment incurred with the peace treaty of Apameia in 188 BC. In addition to the
outlier caused by the temporal scarcity of silver due to the enforced immediate payment of
a substantial sum (more than 5,000 talents of silver), it is possible that a general
contraction of the amount of silver in circulation was another consequence of Antiochus
III’s campaigns. The consequences of a reduced amount of money would be similar to those
of an increase in supply, in both approaches the price of dates would decrease stronger due
to a substitution effect. Of course, the decrease in the price level can have been brought
about by a combination of both factors, hence an increased supply and a lower level of
monetization as well.

An additional factor that might have contributed to the decrease of the date prices
in the early 2nd century BC stems from a possible change in the demand situation. A
sustained decrease in the demand for a basic foodstuff such as dates as is implied in our

226 See also van der Spek/van Leeuwen Integration, where still another possibility, namely an increasing
salinization which would affect barley in stronger measure than dates is briefly considered but judged
unlikely.
227 See the figures in van Leeuwen et al. Climate.
228 A succinct account of the Fisher-equation is provided by Mayhew 1995a, 239-243. See Hollander 2008,
117-122 for the quantity theory of money in the context of Late Republican Rome.
229 A decrease of the velocity of the circulation of money (V) setting of the price decrease is the most
unlikely solution considering the short span of time during which the price drop occurred and because this
scenario presupposes a substantial increase in the amount of money in circulation. The velocity of monetary
circulation is usually held constant, but see Mayhew 1995, especially 68-71, for its dynamic nature: the
higher the level of monetization of an economy, the lower the velocity of circulation will be.
data can also be explained by a significant change in the consumption behaviour, and considering the essential stability of dietary habits prevailing throughout Ancient Near Eastern history, such a scenario is not easily postulated. The only suitable context for such an unprecedented change in consumption patterns during the whole Seleucid period is provided by the settling of Greek colonists in the city of Babylon. The date of this Greek ‘colonization’ of Babylon is not established with absolute certainty, but as T. Boiy has shown, there is good evidence to date this event already during the reign of Antiochus III (rather than Antiochus IV). The Greeks were not accustomed to rely on staple crops other than cereals (wheat and barley), and neither were they acquainted with the main Babylonian beverage, beer brewed from dates and seasoned among other herbs with *kasû*. Hence, we expect their dietary preference for barley (but also other cereals not recorded in the ADs) to have driven up both demand for and cultivation of barley and diminished the demand for dates (and *kasû*). As at least part of the colonists can be expected to have been provided with means of sustenance by the royal administration in form of fields (*kleroi*), a rise in the barley production countering the increased demand can account for the fact that there was no drastic increase in the barley price visible in the data. A problem is that we do not know whether the Greek settlers consisted of a number of persons elevated enough to leave a mark in the price data, however, as they were recognized as political entity within the city (*puliṭānu politai*) we should not underestimate their economic force. What suits neatly with this line of interpretation is the fact that at about the same time, a drop in the price of *kasû* similar to that of dates occurred. Hence, both main ingredients of Babylonian beer can be argued to have suffered a decrease of demand at the same time. For *kasû*, if M. Stols’s identification of this commodity as a cuscuta (dodder plant) species is correct, an increase in supply due to a royal decree encouraging production is almost impossible to argue as the Cuscutaceae are parasitical plants. The commodity approximately halved in price, from a mean of 0.93 shekel/kurru in the period ca. 300-225 BC to mere 0.43 shekel/kurru during the later Seleucid period. Hence, the decline in the prices for *kasû* and especially dates both in absolute and relative terms compared to barley can also be approached focusing on the demand side. T. Boiy’s hypothesis of the installation of a Greek colony in Babylon already under Antiochus III although it cannot be proven with absolute certainty would provide an ideal background to such an explanatory model, which supplements the earlier scenarios centring on supply.

Contrary to the staple crops barley and dates, the other non-essential goods clearly display a pattern of rising prices towards the end of Seleucid reign over Babylonia as is shown in graphs 3.5.4 (cress prices) and 3.5.5 (wool prices). These price rises already foreshadow the price increases that would affect barley and dates in the Parthian period after ca. 130 BC. One factor influencing the price increases in cress, sesame, and wool may be sought in the unstable political situation which affected the Seleucid dynasty after the death of Antiochus IV in 164 BC. The reasons for the lag of staple crop prices have to remain elusive. One can for example hypothesize that in times of extended political instability which, it has to be remembered, also entail a weakening of (the efficiency of) markets, producers of agricultural crops rather focused on products with low demand elasticity as means of risk aversion and also as strategy to ensure one’s own supply. This

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230 Boiy 2004, 207-208. Cf. the commentary to AD -187A r9 for an ample discussion of the evidence and further arguments in favour of this hypothesis. The *locus classicus* for a settlement date under Antiochus IV is van der Spek 1986, 71-78, see also van der Spek 1987, 66-70 (as well as the discussion of BCHP 14 at http://www.livius.org/babylonia.html.

231 See Stol 1994 on the brewing of beer in first millennium BC Babylonia.

232 A brief account of the standard Greek diet in antiquity is provided by Migeotte 2007, 75-78.

233 See Cohen 1978, 21-25 on colonization in both urban and rural contexts.

234 See e.g. van der Spek 2001 and 2009 and Sherwin-White/Kuhrt 1993, 149-161 on the Greek community in Babylon.

235 Already Aperghis 2004, 85 and figure 5.7; cf. our graph 3.6.2 below.

236 Stol 1994. His identification is generally accepted (e.g. Slotsky 1997, 31), the objections raised in Geller 2000 did not meet with approval.
resulting imbalance in the supply of barley and dates (increasing) on the one hand, and cress, sesame, and wool on the other (decreasing) would explain the stability of the former and the price increase in the latter commodities.

3.5.4 Cress prices in the later Seleucid period, ca. 225 – 140 BC

Wool shows a particularly clear pattern: after a period of roughly 70 years in which prices usually (but with occasional outliers) oscillated between 1 and 1.5 shekel/5 minas, prices levelled off at a level of 2 shekel/5 minas after 160 BC. In the first decades of Parthian rule, prices remained at approximately the same level, before rising some more towards the close of the 2nd century BC.
3.5.5 Wool prices in the later Seleucid period, ca. 225 – 140 BC

3.6 Conclusions

Summarizing the obtained results, we would like to briefly consider the *longue durée* of the price data from Seleucid Babylon in order to ascertain and refine some of the findings. In the preceding section 3.5, the movements of the respective trend-lines of barley and date prices in relation to one another have been discussed. The reason for their divergence after about 195 BC has been sought in a more favourable climate boosting supply of all commodities and hence depressing prices, in particular that of dates being the commodity least elastic in demand. At about the same time, the settlement of a Greek community in Babylon may have contributed to the decline in the demand for dates relative to barley.

Graph 3.6.1 shows this development in the context of the earlier attestations of the Seleucid period. The gap between barley and date price was fairly narrow for roughly the first century of Seleucid reign over Babylon, with barley price ranging below the date price in the one and a half decades or so of the 3rd century BC when date orchards still were not fully recovered from the wartime devastations from the early Hellenistic period. The divergence, however, started to widen shortly after the turn from the 3rd to the 2nd century BC. As has been briefly alluded to above (and as will be described more fully in the next chapter), most crisis moments caused prices of both commodities to rise in unison. However, at some point after 195 BC, the barley price on the one hand stopped its downward trend that set in for both commodities after the troubled period of the 230s BC and stabilized at a favourable level of about 1.59 shekel/kuurrû (mean price), but the date price on the other continued to decrease. It has to be emphasized again that it is this

237 The goodness of fit ($r^2$) is satisfactory for both commodities; 0.21 for barley, and even 0.60 for dates. The higher value for dates can be explained amongst others by their lower level of volatility.
diverging pattern rather than an extreme drop in the date price (or a steep rise in the barely price) that caused the widening of the gap between the two commodities.

3.6.1 Barley and date prices in the Seleucid period, ca. 300 – 140 BC\textsuperscript{238}

Of the remaining commodities, the trend-line of \textit{kasû} follows the one of dates in that a sustained decline took place well into the second century BC. This is also clearly shown by the difference in the mean prices between early and late Seleucid periods (0.93 shekel/kurru as opposed to 0.45). \textit{Kasû} was at all times the least expensive commodity, which probably reflects both its biological nature – a parasitical plant rather than a crop that needed cultivation – as well as its use as condiment rather than genuine foodstuff, thus being requested in small amounts only and additionally being very elastic in demand.\textsuperscript{239}

\textsuperscript{238} The barley trend line exhibits a goodness of fit \( r^2 = 0.2088 \), for dates the \( r^2 \) amounts to 0.5955.

\textsuperscript{239} On both aspects see Stol 1994.
3.6.2 Kasû prices in the Seleucid period, ca. 300 – 140 BC

The graph for wool shows that the price for the only non-foodstuff is clearly the most stable price of the dataset. It constantly fluctuated between one and two shekels per mina, with the exception of the first decade or so after the warfare between Alexander’s successors. In the first 40 years of the second century prices tend towards the lower border but after ca. 160 BC they rise again and for the first time after about 150 years they regularly arrive and even exceed the 2 shekel/5 minas-mark. Also, wool and especially its final products is the only commodity of those recorded in the ADs for which long-distance trade is feasible, and attested already in the early second millennium BC.\textsuperscript{240} Whereas the raw wool was mainly traded regionally, especially high-value dyed cloth was traded long-distance.\textsuperscript{241} Indeed, still in the first century AD, Babylonian blankets were held in high esteem by wealthy Romans. A telling passage is Pliny Nat. hist. VII 74.196, stating that the emperor Nero paid 4 millions of sesterces for Babylonian *triclinaria*. The essential stability of wool prices throughout the period under discussion here can thus also be interpreted as reflecting the comparatively higher degree of its integration in different markets.

\textsuperscript{240} For the Old Assyrian trade connections to Anatolia see e.g. Dercksen 2004. Interestingly, already in this period, the bulk of textiles traded via Assur to Asia Minor originated from southern Babylonia were, see Dercksen 2004, 14 and Veenhof 1972, 98-103.

\textsuperscript{241} On long-distance trade of wool in first millennium BC Babylonia see Graslin-Thomé 2009, 187-205, see also Jursa 2010, 595-616 (contribution of K. Kleber) and Kleber 2008, 237-253 on wool trade within Babylonia.
3.6.3 Wool prices in the Seleucid period, ca. 300 – 140 BC

What is also remarkable is the fact that outliers occur very seldom only in the data for both wool and kasû. For at least the earlier outlier in the wool data (10 shekel of silver per 5 minas in October 261 BC), which is more than six times above the mean price of the whole period, also the possibility of a scribal error should not be unmentioned. Such inaccuracies always have to be accounted for, but unless there is good evidence to do so, it is methodologically unsound to simply delete inconvenient data which might prove difficult to explain. What militates strongly against the possibility of a scribal error in this peculiar instance is the fact that the second outlier in the dataset (5 shekel/5 minas) is constituted by the chronologically subsequent price in May 257 BC.

As was the case with both barley and dates, also cress prices are on a lower level and less volatile in the period between ca. 200 and 140 BC. There is also a notable trough in the dataset in the late 250s/early 240s BC. There are several notable outliers scattered throughout the dataset, and we note that these again occurred mainly in the first half of the 3rd century BC. Like to wool price, the price of cress shows an upward trend at the end of the Seleucid period, which is not the case for barley and dates.

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242 As discussed in the commentary, good example is provided by the historical section of the diary AD - 273B (the account of the First Syrian War).
3.6.4 Cress prices in the Seleucid period, ca. 300 – 140 BC

The final commodity to be discussed is sesame, the most expensive crop. Sesame shows its most noticeable outliers during the crisis of the 230s, and like the other commodities its prices are clearly lower during the first half of the 2nd century BC. This development is mainly due to the non-occurrence of large outliers in the later period: the general price level both between 290 and 240 BC, and 210-140 BC is between 5 and 10 shekel per *kurru*. Thus, the trend towards lower prices in the later period is much less pronounced than was the case with cress, let alone dates and *kasû*. 
In addition to lower average prices, also the volatility of all commodities (with the conspicuous exception of dates) is clearly lower in the later Seleucid period. The table below listing the coefficients of variation (CVs) for all commodities in the Seleucid period shows a substantial decline in volatility ranging between about one third in the case of barley and almost 75% in the case of wool. The reason for the unexpectedly high volatility of date prices is in all probability to be sought precisely in the fact that this commodity shows a steady decline spanning over a period of several decades.243

<table>
<thead>
<tr>
<th>Commodity</th>
<th>CV: 300-225</th>
<th>CV: 225-140</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>0.63</td>
<td>0.41</td>
</tr>
<tr>
<td>Dates</td>
<td>0.39</td>
<td>0.54</td>
</tr>
<tr>
<td>Kasû</td>
<td>0.79</td>
<td>0.38</td>
</tr>
<tr>
<td>Cress</td>
<td>0.78</td>
<td>0.46</td>
</tr>
<tr>
<td>Sesame</td>
<td>0.59</td>
<td>0.34</td>
</tr>
<tr>
<td>Wool</td>
<td>0.75</td>
<td>0.29</td>
</tr>
</tbody>
</table>

**Figure 6.1:** Volatility in the Seleucid period

What can furthermore be shown is also a significant decline in the seasonality of the barley price between these two periods. Graph 6.6.6 below shows an index of seasonality derived from a regression analysis employing seasonal dummies. In both the

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243 In such a pattern, prices continuously deviate to a significant extent from the mean. Contrast the graphs for barley (3.5.1) and dates (3.5.2): Whereas the former shows an almost straight trend-line for much of the later Seleucid period with prices clustering in a narrow range around the mean, the graph for dates shows a significant price decline between ca. 230 and 170, higher prices throughout much of the 170s and 160s BC and again lower prices in the 140s BC. For a formal proof of the idea that a decreasing trend causes the CV to rise see Földvári/van Leeuwen 2010.
In this discussion of commodity prices from Late Achaemenid and Hellenistic Babylonia, the possibility of repercussions of several types of events in the dataset of prices has been hinted at. Specifically a cluster of high prices in the 230s BC immediately visible in the graphs of several commodities has been said to have been caused by a period of both political unrest and natural disasters. Similarly, the above average prices of barley and cress in 274/3 BC have been interpreted by van der Spek as caused by preparations for the First Syrian War; however, his assessment is not shared by G. Del Monte (cf. above). The following chapter shall thus be dedicated to an investigation of these peak prices under due consideration of historical events, political or else.
4. Price outliers and histoire événementielle

4.1 Introduction

The graphs for the various commodities, and in particular barley shown in the preceding chapter display a remarkable number of outliers, thus prices that diverge to a considerable extent from the trend-line. This chapter shall investigate the reasons behind these deviations of commodity prices from the expected range. More specifically, it will be assessed to what degree it is possible to correlate the outliers in the price data at our disposal to exogenous shocks, thus historical events which can be considered as the proximate cause of these anomalous prices. The basic idea behind this approach is fairly simple: market prices such as the prices recorded in the ADs are set by the interplay of supply and demand, and various types of historical events are expected to have an impact either on the supply or on the demand situation of the individual commodities and thus affect – increase or, less often, decrease – prices. Also, changes in the price level can come about by a decrease or an increase in the amount of money in circulation which in antiquity was highly susceptible to the vicissitudes of history, too. A simple example for a demand shock would be an army convocation in the city of Babylon: in such a scenario, the presence of additional mouths to feed would put a strain on the stocks of grain (and other foodstuffs) available, in other words the demand and consequently food prices are increasing. Supply shocks occur for example when during an episode of warfare the city is besieged and cut off from its agricultural hinterland, or also when crop failure due to negative climatic circumstances or crop diseases reduces the availability of victuals.

This investigation – if indeed providing us with solid instances of correlation between outliers in the price data and different kinds of exogenous shocks – is a straightforward way to make a case for the price-determining force of historical events. Particular attention shall be paid to those events which will be included in the categories of potential exogenous shocks considered as dummy variables in the regression analysis in the following chapter 5, which tackles the same question from a different angle and by means of a more sophisticated methodology. In the present chapter, the outliers will be considered in a (roughly) chronological order. It shall be clear from the outset that the persuasiveness of the respective attempts at explaining outliers varies from case to case. There are outliers that can be explained in a convincing manner by looking at the historical circumstances at the time of their occurrence, and there are those for which explanations must remain more tentative until further evidence sheds more light on the time period in question. Also, we shall distinguish between outliers surpassing the expected price range and those which lie considerably below mean prices.

4.2 High-ranking outliers

The first outlier still dates to the Late Achaemenid period. The one price deviating from the pattern of low volatility in the Achaemenid barley price data between ca. 350 and 330 BC dates to March 346 BC when the equivalent dropped from 120 litres per shekel in the beginning of month XII – an equivalent which aligns very well with the 117 litres per shekel in the end of the preceding month – to 69 litres only at the end of the month. As such sudden price jumps do not normally occur it is tempting to reckon with an unexpected exogenous shock behind this development. There is indeed one event which can explain the almost 50% reduction of the equivalent, corresponding to a rise of 75% of the (shekel per kurru) price from 1.5 to 2.61.
An invasion of locusts is recorded in the same month and even in the same exact period (days 27 to 29) of the suddenly risen barley price. The pernicious impact of locust invasions, expressing itself for example in an obliteration of the harvest standing on the fields was already known to the Mesopotamians as is clear from predictions such as “If at the appearance of the moon (the star sign of) Scorpius stands by its right horn: in that year locusts will rise and consume the harvest”. This locust invasion, as well as all other attestations of this type of event recorded in the Diaries, have been discussed elsewhere in greater detail with the result that in this instance the plague of locusts is indeed the most plausible explanation for the increase in prices. Also, there are no other convincing explanations of the price movement. No internal strife or other events which may have caused this steep rise in prices are known from year 347/6 BC. An assumption that this increase was merely connected to a more general shortage before the imminent barley harvest is not convincing. For such an explanation, the decrease in the equivalent in the same month is too steep. In normal years, the immediate pre-harvest period is characterized by a steady but smoother decline. To remain in the Late Achaemenid period, in AD -372 the equivalent is the same in beginning and middle of month X (33 litres per shekel), declines then to 28.5 in the end of that month and further to 24 litres in the beginning of the following month XI. Rather than a sudden 50% drop in the equivalent occurring within a period of 10 days, we are dealing here with a decline in the equivalent in much smoother steps of about 15% over a period longer than one month. A closer temporal fit in terms of the period of the price movement (month XII) is provided by AD -180D from the reign of Antiochus III, which shows an even more gradual decrease from 90 litres in the beginning of month XII to 84 in the middle and 78 in the end of the month. Several other instances distributed throughout the data set (AD -249B, month XII, or AD -118A month I, with the new barley harvest arriving at the market on day 19 of that month) confirm this pattern.

The enormously high prices of the early Hellenistic period (ca. 320-300 BC), when the average price stood at a level higher than the values of outliers in both the preceding Late Achaemenid and consecutive Hellenistic periods have already been discussed in detail in the preceding chapter 3.3. Suffice it here to note that the high price prevailing in those years can be attributed to the continuous warfare devastating the province as well as to the high minting activity especially in the eastern provinces rendered possible by the capture of the treasures of the Great Kings. The whole period is thus a good example of the pernicious impact of armed conflict or rather a only loosely connected series thereof, extending over a period of almost three decades on commodity prices.

The most fruitful period in term of outliers are the first 75 years or so of Seleucid rule over Babylonia. It has already been indicated that there is a possible connection

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244 SAG and TIL specify that the recorded price applies for the beginning and the end of month, respectively.
245 SAA X 364, r11-13. For more instances see CAD E (1958) s.v. erbu. In particular Neo-Assyrian kings occasionally compared the destructive impact of their army to a swarm of locusts, cf. TCL 3, 187 from the reign of Sargon II (721-705 BC).
246 Pirngruber, Locusts. In the majority of instances such a correlation could not be established, i.e. there is no automatism of locust invasions leading to price increases. This can be explained by the date of the invasions which most often took place between the barley harvest and before the seeding when the crop was safe in the storage facilities.
between the outliers in the barley price in winter 274/3 BC and war preparations for a campaign into Syria in the outset of the First Syrian war. Barley indeed stood at five shekels/kurru in both November 274 and April 273 BC, hence at about two and a half times the price prevailing during the 270s BC, which usually ranged below 2 shekels/kurru (cf. graph 3.4.1). Also cress ranged highly above its average price during the same time. Indeed, the most notable outliers of the whole dataset for this commodity date to winter 274/3 BC, when the price stood at 22.5 shekel/kurru (again in November 274 and April 273 BC), compared to a mean price of 6.19 shekel/kurru.

4.4.2 Cress prices in the Early Seleucid period, ca. 300 – 225 BC

In the light of the uncertainties which girdle the previous interpretations of van der Spek and Del Monte focusing on the supply situation of barley, we suggest to set the focus on demand. There is one factor that has hitherto not received due consideration and this is that fact that the imperial army – including contingents from regions as far away as Bactria – was mustered in Babylonia (AD -273B, r32). This gathering of armed forces is likely to have caused a boost in the demand of not necessarily all commodities, but especially cereals (thus barley), providing us with a simple explanation of the partial price increase. The passage describing the requisitions (AD -273B, r30-32) is thus best interpreted as referring to an appropriation by the royal administration of bullion from Babylonian citizens and more importantly temples, the silver being used to cover army expenses. The soldiery supplied itself partly while still in Babylonia; barley and also cress, to judge from the price increase, were acquired by the troops as travel provisions for the journey into Syria.

247 For this opinion see van der Spek 2000, 305-307 (contra Del Monte 1997, 28-31), see also the commentary to AD -273B.
248 Incidentally, these are the commodities disbursed as ṣidītu-travel rations by Babylonian temple households in the 6th century BC, see Jankovic 2008.
This approach has much to commend to it. The non-occurrence of a price increase in commodities other than barley and cress can be explained by dietary habits or preferences (hence a comparatively small increase in demand), or even different supply situations. An additional advantage of this demanded-centred approach is that we no longer need to postulate a large-scale siphoning off of silver and other precious metals away from Babylonia and into Syria, which in theory should have diminished prices of all commodities in more or less (depending on different demand elasticities and similar factors) equal measure – a phenomenon which failed to occur.  

The hypothesis of a decrease in the silver supply in Babylonia is also difficult to reconcile with the fact that throughout the reign of Antiochus I, Seleucia-on-the-Tigris seemed to remain an exceptionally productive mint of the empire. This mint alone put into circulation 18 issues of the tetradrachm type showing the ruler’s portrait on the obverse and Apollo seated on the omphalos on the reverse, and an additional five issues of drachms of the same type.  

Quite on the opposite, a higher minting rate at Seleucia is exactly the scenario one would expect as a consequence of the presence of the army in 274/3 BC. Such a correlation has been shown by A. Houghton for the campaigns of Antiochus III, when both the suppression of the revolt of Molon and the passing of the army through Babylonia during Antiochus’ III anabasis into the Upper Satrapies triggered minting activity at Seleucia. All this evidence suggests thus strongly that there was no general scarcity of silver in Babylonia during the gathering of the army and other preparations for the First Syrian War. It is even possible that the prices of commodities already in high demand were additionally inflated due to above-average minting activity.

As regards the enigmatic ‘copper coins of Ionia’ it has to be noted that bronze coinage was already struck in Seleucia-on-the-Tigris during the reign of Seleucus I, in the first years of the 3rd century BC. Almost all of the bronze coinage found in southern city of Uruk dating to the 3rd and to the first half of the 2nd century BC was minted in the atelier of Seleucia. It was only from the reign of Antiochus (IV?) onwards and especially in the Parthian period that Uruk minted its own small denominations. As far as this limited evidence allows us to see, bronze coins from Seleucia have circulated throughout Babylonia and it is thus quite likely that also the city of Babylon – located considerably closer to Seleucia than Uruk and without own mint after 294/3 BC – was provided with coins from the mint in Seleucia. Bronze coinage was thus by no means a completely unknown phenomenon in Babylonia already early in the Seleucid period although initially...
it might have been largely confined to the Graeco-Macedonian part of the population as a means of payment. The possible background to said comment of the author of the Diary (as well as the reference to silver being sent to Transpotamia in the same diary) might thus be that in a period of ‘high demand’, or, more bluntly, requisitions of precious metals also the Babylonian urban elites and the temples were more and more encouraged – or less euphemistic, forced – to use and accept bronze coinage in commercial transactions and to economize on silver, which was put aside as a store of value.\textsuperscript{254} Whether the events narrated in the diary discussed here – especially the assumed confiscation of arable land in r36-38 – can be interpreted as part of the administrative reforms by Antiochus I, which was undertaken at precisely the same time, 37/38 SE (275-273 BC), and which is visible so far only in the documentation of Uruk, has to remain speculation, but is a certainly tempting scenario.\textsuperscript{255}

The high barley prices in \textbf{257/6 BC}, up to 7.5 shekels/\textit{kurru}, might again be explicable as caused by an exogenous shock. In autumn 256 BC, there is a brief notice of skirmishes in the city of Babylon in an Astronomical Diary (AD -255A, r15), but interestingly only after the high prices, which were recorded in February and April of the same year already, and even in July of the preceding year 257 BC. This leaves us with the tempting option to interpret the fighting as a kind of food riot, but excludes these disturbances as cause of the high prices. However, AD -256 reports a locust invasion during the harvest period of 257 BC in Babylonia, a kind of event thus which we already established in the Achaemenid period as potentially driving up prices to a significant extent.\textsuperscript{256} The fact that prices remained high also the following year can be explained by the phenomenon of autocorrelation, hence a bad harvest entailing a lower availability of seed corn, resulting in similarly high price also in the following year.

The supply situation might have been exacerbated by government strains put on the region in the context of the Second Syrian War (260-253 BC). However, that this conflict had a major impact on Babylonian prices has to be doubted: it was fought exclusively in Asia Minor (Ephesus, Caria, Lydia) and on the east coast of the Mediterranean (Arados), and in the reconstruction of J. Grainger, the main part of the fighting took place in the earliest years, between ca. 260 and 258 BC.\textsuperscript{257} Demands of the central administration might however have aggravated an already precarious situation. There is one brief reference in St. Jerome’s commentary to the book of Daniel that refers to this period and which states that in the many wars fought between Antiochus II Theos and Ptolemy II Philadelphus, the former convoked troops from Babylon and other regions in the East (In Danielem 11 6: totis Babylonis atque Orientis viribus dimica vit). Hence, if we take the First Syrian War as historical example, there might have been an additional increase in demand as the consequence of the convocation of an army in Babylon. Considering both the point in time as well as the location of the military operations, this is however a somewhat implausible scenario. As stated above, the major manoeuvres had taken place before 257 BC, and as opposed to the First Syrian war, the Ptolemaic army did to the best of our knowledge not invade inland Syria, but confined its operations to the shores of the Mediterranean. Some negative impact in form of financial contributions in cash or kind however should neither be completely discarded, particularly in the light of the duration of the war.

Not only barley but also the other commodities exhibit above average prices during these years. The date price stood at above average values in the period between July 257 and May 256, fluctuating between 3.5 and 4 shekel/\textit{kurru} compared to the mean of the earlier Seleucid period of 2.25 shekel/\textit{kurru}. There is thus a notable difference in the magnitude of the price increases between the two commodities dates and barley. Whereas

\textsuperscript{254} Similarly Boiy 2004, 141.
\textsuperscript{255} On this reform see Doty 1977, 308-335; see 330 for the possibility of a connection between the First Syrian War and the introduction of new taxes (\textit{andrapodón, epónion}); cf. van der Spek 2000, 306.
\textsuperscript{256} The prices of these years have also been discussed in Pirngruber \textit{Locusts}.
\textsuperscript{257} Grainger 2010, 121-127. On the war in general see also Will 1979/83, 234-243, Grainger 2010, 117-136. Grainger’s dating of the secessions of the Bactrians and of Andragoras to 256 BC is more than doubtful, see Lerner 1999 and the thoughtful paper of Luther 1999.
the date price increased by a factor of about 1.5, the barley price rose to a level three times its mean. Considering that additionally the date prices either date to the pre-harvest period (July 257) or also to the months preceding the barley harvest in a time of already high barley prices (the prices in spring 256 BC), a simple increase in demand of dates due to the limited availability (and costliness) of barley seems a most plausible explanation. Also cress and sesame show in spring 256 BC a similar pattern of above-average prices. The sesame price, peculiarly, peaked for a second time in October 254 BC, after it had already returned to more moderate levels in early 254 BC. By then, also the prices of barley and cress prices were back to a normal (in both cases slightly below average) level.

Our suggestion is to reconstruct the price history of that period as follows: in spring 257 BC, a locust invasion severely affected the barley harvest, driving up prices of both barley and, as a consequence of the shift in demand and to a lesser extent, dates. As a consequence of the ensuing dearth and possibly also government demands, local unrest was registered in Babylon in autumn 256 BC, further destabilizing the market situation (the highest sesame price and the episode of skirmishes in Babylon were recorded in the same month). There are also a few indications that already in the last years of the preceding decade all was not well in Babylon, the little information we have at our disposal conveys the impression of a rather tense and unstable political situation: AD -261B reports in a fragmentary passage the seizure of fields, mentioning a guard on a fortress as well as the verb GAZ, ‘to kill, to murder’. Additionally, the commodity price list S/W 3 gives for the otherwise undocumented period 266-264 BC a barley price not only above average but also consistently increasing.

Another cluster of high barley prices that lies significantly above average dates to the 230s BC, with a maximum price of 6.67 shekel/kurru in January 232 BC. The classical sources are completely silent on Babylon in this period, but for the decade or so between ca. 240 and 230 BC the diaries provide us with several glimpses into the events in Babylon.\(^{258}\) The impression conveyed by these reports is one of a country in troubled times, afflicted by various difficulties: repeatedly, fighting in the city is mentioned (ADs - 237, -234A, -230A+B, and -229A), and in September/October 235 BC, it is for example explicitly stated that a general revolted from the central authority (AD -234A, 13). The royal palace was somehow directly co-involved in one of these episodes (AD -229A), and one of these occurrences was accompanied by an elevated mortality rate (AD -237). Additionally, natural disasters aggravated the situation. A locust invasion is mentioned for 238 BC (but cannot be correlate directly to a price increase), in spring 234 BC the country seems to have been afflicted by a severe drought, which was followed by a ‘great flood’ in winter 233/2 BC. Although none of these events can be directly identified a cause for the above-average prices, it is highly likely that an interplay of all factors listed above had some repercussion in the price data.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Mean price (Early Seleucid period)(^{259})</th>
<th>Peak price (230s BC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>2.57</td>
<td>6.67</td>
</tr>
<tr>
<td>Dates</td>
<td>2.25</td>
<td>5</td>
</tr>
<tr>
<td>Kasû</td>
<td>0.93</td>
<td>1</td>
</tr>
<tr>
<td>Cress</td>
<td>6.19</td>
<td>17.14</td>
</tr>
<tr>
<td>Sesame</td>
<td>9.90</td>
<td>30</td>
</tr>
<tr>
<td>Wool</td>
<td>1.85</td>
<td>1.67</td>
</tr>
</tbody>
</table>

\(^{258}\) Van der Spek 2006a, 298-300 provides a brief overview of the historical passages of the Diaries from ca. 255 to 230 BC, and briefly notes (301) the above average barley prices prevailing between 241 and 231 BC. 

\(^{259}\) With Early Seleucid period, the years 300-225 BC are intended. All prices of foodstuffs are in shekel/kurru, the price for wool in shekel/5 minas.
Also the other commodities) exhibit a peak price two- or threefold above the mean. Sesame cost 30 shekels/kurru in March 232 BC, and frequently arrived at values of 20-22.5 shekels/kurru in the period between 238 and 233 BC, compared to a mean price of 9.90 shekels/kurru. Equally, the cress price amounted to 17.14 shekel/kurru in October 235 BC, a value almost three times its mean value (6.19) in the first three quarters of the 3rd century BC, and also the date price in winter 233/2 BC amounted to 5 shekel/kurru and hence to more than double the mean of that commodity in the period ca. 300-225 BC. The enduring political crisis – or maybe rather series of unconnected revolts – in interplay with natural disasters seems thus to have put strains on the supply of almost all commodities of the ADs, with the exception of the notoriously stable wool prices. To judge from the exact dates of the peak prices, especially the second half of the decade was a precarious period.

An outlier only affecting the barley price dates to April 208 BC when the barley price rose to 3.75/shekel/kurru, which constitutes the highest price of the latter Seleucid period. But already in the following month, the price dropped first to 2 and then even to 1.07 shekel/kurru. The best explanation for the high price is thus a supply crisis immediately before the harvest. Once new barley arrived at the market, the price even dropped to a level even below average.\textsuperscript{260} It is indeed tantalizing that the largest outlier in the barley price data for the Seleucid period after 225 BC was caused by simple seasonal fluctuation rather than by an exogenous shock.

This was clearly not the case in the preceding centuries, a pertinent example discussed above is the high price most probably caused by a locust invasions in 346 BC, which dates to late spring/early summer and thus to the post harvest period when prices should be at their lowest. Based on the whole dataset, Földvári \textit{et al.} 2011 calculate an average seasonal fluctuation of 15.3\% for barley. This value is considerably below the two- and threefold (or even larger) increases caused by exogenous shocks in the 3rd century BC. The graphs in chapter 3.6 show a fairly uniform picture for all commodities: in the period between the accession to the throne of Antiochus III and until the Parthian conquest (141 BC), outliers not only tend to decrease in magnitude but also in number. This phenomenon has its roots in the improved supply situation due to better climatic circumstances in these years\textsuperscript{261} and also the (at least in Babylonia) tranquil political situation. There are for example no reports of internal conflicts, which were reported regularly in the 3rd century BC (most notably in the 230s BC just discussed), until the years after the death of Antiochus IV, hence the late 160s BC.

Also the troubled years preceding the Parthian takeover seem to have had little repercussions in the price data compared to the 3rd century BC. There are possibly bellicose activities of a certain Aria’bu in August/September,\textsuperscript{262} and two months later in October/November of the Elamite king Kamnaskires, who is said to march plundering through the country, striking fear and terror (\textit{hattu u gilittu}) in the country. barley prices are unfortunately extant only from before this Elamite invasion, but already during the activities of Aria’bu they were at 2.72 shekels per \textit{kurru}, a fairly high level when compared to 2.14 in August 144 (thus precisely one year later) or to 1.88 shekels/kurru in 156 BC. However, the even higher price of August 155 (3.43 shekels/kurru) – for which due to the absence of historical information no explanation can be offered – casts again doubts on the economic impact of this episode. The evidence of commodities other than barley is equally ambiguous. The date price during the harvest period amounted to 0.6 shekels/kurru which is perfectly in line with the low date prices of this period, and also the price for \textit{kasû} is very low (0.25 shekels per \textit{kurru}). This is indeed unexpected as both prices even stem from the month of the Elamite invasion. The same month, on the other hand, shows that cress was significantly dearer in this year than it was five years earlier during the same period, with 6

\textsuperscript{260} See also van der Spek/Mandemakers 2003, 527 on this sequence of prices.

\textsuperscript{261} Van Leeuwen \textit{et al.} Climate.

\textsuperscript{262} The passage in question is fragmentary but two indications point to some kind of military actions. Firstly, \textit{illâtû}, hostile troops, are mentioned. Secondly, the mentioning of canals in line 17 calls to mind a passage from the same diary -144 in a later month, where the Elamite king Kamnaskires is said to “march victoriously among the cities and canals of Babylonia (r21).
shekels/kurru as opposed to 2.72 in July/August 150 BC and 3.75 in June/July 156 BC. The price for sesame was oscillating between 9 and 12 shekels per kurru and thus was significantly above the price prevailing during the mid-150s BC, when it ranged between 5 and 6.93 shekels/kurru.

4.3 Outliers in the absence of clear historical information

Several peaks in the barley price curve are more difficult to correlate in any convincing manner to political history. The most common problem is a scarcity of information, hence the absence of historical records. The high barley prices (6 shekel/kurru and more) prevailing in the winter of 286/5 BC are a good case in point. They were not recorded on an Astronomical Diary but on a commodity price list (S/W 2) and have been brought by editors of the tablet in connection with the final machinations of Demetrius Poliorcetes. This solution seems highly unlikely for two reasons: first of all, Demetrius had been already expelled from his Macedonian kingdom by Pyrrhus in 288 BC and spent the following years trying in vain to assert himself in some regions in the kingdom of Lysimachus in Asia Minor. The size of his troops cannot have been too impressive, as Lysimachus did not deem it necessary to take up arms himself but rather sent out his son Agathocles to deal with the matter. Also the comment of Patrocles that “the expense of maintaining the soldiers of Demetrius was a very small matter” only points in that direction. And secondly, this whole episode, the duration of which was not longer than a few months happened between the Taurus and Amanus mountain ranges and thus in Cilicia, rather far away from Babylonia. Also, according to Diodorus (XXI 20) the crown prince Antiochus resided in that year not in Babylonia but further to the East in Media, which potentially relieved the Babylonian economy of considerable expenses. There is no historical information on events in Babylonia this year, but an alternative explanation for the high prices is provided by the peculiar price pattern of the whole year SE 26: the barley equivalent drops from a very moderate 84 litres/shekel in month I to 60 litres in moth III and further to 36 and 30 litres in months VIII and IX respectively. This movement running counter to the usual pattern of seasonal fluctuation (falling prices in the period after the harvest), in combination with the rather inexpensive price prevailing in month I still points to an unexpected harvest failure due to crop disease, adverse climatic conditions or similar. Of course, also historical-political factors such as internal strife causing crop destruction cannot be excluded but, as stated above, the sources are silent about events in Babylonia in 286/5 BC.

Enigmatic is also the equally high price (again 6 shekels/kurru) in month IX, year 30 SE (December 282 BC). In the light of the fact that in both month VIII and X of the same year prices are a rather moderate level (2.5 shekel/kurru and less) it is most tempting to assume a scribal error – an option that always has to be accounted for. As regards possibilities of explaining this high price with historical events, the chronicle BCHP 9 reports for 282 BC the mustering of the army by Seleucus I before the final confrontation against Lysimachus at Corupedium in early spring 281 BC, which seems to have taken place in Babylon. However, as the convocation took place about six months before the high price under discussion and prices were at average level throughout the rest of the same year, this event can be excluded as cause of the anomalously high price.

263 Slotsky/Wallenfels 2009, 53. Having been expelled from his Macedonian kingdom by Pyrrhus, Demetrius invaded Asia Minor at the head of a small army but was soon defeated and taken prisoner by Seleucid troops, see Will 1979, 89-97.

264 Passed down by Plut. Dem. 47.3. The context of Patrocles’ statement was a petition of Demetrius to Seleucus for help and provisions. Obviously, his campaigns in Asia Minor were not going very well.

265 The most prominent example is the historical section of AD -273B narrating the preparations for the First Syrian War, which is marred with scribal errors (see commentary).

266 See ‘End of Seleucus’ chronicle BCHP 9 livius.org, especially the commentary to line 3.
The only outliers in the wool dataset in the early Seleucid period (easily discernible in graph 3.4.3) date to a very short period between October 261 (10 shekels per 5 minas) and May 257 BC (5 shekels per 5 minas), and interestingly, there is not a single price extant between these two attestations. As far as the sparse documentation allows us to see, other commodities do not exhibit particularly high prices in this period. Barley, for example, stood at moderate 2 shekels/kurru in the pre-harvest period 259 BC (January/February), with the date price amounting to 1.59 shekels/kurru at the same time. For 262 BC, an Astronomical Diary does report warfare in Babylonia (AD -261B), but it is very unlikely that this event caused only the wool price to rise, while the prices of both dates and barley, which is clearly the commodity most prone to fluctuations caused by exogenous impacts, remained stable at a level below average. As a short term demand shock is a most unconvincing scenario, the focus must again be on the supply side. In the absence of historical evidence, all explanatory approaches must remain speculation. Under the premise that Babylon was not a centre of wool production in the 3rd century BC (as was the case in the 6th century, when Urukean Eanna temple was the most important producer in Babylonia, cf. Kleber 2008, 237-253), one could assume that the above-mentioned skirmishes disrupted the market, and that high prices were caused by an absence or diminishing of imports. With equal right, however, one can hypothesize an epidemic disease among sheep or similar causes.

In October 194 BC, the second time that the barley price arrived at its top price of 3.75 shekel/kurru during the later Seleucid period (hence 225-140 BC), also a clear above average price of dates (1.88 shekel/kurru compared to a mean of 0.82) is recorded. Similarly, during the same autumn of 194 BC cress stood at 7.5 shekel/kurru and thus more than twice its mean price, and also sesame was significantly above its average price (10.91 shekel/kurru). As was the case in the 250s and 230s BC, a general price rise affecting all commodities seems to have taken place, but as opposed to the earlier instances, there is no clear information about domestic revolts in Babylonia. The focus of the Greek sources is again on the westernmost provinces of the empire. During those years, Antiochus III dedicated himself to large-scale military operations in Asia Minor and even Thrace, which were brought to a successful ending in 192 BC. Afterwards he remained in the West, and his meddling in Greek affairs ultimately aroused the suspicions of the Romans and brought forth the Syrian War (192-188 BC) which ended in an utter defeat for the Seleucids.

The ADs provide hardly any information for the 190s BC: we know of a lightning stroke (miqitti šati) in January 197 BC and of the presence of the highest military commander of the satrapy in October 194 BC – incidentally the month for which the peak prices are attested. With an eye on the general political situation one might hypothesize a convocation of army troops in Babylon, which were to be sent to the imperial army in Asia Minor. In such an approach, a boost in demand caused by the presence of soldiers would explain the price increase. This approach has something to commend to it, for example the quick recovery of the cress price which was already with the next price attestation at five months distance (in March 193 BC) back to an average level (see below). Also barley and dates are back to normal prices with their next attestations, which are, however, at a somewhat greater distance of almost one a year (August 193 BC). A drawback of this approach is that it does not account very well for the universality of the price increase, as in earlier instances only a part of the commodities were affected, e.g., barley and cress in winter 274/3 BC in the course of the preparations for the First Syrian War. The data of the period between 196 and 190 BC also shows further peculiarities which need to be addressed. Date prices were highest in autumn 194 BC – thus immediately after the harvest, pointing to even higher prices during the rest of the year – and still were slightly above the average also throughout the harvest year 192/1 BC at a

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267 Also kasū and wool were slightly above their average price, but to a very minor extent only.
269 The increase in the date price could be interpreted as caused by a substitution effect, i.e. a shift in demand as response to the increased barley prices, which however would in turn beg the question why this did not happen in the earlier instance.
level of about 1.2 shekel/kurru. To assume an unknown exogenous shock in this year is hardly necessary because as graph 3.5.2 shows, a level between 1 and 1.5 shekel/kurru was regularly achieved in the years between ca. 195 and 175 BC. The prices in 192/1 BC are thus not extraordinarily high and still clearly below the general price level in the 3rd century BC. The simplest explanation would be to assume that prices were kept above average after the peak prices in 194 BC by autocorrelation. A similar explanation can be adopted for the sesame price. After the very high prices between late autumn 194 and spring 193 BC, prices were still clearly above average in summer 192 BC. It was with the following harvest between September and October of 192 BC that the price dropped significantly from 10 to 6 shekels/kurru.270

The barley price, on the other hand shows above average prices already in 196/5 BC, and thus two years before the ‘crisis’ year of 194/3 BC. However, the prices in 196/5 BC were not only clearly below the level of autumn 194 – by one shekel and more –, they also seem to have recovered to a level at about the average price (1.67 shekel/kurru) with the harvest of 195 BC. Unfortunately, the one and a half years between that harvest and the peak price in October 194 BC are not covered by any prices at all, precluding further analysis. However, considering the ubiquity of the price increase of 194 BC, a connection to the higher barley prices of the harvest year 196/5 BC cannot be taken for granted and was at best indirect– and only effective if prices were high throughout the undocumented year 195/4 BC as well.

The next cluster of above average prices dates to the early 170s BC, roughly between February 180 and January 177 BC. Again, this period of above average prices does not exclusively concern barley but also the other commodities. The date price starts to oscillate at a level between 1 and 1.25 shekel/litres simultaneously with the increase in the barley price in February 180, and until January 177 BC, the date price does not fall below the 1 shekel mark. Also the generally stable wool price shows the highest price level since the troubled 230s BC. However, the two shekel/kurru mark was reached already before both barley and dates showed increased prices, namely in August 182 BC. In that month, barley was still at below average 0.75 shekel/kurru, similarly dates only cost 0.45 shekel/kurru. Cress on the other hand did not show higher price during the years in question (graph 4.5.2), and neither does kasû. Sesame had been on a price level above average through most of the 180s BC already, and remained expensive in the years between 180 and 177 before dropping to a below average level in the second half of that decade. Its price peaked in August 182 BC and again in April 178 BC at a level of 10 shekel/kurru (and slightly more in the earlier instance).

The impression one gets is thus one of a comprehensive price rise, affecting visibly four of the commodities, first sesame and wool and somewhat later also the staple corps barley and dates. The main obstacle in interpreting the data of these years is the fact that the reign of Seleucus IV is scantily documented. As neither a case for an increase in demand nor for a fall in supply (which is even less probable considering the universal nature of the price increase) can be made, a tentative explanation of this pattern focusing on the level of monetization might prove more promising. For Seleucia-on-the-Tigris, the main Babylonian mint, A. Houghton and C. Lorber established two subsequent types of tetradrachms, which are distinguished by their different ruler portraits (young man/older man) on the obverse.271 A tempting hypothesis would be to associate this series of higher than average prices with a minor inflationary effect caused by the start of the issue of the second portrait type in Seleucia-on-the-Tigris. Additionally, the surprisingly high level of minting activity during the reign of the militarily rather inactive Seleucus IV pointed out by P. Mittag (2006, 122), which he saw in connection with the payment of the war indemnities incurred by his father and predecessor Antiochus III with the peace treaty of

270 The mean price of sesame in the late Seleucid period was 6.90 shekel/kurru. Sesame was a summer crop and as such harvested in autumn, from September onwards (Charles 1985, 45-50). See, however, the cautious remarks of Vargyas 2001, 242-244 and 250-251 as regards the difficulty of establishing patterns of seasonality with sesame. One explanation of the often inconclusive pattern might be that an early planted variety smoothens out seasonal variation, see Stol 1985, 119.

Apameia,\textsuperscript{272} has to be considered. As table 11.3 in Aperghis 2004 (240) shows, coin production was essentially on equal levels in the reigns of Antiochus III and Seleucus IV in a number of mints,\textsuperscript{273} although the latter’s expenses certainly were much reduced mainly due to the significant restriction on army size and composition after Apameia.\textsuperscript{274} A high general level of mint production certainly favours such a scenario of inflationary tendencies, especially if not all coins minted were at once siphoned off into the treasuries of the Romans.

The very high barley price of 3.44 shekel/kurru of August 155 BC must remain unexplained in absence of historical information. However, note that still within the same harvest year the price dropped contrary to the usual pattern of seasonal fluctuation to a level of about 1.9 shekel/kurru in the immediate pre-harvest period in February 154 BC. This was still above the long-term average of the barley price in the Later Seleucid period (1.59 shekel/kurru), but has the important consequence that a harvest failure can be excluded as decisive factor driving up the barley price in that year. Interestingly, also the date price (2 shekel/kurru) was clearly above the long-term average in February 154 BC, but there are alas no other attestations from the harvest year 155/4 BC. The historical section of AD -154A containing the high barley price also mentions the presence of a general, but the precise context is unclear as the passage is badly broken. Some kind of local strife in Babylonia is not an unlikely explanation for this price pattern, but cannot be proven. In such a scenario, the market was most severely disrupted in summer 154 BC causing at least the barley price – prices of other commodities are not extant in that month – to soar. However, still within the same harvest year the barley price recovered to some extent. Whatever was happening during that summer seems also to have put a strain on the date supply, as is reflected in the above average price level of this commodity in winter 154/3 BC.

Finally, it should not go unmentioned that also the reverse of the situations just discussed, hence the absence of price data during occurrences of potential exogenous shocks often prevents us to obtain a clearer picture of the effectivity of exogenous shocks. The best case in point is the campaign led by Ptolemy II into Syria (autumn 246) and Babylonia (early 245 BC) following the accession to the throne of Seleucus II. This invasion, which started the Third Syrian War (246-241 BC) was only short-lived as internal revolts in Egypt forced Ptolemy to retreat the same year still.\textsuperscript{275} According to St. Jerome, Ptolemy carried off booty \textit{ad valorem} 40,000 talents, however, this statement is of uncertain historical value and of course might be dismissed as derived from Ptolemaic propaganda.\textsuperscript{276} The writer of the fragmentary chronicle BCHP 11 does not mention any plundering or looting, but numerous references to battles and slaughter indicate the state of plight into which city of Babylon fell during this invasion. Also the date of the invasion – January/February – is interesting, as the barley crop during these months is maturing on the field and potentially exposed to destruction. The extant price data from that period is

\textsuperscript{272} Of the 15,000 talents of silver stipulated in this treaty, two thirds were to be paid in annual instalments of 1,000 talents. The last rate was actually paid in 173 BC only (and not in 178 BC, as the conditions in the contract required), this delay is usually attributed to the difficulty of the Seleucid empire in fulfilling these obligations, cf. Will 1982\textsuperscript{2} 303, Mittag 2006, 118. For a different stance see Le Rider 1993, 60-62, explaining the delay by Roman lenience/disinterest towards the Seleucid obligations.

\textsuperscript{273} Susa and Nisibis (for the latter Houghton/Lorber 2008 I, 20-21 prefer now an identification as Damascus). The enormous difference in output in Seleucia-on-the-Tigris between the two kings is convincingly explained by Aperghis (2004, 239-242) as related to army payments of Antiochus III preceding his anabasis.

\textsuperscript{274} G. G. Aperghis argues that the royal army even in peacetime consumed at least half of the total annual revenue of the Seleucid royal treasury, see Aperghis 2004, 189-205 and 211.

\textsuperscript{275} On the circumstances and course of events of this war see Will 1979\textsuperscript{2}, 248-261 and now Grainger 2010, 153-170; cf. also Hölbl 1994, 46-50. The main primary source is Justin XXVII 1, 1-4.

\textsuperscript{276} In Danielem 11.8: \textit{quadraginta milia talentorum argenti tulit et uasa pretiosa simulacrague}. In the light of other quantifications of booties and indemnities occurring in the context of warfare between Hellenistic empires, the amount seems certainly exaggerated, Austin 1986, 485, however, has no objections to this number.
meagre: In August 246 BC, one kurru of barley cost 0.7 shekels (258 litres per shekel), after a gap of three and a half years in January 242 BC the price has risen slightly to 0.88 shekel/kurru (204 litres per shekel), and a few months later it stood at 0.8, a decrease best explained by the usual pattern of seasonal fluctuation. The period of the actual invasion and its aftermath is not covered by any prices, if there was any repercussion then prices already had recovered back to about the level before the invasion.

The situation in autumn 163 BC is similar. There are no prices extant from this year during which some kind of conflict between the Greek population and the ‘people of the land’ within the framework of a dispute over the regency for the minor Antiochus V between some of the highest officials of the empire (Philipp against Lysias and Timarchus) had taken place.277

4.4 Low-ranking outliers

A final point of interest for the late Seleucid period under discussion are the notably low prices occurring in October/November 188 BC and in the years 166-165 BC. The table below shows that the two periods display, however, very different characteristics. For the former, the universal nature of the price decline cannot be doubted. All commodities attested (five of six) show a price level two to three times below the average of the period. Both the universality of the price decrease as well as the evenness as regards its magnitude strongly argue against either demand- or supply-centred approaches, which are rather expected to affect individual commodities or groups thereof (as in the case of the army convocation in the context of the First Syrian War (274 BC) driving up the price of barley and cress) only and also to different degrees. If we now consider a monetary explanation, the one events that immediately jumps to mind is of course the peace treaty of Apameia concluded in the same year, which obliged Antiochus III to the payment of 15,000 talents of silver, of which 3,000 talents (plus a first annuity of 1,000 talents of the remainder, plus the first instalment of the rather insubstantial indemnity to the Pergamene king Eumenes II) had to be settled still in 188 BC. The very low prices – high commodity equivalents for silver – are thus best explained as being caused by a temporal scarcity of silver.278 The empire seems to have recovered fairly quickly from this silver drain and in the course of the following two years, price returned back to normal levels. Both barley and dates were still below average in March 186 BC but already clearly above the level of 188 BC (barley stood between 1.15 and 1.50 shekel/kurru, dates at 0.50-0.55 shekel/kurru), both commodities were back to their respective average levels (dates even above average) in spring 185 BC. Kasû, cress and sesame were back to an average level already in 186 BC. Wool was not attested in November 188 BC, but was at a level below average – between 1 and 1.25 shekels per 5 minas – for the remainder of the 180s BC.

It should furthermore not go unmentioned that already in 190 BC the barley price was clearly below average, with the price oscillating between 0.63-0.67 shekel/kurru. This can be interpreted as first signs of a deflationary movement, and it is indeed possible that the expenses of the war of Antiochus III against the Romans left their mark in the Babylonian price data already before the indemnity stipulated at Apameia brought forth a further drain of silver resources. However, as there is no price data from any of the other commodities extant from that year, it is equally possible this movement was confined to barley and e.g. caused by an exceptionally good harvest.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Mean price279</th>
<th>188 BC</th>
<th>166 BC</th>
<th>165 BC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>1.59</td>
<td>0.46</td>
<td>0.48</td>
<td>0.475</td>
</tr>
</tbody>
</table>

277 See the commentaries to ADs -162 and -161A, cf. also the discussion of BCHP 14 on www.livius.org/babylonia.
278 Fittingly, one third of the silver presented during the triumph of L. C. Scipio Asiaticus consisted of coins whereas the usual proportion of coined silver was below 10%, see Le Rider/de Callataÿ 2006, 179-184.
279 All prices in this table are in shekel per kurru, with the exception of the wool price which is given in shekels per five minas. The mean price refers to the period ca. 225-140 BC.
<table>
<thead>
<tr>
<th></th>
<th>Dates</th>
<th>Kasû</th>
<th>Cress</th>
<th>Sesame</th>
<th>Wool</th>
</tr>
</thead>
<tbody>
<tr>
<td>166 BC</td>
<td>0.82</td>
<td>0.45</td>
<td>3.30</td>
<td>6.90</td>
<td>1.42</td>
</tr>
<tr>
<td>165 BC</td>
<td>0.32</td>
<td>0.86</td>
<td>1.5</td>
<td>2.73</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>0.27</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>0.43/0.86</td>
<td></td>
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</tr>
</tbody>
</table>

The price pattern of 166-165 BC is more difficult to explain. The barley price was below average already for the first half of the 160s BC and plummeted to an extremely low level in the period between autumn 166 and autumn 165 BC. However, in the pre-harvest season of the same harvest year, in late winter 164 BC barley all of a sudden disappeared from the market, and in May 164 BC, after the ensuing harvest, barley stood at an above average level (1.88 shekel/kurru). Dates, on the other hand, were at an exceptionally low level only in October 166 BC (0.27 shekel/kurru), and in the course of the year 165 BC they rose from 0.43 shekel/kurru in spring, and contrary to the usual pattern of seasonal fluctuation, to 0.86 shekel/kurru in October and were thus back to an average level. In the years between 170 and 165 BC, dates were similar to barley at a level constantly below average. Kasû stood very low in October 165 BC (0.25 shekel/kurru), whereas the attestations for cress show prices at (spring 165 BC: 3 shekel/kurru) or above average (4.29 shekel/kurru in October 165 BC). The price for sesame moved in general below average for most of the 160s BC, and in October 165 BC the price stood at 4.29 shekel/kurru.

Hence, as far as the evidence at hand allows us to tell, the main price trough for both dates and barley was reached in autumn 166 BC already, after which date prices slowly rose back to normal levels, whereas barley disappeared from the market in February 164 BC and return a few months later after the harvest at an above average level. As again all attested commodities seem to have been affected – but alas, only prices for barley and dates are extant – and the magnitude of the decrease (about threefold) is again about the same and also similar to the trough two decades earlier, a monetary shock is again a likely solution. It is tempting to connect the pondered silver scarcity leading to high equivalents to the festivities in Daphne taking place in the same year, which were to inaugurate the Eastern campaign of Antiochus IV. Considering the amount of wealth displayed at the pompē and the number of military personnel participating, requisitions of precious metals are not an unlikely scenario, especially if one considers that additionally also the army to accompany the king on campaign had to be remunerated. That the finances of the royal treasury were somewhat strained after the Roman wars is indicated by various attempts at closer control of temple finances and episodes of outright plundering in various regions of the empire during the reign of Antiochus IV. The most famous event is certainly the enduring rebellion in Judea under the Maccabees, but also the installation of a zazakku in the Esangila in Babylonia probably served the purpose of getting a tighter grip on the finances of the main Babylonian temple. Antiochus IV even lost his life in an attempt to plunder the sanctuary of a female deity in Elam.

The rising prices for dates and cress in 165 BC seem to constitute a rather quick – in the case of dates even contrary to the usual seasonal pattern – return to normal conditions. The main difficulty for that year is certainly the still extremely low barley price and its sudden rise in spring after a sudden collapse in January/February 164 BC. Cress,
sesame and wool are attested at average prices in the period February-May 164 BC, it is thus only the data on barley that requires special explanation. Unfortunately, the historical sources are virtually absent for winter/spring 164 BC. Antiochus is known to have successfully campaigned in Armenia in early 165 BC, and very likely visited the region of the Persian Gulf (Antiocheia-Charax) in October of the same year.\textsuperscript{285} If this reconstruction of events is correct, he very likely passed through Babylonia in summer/early autumn of the same year, probably along the Tigris and thus bypassing the city of Babylon.\textsuperscript{286} Events afterwards until his death roughly one year later are utterly in the dark. What is striking in this scenario is that contrary to previous experiences the presence of an army in Babylonia did not cause barley prices to rise but was accompanied by some of the lowest price throughout the period of the dataset provided by the ADs. Unfortunately, the reason for this unusual development – a royal edict prescribing artificially low prices for the sustenance of his troops leading to a depletion of all available stocks, for example – has to remain object of speculation. However, what would suit this explanatory approach is the fact that barley prices reappear after the next harvest at a level above average, which can be interpreted as indicative of a still not fully recovered supply situation.\textsuperscript{287}

4.5 Conclusion

The previous sections have shown that it is indeed possible to individuate certain types of events that can be shown to have had a major effect on the price data. Among the broad variety of causes, internal warfare stands out in number of attestations and severity of impact. Most prominently, and as has long-since been recognized, this was the case during the war of the \textit{diadochi}, which drove up prices to unprecedented heights.\textsuperscript{288} However, also minor military episodes often unknown to Greek and Roman historiographers could be shown to have had often significant repercussions in Babylonian prices. Often the mere presence of an army sufficed to boost demand and hence increase prices significantly, as was the case for example during the preparations for the First Syrian War in 274 BC. It was not only political history to influence prices. We could show that also natural disasters such as locust invasions left their traces (in 346 BC), and sometimes even a regular phenomenon such as seasonal fluctuation in the supply situation could drive up prices disproportionately. Other peaks and troughs proved more difficult to explain, attempts at explanation included inflationary tendencies caused by minting activity in Seleucia-on-the-Tigris and shifts in the compositions of the population with the arrival of a Greek colony during the reign of Antiochus III.

It has also become clear that the same type of event caused oscillations of an ever different magnitude. A significant drawback of the method employed thus far – to focus on outliers in the price data – is the fact that events that seemingly had no repercussion in the price data have not been considered at all. This of course may lead to an exaggerated view concerning the effectiveness of political history as a price driving force. An example of an armed conflict that seems to have had no economic repercussions is the revolt of the satrap of Media, Molon in 222-220 BC in the early reign of Antiochus III.\textsuperscript{289} The barley price, the only extant commodity price from that period, falls from 2.5 shekels per \textit{kurru} in the pre-harvest period to 1.58 in December 222. This is only insignificantly more expensive than the prices of the immediate post-harvest period of 225 BC, which oscillate between 1.34

\textsuperscript{285} The campaign is described in AD -164B+C and briefly discussed in the commentary to AD -164 C13-14; see Gera/Horowitz 1997, van der Spek 1997/98 and Mittag 2006, 296-307.

\textsuperscript{286} Gera/Horowitz 1997, 247.

\textsuperscript{287} The prices in this year are also mentioned in van der Spek/Mandemakers 2003, 529, where a confiscation of the barley stocks by the passing army is hypothesized. This would indeed explain the fact that barley disappears from the market but does not account for the very low prices prevailing earlier in the same year.\textsuperscript{288} See most exhaustively van der Spek 2000, 299-305 on this episode. See also Temin 2002, 56, and Grainger 1999, 317-319 on the far-reaching effects of this episode.

\textsuperscript{289} On this episode see Schmitt 1964, 116-150.
and 1.5 shekels/kurru. Equally the Parthian conquest of the city of Babylon cannot be shown to have depressed commodity prices. In July 141 BC, the month of the capture the barley price stood at very moderate 1.07 shekels per kurru, later that year in autumn and winter 141/0 BC the price oscillated between 1.76 (immediately before the date harvest) and 1.54 shekel/kurru. However, from this does not follow that domestic warfare normally does not influence prices. The events in question seem to have been either limited in scope (in the case of Molon’s rebellion), or of a less bellicose nature than the word ‘conquest’ seems to imply (Parthian takeover).290

Also other drawbacks of this methodology of discussing the price data in the light of factual information provided by various sources (and mainly the historical sections of the ADs) have become evident in the course of this chapter. Often recourse to other time periods had to be made in order to obtain additional information about the precise impacts of a type of event. Also interplays of various factors could occasionally be individuated but not be described in greater detail. In order to address some of these shortcomings, the next chapter tries to tackle the matter from a different angle. By means of a regression analysis employing dummy variables, the impact of several types of events while controlling for potential other shocks at the same time shall be investigated. Rather than analyzing the chronological development, the focus will thus be on the various kinds of exogenous shocks and their influence on the price data.

Summing up, above discussion has shown that it is indeed possible to relate periods of high prices punctually to various types of exogenous shocks described in the source material at our disposition, ranging from political events (internal strife, convocation of army troops) to natural disasters (locust invasions). It is hardly surprising that barley, being a staple crop as well as more volatile in its harvest yield than dates, was particularly prone to such repercussions. In general, a rise in the barley price was likely to affect also the price of dates to a certain extent, which can be explained due to a shift in demand away from the scarce commodity (barley) to the commodity richer in supply (dates).291 Additionally, it emerged that Babylonia during the first half of Seleucid reign was more frequently afflicted by high food prices. This finding likely had its base in an improved climate in the 2nd century BC accompanied by an absence of internal conflicts, and also a contracted money supply in that period.

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290 A suitable parallel is the essentially peaceful nature of the Achaemenid conquest of Babylonia in 539 BC on which see Briant 1996, 82-87 (but see also 50-55 for the episodes of armed conflict accompanying the takeover). See also Jursa 2007, who states 86 that “stability and continuity of office tenures and business activities, apparently unaffected by regime change, appear to have been the rule”.
291 That barley and dates are indeed likely to be fully substitutable has been shown empirically by Földvári et al. 2011, esp. 180 and Tables 4a+b and 5a+b.
5. Historical events in a quantitative analysis

5.1 Introduction

In the preceding chapter we have analyzed the price data from the ADs in a diachronic perspective with the focus on outliers and possible explanations for those anomalously high (or sometimes also low) prices. One conclusion was that certain events such as the extended period of domestic warfare in Babylonia in the last quarter of the 4th century BC, to name just a particularly influential one, indeed had repercussions in the price data. In the pages that follow an attempt shall be made to advance from an analysis of the correlation of individual historical events and outliers in the price data to an investigation of whether a systematic impact on prices of specific types of events can be ascertained. In order to attain this goal, a database of historical facts has been compiled from cuneiform documents – mainly Astronomical Diaries and the Hellenistic chronicle series BCHP – as well as classical sources, containing events of most different nature, from political episodes to ecological disasters, and under due consideration of the results of modern scholarship. Also numismatic evidence and coin hoard analyses will be drawn upon to improve our understanding of crucial episodes in the period under discussion. In a second step, these heterogeneous facts and events were classified and distributed among discrete categories. The focus was of course on those events which are likely to have caused prices to rise or fall. For example, a category “Cultic events” could have been established easily on the basis of the source material at our disposition. This category could have included amongst others the performance of sacrifices for the life (ana bulṭṭi) of the king or a high official to Bēl, Bēltiya, and the Great Gods in the Esangila-temple, which are so frequently described in the Diaries especially during the first half of the 2nd century BC. These irregular sacrifices – performed in addition to the daily rituals – consisted of small quantities of oxen and sheep, and hence any impact on the commodity prices is not likely at all. Also related episodes that might equally be classified as “Cultic events” such an interruption in the performance of sacrifices to the gods described in AD -160C are unlikely to have influenced the price level.

Unfortunately, there are also potentially interesting types of events that are difficult to model into a regression analysis. For example, the presence of the king and the royal court which is occasionally attested in the ADs would constitute an interesting category of a demand shock-type. However, for several reasons this type of event is not a very suitable candidate to be employed as dummy variable. First of all, also the context of royal visits needs to be accounted for. For example, Antiochus III’ visit to the city in 205 BC, which included his participation in the Babylonian New Year’s festival also marked the end of his anabasis in the Upper Satrapies. He thus arrived at the head of a significant number of armed troops, and we would expect this instance to have a stronger impact on commodity prices than for example a visit in a period of peace with a significantly smaller accompaniment.

More importantly, the status of the city of Babylon differed considerably during the various sub-periods between 400 and 140 BC. In the Late Achaemenid period, the city was one of four imperial capital cities (alongside Persepolis, Susa, and Ecbatana) and as such visited regularly by the Great King. Also during the short-lived reign of Alexander the

292 The coinage of the Seleucid kings has been edited in an exemplary manner by A. Houghton and C. Lorber in four volumes, 2002 I and II, and 2008 I and II.
293 On these sacrifices and their context see Pirngruber 2010.
295 See Tuplin 1998 for a meticulous discussion of the sources. The pattern of ‘seasonal migration’ between the four capital cities postulated by various Greek historians is according to him “ not in principle undermined” (89) by evidence from Persepolis.
Great, the city played an important role and was amongst others the seat of the financial administration of his empire and also the place where Alexander received various delegations upon return from his campaigns. However, at quite an early point during the reign of the Seleucid dynasty, Babylon lost its position as capital city and was replaced as such by Seleucia-on-the-Tigris. The latter city was founded in the last decade of the 4th century BC still, in a year after Seleucus’ acceptance of the royal title, however, it was populated on a larger scale only with some delay in the late 290s/early 280s BC. This event clearly did not have the catastrophic consequences attributed to it by some classical authors, but from the early 3rd century BC onwards, Babylon was only irregularly visited by the king and his retinue. Furthermore, with the foundation of the Syrian tetrapolis around Antioch-on-the Orontes as new imperial capital and a general focus of Seleucid foreign policy on the (often conflict-ridden) interaction with Ptolemaic Egypt and various minor powers in Asia Minor, the epicentre of Seleucid empire shifted considerably westwards. Hence, whereas Babylon was the capital city located in the heartland of an empire in the 4th century BC, it was degraded to a provincial town in the eastern half of the Seleucid Empire afterwards. It is thus only in this latter period, when royal visits became increasingly sparser that some discernible effect of the presence of the royal court can be expected. The main obstacle, however, are the whereabouts of the king, which are often difficult to ascertain. The sources at our disposal do not provide us with enough information to establish a sufficiently reliable database on a yearly basis. For all these reasons, the category “Presence of the king” has been discarded as inapplicable for regression analysis.

Similarly, also locust invasions, although mentioned as price-raising force in at least two occasions in previous chapters are a category not easily amenable to statistical analysis. This is mainly due to peculiarities in the price data in these instances. One of the outliers brought in connection with this kind of event, the high barley prices of up to 7.5 shekel/kurru in 257/6 BC actually dates to the year after the invasion; it was argued that there was an indirect connection to the invasion: autocorrelation caused prices to remain high also in the year after the event itself. However, such an indirect relationship would not be accounted for by regression analysis. The second and more solid case of locusts destroying the harvest, in March 346 BC is equally problematic because of the way the prices of this period were recorded by the scribes of the ADs: the price drop occurred suddenly at the end of a month with otherwise favourable prices, and our approach of taking a monthly average in case of multiple attestations would smooth out the impact of the invasion.

Administrative measures such as the introduction of new taxes in the later 270s BC as attested in documents from Uruk or the installation of a zazakku during the reign of Antiochus IV (in order to gain better control of the finances of the Esangila, see the commentary to AD -168A, r12/3) are even more difficult to gauge. In particular, such interferences in the province’s economic life are more likely to have a gradual impact on prices rather than a one-time effect in form of an exogenous shock.

On the basis of the results obtained in the previous chapter, the first relevant category that jumps to mind is of course “Warfare”. However, the historical discussion has shown that the underlying causes for price changes in the historical episodes of warfare can differ considerably from case to case: the presence of an army which needed to be supplied

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296 Boiy 2004, 104-117 provides a convenient overview of the history of Babylon during the years between 331 and 323 BC.
297 For the elusive foundation date of Seleucia-on-the-Tigris see e.g. Boiy 2004, 135-136 and Capdetrey 2007. See BCHP 5 (r6-9) on www.livius.org on the settlement of Greeks form Babylon to Seleucia during the reign of Antiochus I as crown prince.
298 Most prominently Strabo XVI 1.5, but see van der Spek 2006 for a more balanced picture.
299 For the regression, it was chosen to consistently employ one price per month. In case of several attestations per month, the arithmetic mean of all attestations was calculated
300 Doty 1977, 308-335, cf. already chapter 4.2.
(demand shock), crop destruction or also destruction of the agricultural infrastructure, most importantly the network of irrigation canals (supply shock),\textsuperscript{301} or influx or also drains of large amounts of silver in form of plunder or indemnities due to won or lost campaigns (changes in the monetary base). Furthermore, an important issue that needs to be addressed at this point is the fact that several events could actually be interpreted as belonging to more than one of the categories proposed. A case in point is the indemnity payment amounting to a total of 15,000 talents of silver stipulated in the peace treaty of Apameia in 188 BC. At first glance, the most logical interpretation of this event is to consider it under a heading “Monetary shock”. Especially the initial payment of 3,000 talents (corresponding to almost 80 metric tons) of silver very likely put a severe – if only short-lived – strain on the precious metal resources of the empire, As the payment was due in coin,\textsuperscript{302} an equivalent of 4,5 millions of tetradrachms were drained from the empire in a single year. However, there was more to this treaty than a mere financial compensation – the loss of all territories in Asia Minor west of the Taurus mountain range and the compulsory reduction of the army size, to name just two of the more grave effects – and historically speaking, the contract itself came about as the outcome of a lost warfare against the Romans.\textsuperscript{303} There are thus equally good motives to include the event under the heading of “Warfare abroad”.

A more sophisticated approach is thus suggested to account for the qualitative differences between some of the categories. In a first step, the larger historical episodes consisting of a multitude of single facts which can be classified as “Domestic Warfare” and “Warfare abroad” shall be analyzed in toto. Only then the individual factors causing the price fluctuations, conceptualized as more abstract categories of events will be treated not only in their own right, but also as regards their cumulative effect on the price increases (and also decreases) throughout the historical episodes. As causal factors which occur mainly – but not exclusively! – in connection with bellicose episodes the following categories are sufficiently attested in order to qualify for further consideration:

- Presence of an army in Babylon
- Battle in and invasions of Babylonia

It should be clear from the outset that these categories employed are not self-understood facts but rather based on an interpretative reading of historical events. It is thus apposite to discuss them briefly in order to elucidate by what reasoning (other than the mere availability of historical information) they were compiled and which events were included therein. Rather than constituting a mere simplification of factual history, such a subsumption of related events under one common heading is an uncomplicated way of rendering historical information fit for a numerical analysis. After all, in the words of M. Bailey and J. Hatcher, “(i)f order is to be produced out of chaos, the modeler can only do so by abstracting common themes from the vast mass of seemingly unique and unrepeatable events of history”.\textsuperscript{304}

These different classes of events will in a second step be used as dummy variables in a regression analysis. This simply means that the presence or absence of each type of events in every year will be accounted for in an analysis of the time-series of the commodity prices provided by the ADs. Hence, this procedure enables us to make statements whether a given category of events systematically – rather than only punctually, as was shown already in the preceding chapter – influenced prices. Another advantage of this method over the discussion of outliers in the previous chapter is that all instances of a

\textsuperscript{301} Chaniotis 2005, 121-129 provides a discussion of the impact of warfare on agriculture according to classical authors and Greek epigraphic material.

\textsuperscript{302} Le Rider 1992 and 1993, 51-52. The contract did not specify a denomination in which the payment had to be made, only that it was due in coins and in silver with a high degree of fineness.

\textsuperscript{303} The short-term impact of this payment has been discussed a length in the previous chapter 4.3, with an overview of the literature. The most influential account on the treaty (also beyond the financially aspects) is still Will 1982, 221-224 and 238-240. See also Grainger 2002, 328-349 on the negotiations preceding the conclusion of the treaty, especially 332-335 and 347-348.

\textsuperscript{304} Hatcher/Bailey 2001, 13.
certain kind of event are considered, irrespective of the prices prevailing in the years of their occurrences. Thus, also instances that seem to have had little or no impact on the price data can be included as well. This way, accusations that the investigation is marred by a confirmation bias, hence by an undue focus on events that show price-driving forces can be effectively countered.

5.2 The impact of warfare on commodity prices

5.2.1 The different categories of warfare

As has been outlined above, historical instances of episodes of warfare will be treated distinct from the single shocks underlying the price increases. Two more qualifications are in order. First, another distinction shall be made between warfare in Babylonia and warfare outside of that province. This procedure has been advocated by van der Spek\(^{305}\) on grounds of the fundamentally different effects of the two scenarios: whereas domestic warfare almost certainly will drive up prices, the effect of warfare abroad is more ambiguous and can entail both rising and falling prices. A second distinction made is between “Warfare” and “Rebellion”, which seems useful in order to account for the fundamental differences in extent and intensity of episodes of bellicose activities. The wealth of historical information at our disposition should provide the possibility of gauging albeit crudely the difference in magnitude of price increases with the two scenarios. It is of course a delicate task at this point to establish a firm distinction. Under “Warfare”, first and foremost armed conflicts involving at least one royal army (Seleucid or also invading royal armies, e.g. of the Ptolemies in 246 BC), will be included. The limitation to royal armies shall be taken as a convenient proxy for the dimension of the armed conflict. In absolute terms, as will be shown below, this means that usually an army consisting of absolute minimum 10,000 troops but more often substantially larger was involved: the Seleucid kings were able to muster armed forces of 50,000-60,000 soldiers when the need arose.\(^{306}\) A final definition concerns geography. With Babylonia, the city of Babylon itself and its more immediate surroundings including several smaller towns such as Borsippa, Kiš, and Cutha rather than the whole of the satrapy including quite faraway districts such as the Sealand in the very south or also the trans-Tigridian Sittacene are intended.

- Warfare in Babylonia

Episodes of domestic warfare within Babylonia featured prominently in the preceding chapter as explanations for outliers in the price data of the Diaries. The effects of this kind of warfare potentially affect both the supply and demand situation: the supply situation, because plundering and crop destruction were frequently occurring phenomena in ancient warfare and also consciously employed as military strategy to force the enemy to surrender,\(^{307}\) but also because in times of war spatial market integration – the possibilities for trade – deteriorates or suffers outright disruption, particularly when a city was besieged.\(^{308}\) Additionally, one has to account for secondary effects of warfare such as damages to the canal system so vital for Babylonia agriculture and the reduced availability

\(^{305}\) Van der Spek 2000, 298-299.

\(^{306}\) See the assessment of Bar-Kokhva 1976, 7-19.

\(^{307}\) The most vivid descriptions stem (little surprisingly) from the Neo-Assyrian period. In the famous letter of Sargon II to the god Aššur (TCL 3) one reads for example (line 275) EBUR tak-lat UN\(^{\text{MIES}}\)-šú (…) ab-ri-iš a-qu-ud-ma, “the harvest on which his people relied, I burnt like a brush pile”. The experience of crop destruction is also reflected in omen apodoses such as EBUR KUR KÚR GU 7, “the enemy will consume the harvest of the country” from the series šumma izbu (III 81, cf. Leichty 1970, 62). An example from the Hellenistic period is provided by the Diadochi-chronicle BCHP 3, r25: SAR-ut URU i EDIN SAR, “he (probably Antigonus the One-Eyed) plundered city and countryside”.

\(^{308}\) For siege warfare in Mesopotamia see Oppenheim 1955 and Eph’al 2009.
of manpower for seeding and/or harvesting due to conscription. The demand situation is affected when a longer presence of an enemy army puts additional strains on food supply. Furthermore, in case that army is abundantly supplied with silver, an inflationary effect due to an influx of money in addition to an increase in demand cannot be excluded. Also, G.G. Aperghis (2004, 236-242) has shown that periods of warfare are also periods of increased minting activity. The example he gives is the Eastern anabasis of Antiochus III around 210 BC, which went hand in hand with increased activity at the mint in Seleucia-on-the-Tigris, the central mint of the province of Babylonia. It cannot be excluded that some of the excess silver eventually found its way into the city of Babylon by means of trade, royal munificence upon return from the campaign when the royal court sojourned in the city, or other mechanisms.

Both the ADs as well as classical authors provide us with several reports of warfare in and around the city of Babylon, and sometimes even complementary accounts of the same events survive. More often than not these bellicose events are firmly dated. The first episode considered, the battle of Cunaxa fought between the royal army of the reigning king Artaxerxes II and the mercenary troops of his rebellious brother Cyrus the Younger most exhaustively described by Xenophon (who himself participated in this battle) actually predates the beginning of the price series by several years. Although nominally an attempt at usurpation only, the number of troops involved is closer to the larger battles of the Hellenistic period than indicative of a merely local rebellion and hence qualifies this event for the category of warfare. Although the numbers provided by Greek historians are grossly exaggerated – Cyrus alone is said by Diodorus (XIV 22.1 and 19.1) to have disposed of 70,000 troops, plus 13,000 Greek mercenaries, whereas for his brother the king even the minimum figure amounts to 400,000 troops – more realistic estimates still oscillate between 40,000 and 60,000 troops for each of the armies of this battle. As a point of reference, the Seleucid army defeated 217 BC at Raphia consisted according to Polybius (V 79) of 64,000 infantry and 5,000 cavalry, the size of the victorious Ptolemaic army was somewhat larger (70,000 infantry, 6,000 cavalry).

The inclusion of the battle at Gaugamela in October 331 BC, the decisive encounter between Alexander the Great and his opponent Darius III is even less disputable. Greek historians are at variance as regards the numbers of troops involved (and their indications again have to be taken cum grano salis), but this meeting of two of the largest royal armies of the Ancient world is a most promising candidate for causing an exogenous shock. Both battle locations are at quite some distance from the city of Babylon, however, in both instances the city hat to accommodate and thus also supply the armies both before and after the battle, in the former instance twice the victorious army of Artaxerxes, in the

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309 Ctesias gave the same number of 400,000 troops according to Plut. Art. 13.2. The numbers produced in the eye-witness account of Xenophon are even higher. According to the Athenian general, 100,000 barbarian troops of Cyrus (plus 10,400 Greek hoplites) faced a 1,200,000 strong army of the Great King, of which only 900,000 participated in the battle as one of the commanders, Abrocomas, arrived only when the battle was already over (Xen. Anab. I 7.10-12). Plutarch, in his biography of Artaxerxes, sets the number of Greek mercenaries marching with Cyrus at 'nearly 13,000', whereas the total army of the Great King is said to have consisted of 900,000 men (Plu. Art. 6.4 and 7.3).


311 According to Justin (XI 12 5), the troops of the Achaemenid king alone amounted to 400,000 infantry and 100,000 cavalry. The numbers in Diodorus (XVII 53.3) are considerably higher, he speaks of 800,000 infantry and 200,000 cavalry. In the accounts of both Arrian (Anab. III 8.6) and Plutarch (Alex. 31 1), the troops of Darius including his allies even surpass one million infantry. As regards the veracity of the numbers of Greek historians see the comment Bosworth 1988, 78: ‘The Persians certainly had a numerical advantage, probably a great advantage, but it cannot be quantified.” Bar-Kokhva 1976, 72 and Bosworth 2002, 67 apparently judge at least Arrian’s (Anab. III 12.5) quantification of Alexander’s army (40.000 infantry, 7.000 cavalry) plausible.
latter one first the Persian army under Darius and later, about 3 weeks after the battle itself, the army of Alexander the Great.\textsuperscript{312}

The period of continuous warfare following Alexander the Great’s death and the impact of the various armed conflicts between the different protagonists – in main the ultimately victorious Seleucus against Antigonus the One-Eyed and his son Demetrius Poliortetes, but also minor characters such as Docimius or Eumenes of Cardia – on Babylonian prices has already received quite some attention in the scholarly literature.\textsuperscript{313} During the course of not even two decades (ca. 323-309 BC), starting with the suppression of a revolt of the Macedonian infantry instigated by Meleager in the aftermath of the succession arrangement for Alexander the Great until the (involuntary) renouncement of Antigonus to the satrapy of Babylonia and Seleucus’ final triumph, the province was devastated almost yearly by bellicose episodes on a different scale. As regards the former episode, the account by Diodorus (XVIII 2.4) does not mention bellicose action. According to him, reconciliation was achieved already during the preparatory actions. However, the fuller account by Q. Curtius does not only mention skirmishes in the city of Babylon (e.g. X 716-20) but also refers explicitly to the economic repercussions of some of the actions undertaken. The blockade of Babylon by the infantry, which had left the city as a consequence of the uprising of the infantry under the lead of Meleager is said to have caused dearth and famine (Curt. X 8.12).\textsuperscript{314}

Whereas the replacement of the satrap Archon manu militari by Docimus in 320 BC is to be counted as a minor episode (below under “Rebellion”), especially the tenacious fights between the armies of Seleucus and Antigonus between 311 and 309 BC and also the invasion of Babylonia by Eumenes and the argyraspides (silver-shields) under his command in 318/7 BC and his pursuit by both Seleucus and Antigonus qualify as warfare.\textsuperscript{315} All of the three protagonists had considerable resources also in terms of military power at their disposal. At the battle in the region of Gabiene fought in winter 317/16 BC, Antigonus defeated with 22,000 infantry and 9,000 cavalry the numerically superior army of Eumenes (36,700 infantry, 6,000 cavalry); the army sizes in the slightly earlier battle of Paraetacene were roughly similar.\textsuperscript{316} The final warfare between Antigonus and Seleucus starting 311 BC also involved army sizes exceeding the number of 10,000 infantry, and additionally, this time the city of Babylon itself was at the heart of the contention and suffered siege and destruction.\textsuperscript{317} The Chronicle of the Successors BCHP 3 (=ABC 10) reports that the city itself and the surrounding countryside, as well as smaller towns in its vicinity of which Cutha is mentioned explicitly were repeatedly plundered. The tenacity of this struggle is also indicated by the partial success of Antigonus in the

\textsuperscript{312} The entry of Alexander into Babylon is described in AD - 330A+B, r9-15, see also Kuhrt 1990 on this episode. His activities in the city are recorded by Diod. XVII, 64.4-6, the same author alludes to an army conscription of Darius III in Babylon preceding the battle (XVII 53.3).

\textsuperscript{313} Most prominently in van der Spek 2000, 299-305, but see also e.g. Grainger 1999, 317-319 and Temin 2000, 55-56.

\textsuperscript{314} The contestation of the Babylon settlement is analyzed in detail by Bosworth 2002, in particular 45-49. As regards total numbers, Bosworth (2002, 81) seems to reckon with 8,–10,000 Macedonian infantry in the royal army (now under supreme command of Perdiccas) in the East at the time of Alexander’s death.

\textsuperscript{315} For the chronology see Boiy 2007. The most important source for Babylonia during these years is ABC 10, the ‘Chronicle of the Successors’ or Diadochi-chronicle, most recently published on-line as BCHP 3 with extensive commentary at http://www.livius.org/babylonia.html.

\textsuperscript{316} See Diod. XIX 37-44 (Gabiene) and 27-31 (Paraetacene) for the fullest accounts of these battles. They are discussed at length in Bosworth 2002, 98-168. The victorious Antigonus co-opted the survivors from Eumenes’ army and thus returned to Babylon with a total force of ca. 60,–70.000 troops, the cavalry amounting to about one fifth of that amount (Bosworth 2002, 92, 159).

\textsuperscript{317} Antigonus sent his son Demetrius with 15,000 infantry and 4,000 cavalry to re-conquer the city from Seleucus. The latter who according to Diodorus (XIX 90-91) had wrested the city from Antigonus’ control with a minor force of 800 infantry and 200 cavalry only in the aftermath of the battle at Gaza in 312 BC is thought by Bosworth 2002 (236-238) to have replenished his ranks during the campaigns against Nicanor and his sorties into the eastern satrapies.
south of Babylonia (Uruk, Larsa, Ur) where he seemed to have prevailed over his opponent as long as summer 309 BC at least.\textsuperscript{318}

The final victory of Seleucus and his establishment of a monarchy, with Babylonia playing an important role as centre point of the empire during its formative period,\textsuperscript{319} were tantamount to a return to a more tranquil state of affairs. A longer period of relative quiet for the whole province commenced, lasting for almost half a century. It was only in 246 BC with the invasion of Ptolemy III that the province suffered again military operations on a larger scale.\textsuperscript{320} The most detailed account of this episode is now provided by the Babylonian chronicle BCHP 11 (published on-line at www.livius.org/babylonia), which reports the attack on both Seleucia-on-the-Euphrates – the identification of this city is elusive – and Babylon by Ptolemaic troops as well as it quite graphically describes several skirmishes in the city of Babylon in winter 246/5 BC. Unfortunately, there are no attempts at quantification of the troops involved by the ancient historiographers (the source documentation for many of the Syrian Wars is notoriously meagre) but the involvement of at least one royal army, the Ptolemaic one, is certain. Babylon was defended during the invasion by local troops and garrisons under the commands of the rab sikkati and the pāhātu of Seleucia according to BCHP 11.\textsuperscript{321} As mentioned in the previous chapter, St. Jerome (In Danielem 11.8) also reports of a massive booty of 40,000 talents of silver captured by Ptolemy III. This incident would thus makes indeed a good case of domestic warfare as economic repercussions are very likely – were it not for the complete absence of price data during these years.

This incident was the only time that Babylonia suffered an invasion from a foreign army during the Seleucid period until the 140s BC. In the second half of that decade, at a time when Seleucid power was waning in all different parts of the empire, Babylonia suffered a quick succession of invasions of different regional powers. In autumn 145 BC, the Elamite king Kamnaskires marched plundering through the Babylonian countryside and even defeated a Babylonian army under the stratēgos Ardāya (AD -144, r20-22). Already before this event, a band of marauders under a certain Aria’bu seems to have afflicted Babylonia (AD -144, 16-17). Not even four years after these events, the Parthians under their king Mithridates I wrested Babylonia from the Seleucids in early summer 141 BC. For more than a decade to come, Babylonia remained a bone of contention between the Seleucids and the Parthians, with regional rulers such as Hyaspasines of Mesene and nomadic tribes, most notably Arabs, additionally contributing to a precarious political situation.\textsuperscript{322} Although possibly on a smaller scale than the invasion of Ptolemy III, the Elamite incursion shall be counted among the category of ‘Warfare in Babylonia’ in order to adhere to the definition given above, namely the involvement of a royal army. Unfortunately, there is no information available as regards the size of the Elamite army. However, as that episode was accompanied by small-scale pillaging of other groups, it can be argued to have been larger than uprisings on a strictly local level discussed below under “Rebellion”.

The Parthian takeover on the other hand is more difficult to gauge as it is mainly known from the changed date formula in the Astronomical Diary of -140A mentioning the Arsacid king.\textsuperscript{323} Whether the takeover was accompanied by hostilities or even full-fledged warfare is uncertain, however, the perpetual struggles for the throne in Antioch will have greatly limited the capacity of the ruling king to intervene with a sizeable force. Indeed, it

\textsuperscript{318} The predominance of Antigonus is reflected in the different date formulas used in administrative documents in these cities, see Table 2 in Joannès 2006, (132) and also Boiy 2007, 22-27.

\textsuperscript{319} On this point see Capdetrey 2007, 35-38 and 52-59.

\textsuperscript{320} On this Third Syrian (or Laodicean) War see Will 1979, 248-261 and Grainger 2010, 153-170.

\textsuperscript{321} Seleucus II who had just ascended to the throne earlier the same year seems to have been in Sittacene at the time of the invasion (see BCHP 10, r5-6, on www.livius.org/babylonia). About his activities during the period in which the Ptolemaic army stood in Babylonia nothing is known.

\textsuperscript{322} Del Monte 1997, 102 -144 provides brief comments to the historical passages of the Astronomical Diaries in the troubled period between 140 and 124 BC.

\textsuperscript{323} Ad -140A, line 1: [MU 107.KAM šá ši-i MU 171.KAM ¹Ar]-šá-kam LUGAL, see Del Monte 1997, 102. See also the succinct account of these years in van der Spek 2010, 380.
took the Seleucid Empire under its ruler Demetrius II about three years to attempt a re-
conquest of the province, which ended with the defeat and capture of Demetrius in summer
138 BC. The price data of the years 141 and 140 BC in any case does not point to any
major interruption of the economy, both barley and dates were less expensive in these
years than throughout most of the 150s BC. The interpretation is thus one of a relatively
peaceful takeover.

Summary of the periods of domestic warfare:


- Warfare outside of Babylonia

As has already been noted by Van der Spek (2000, 299), the effects of warfare in
another region of the empire are more difficult to gauge. More specifically, he pointed to
the possibilities of a decrease in demand due to military conscription in the province and to
silver requisitions with a deflationary effect; both of these consequences of external
warfare would drive down prices. However, as the discussion of the high barley and cress
prices in 274 BC in the preceding chapter has shown, warfare abroad could also cause a
demand shock and thus entail a period of increased prices in Babylon in case the royal
army – or rather a part thereof – was convoked in the city.\textsuperscript{324} Also the outcome of wars
fought abroad potentially exerts an influence on prices. High indemnity payments for
example can cause a drain of silver and thus reduce the monetary base. Also annexations or
loss of territory potentially affect the state’s finances by expanding or reducing the income
generated by taxation. These latter effects are however not amenable to the envisaged
investigation as their effect becomes sensible in the long run only. Overall, one expects
thus a weaker correlation of this category to price fluctuations in Babylon with respect to
the previous category of domestic warfare. One reason for this expectation is that over
time, positive and negative shocks causing price decreases and increases respectively
might cancel each other out (which incidentally strengthens the envisaged approach of
treating causal factors of price increases distinct from historical episodes). Additionally the
relative marginality of some of the cases – campaigns against insubordinate mountain
peoples – will undoubtedly contribute to this expected pattern.

A useful guide as to whether an impact on Babylonian prices can be reasonably
expected for a given episode of warfare is via the occurrence of at least one the causal
factors established above, namely “Presence of an army” (due to convocation of troops in
Babylon) or “Monetary shock” (large indemnity payments or requisitions of silver).
Regarding the latter, the only instance that comes to mind in combination with warfare
abroad is the treaty of Apameia already mentioned in the introduction of this chapter (and
discussed in greater detail in the preceding chapter 3.4). A useful benchmark for the former
factor is again the size of the forces deployed for battle by the Seleucid king. As the
discussion below shows, major encounters (the battle at Raphia in 217 BC, to name just
one example) were regularly preceded by army convocations also in the city of Babylon
independent of where the actual battle was to take place. By extension, this possibility has
to be allowed for also when not mentioned explicitly in the sources when the number of
troops is substantial enough.

Before individual cases of warfare shall be discussed, two other issues need to
addressed, the first being the sheer number of instances of varying magnitude that can be
argued as belonging to the category, particularly in the Seleucid period. This problem
becomes especially clear during the reign of Antiochus III (223-187 BC), an exceptionally

\textsuperscript{324} See also the discussion of the episode in van der Spek 2000, 305-307. He explains the high prices by
outright confiscations of grain (cf. also his interpretation of lines 34-39 of AD -273B on 305) rather than by
an increased demand due to the presence of troops, but see above chapter 3.4. He also points to the fact that
over-taxation and/or confiscation of precious metals must have considerably worsened the financial situation
of the locals.
dynamic king who, to put it bluntly, spent his whole life on campaign.\textsuperscript{325} After his suppression of the revolt of Molon, an official in charge of the Upper satrapies between 222 and 220 BC, he fought the Fourth Syrian War (219-217 BC), subdued the usurper Achaeus in Asia Minor (216-213 BC), and went on an \textit{anabasis} into the Upper satrapies (212-205 BC). After his return, he again waged war on Egypt, but this time more successfully (Fifth Syrian War, 202-195 BC) before invading Asia Minor and Thrace (from 197 BC onwards) and eventually becoming entangled in that fateful war against Rome (192-188 BC).

The case is similar with other Seleucid kings. A good example is the first decade of the Seleucid Era. After the founder of the dynasty, Seleucus I (311-281 BC) established his kingship over Babylonia in 308 BC, he campaigned as far as India, signing a peace treaty with the local king Tchandragupta/Sandracottas before again turning to the West, inflicting a decisive defeat upon Antigonus the One-Eyed at Ipsus in Phrygia in 301 BC. After a period of relative quiet of almost two decades he again mustered a large army for the battle against Lysimachus at Corupedion in Lydia in 281 BC.

The second problem is the definition of the category of “Warfare”. If for example a dividing line is to be established between warfare against external enemies, which will be considered, and the suppression of local rebels, which will be excluded from the analysis, how shall usurpers be categorized? Do we count them as rebels from local authority on a local scale and dismiss them from this analysis, or shall we accept their claims to independence and count them as external enemies and include the conflict between them and the Seleucid kings in this category of warfare abroad. The problem is still more complex as even temporally successful attempts at usurpation in one or another region in the empire are not necessarily and immediately connected with armed conflict on a significant scale. The case of Achaeus in Asia Minor during the reign of Antiochus III\textsuperscript{326} is exemplary. His insurgency against the central authority dates already to ca. 220 BC but it was only several years later, in 216 BC and that Antiochus III launched a campaign with the aim to dispose the rebel (who was finally captured in Sardes in 213 BC). Also the rebellion of Antiochus Hierax in Asia Minor against his brother and king Seleucus II\textsuperscript{327} is not dissimilar. Seleucus II tried at once to subdue his rebellious brother but had to retreat from Asia Minor after in the defeat of the royal army at Ancyras in 239 BC.\textsuperscript{328} Antiochus Hierax was later ousted from Asia Minor by the Pergamene king Attalus in the early 220s, and exiled from the Seleucid Empire after a final defeat in (Northern) Mesopotamia at the hands of his brother.

Similarly ambivalent and difficult to evaluate are instances of secessions of whole regions from the empire, also because often the sources are meagre. Loss of royal control over a given territory is not by definition relevant to the category presently discussed, however, attempts at re-conquest of these regions possibly are. A prime example is the secessions of Parthia and Bactria, which took place without any large-scale fighting, hence, neither qualifies as warfare abroad.\textsuperscript{329} However, there was an (ultimately abortive) attempt at re-conquest of the eastern regions by Seleucus II, dated by É. Will to a year between 230 and 227 BC.\textsuperscript{330}

In connection with these secessions also the \textit{anabasis} of Antiochus III into the Upper Satrapies (212-205 BC), equally a borderline case, has to be mentioned. The first two years of this enterprise are unproblematic as they were dedicated to a reorganization of affairs in the province of Armenia and hence hardly qualify as warfare abroad. After 210 BC, a journey further eastwards until Bactria and India at the head of an army of

\textsuperscript{325} On his life see in particular the biography of Schmitt 1964, and the chapter dedicated to his exploits in Sherwin-White/Kuhrt 1993, 188-216.

\textsuperscript{326} On his career see Schmitt 1964, 158-175 and 264-268.

\textsuperscript{327} Will 1979\textsuperscript{2}, 294-301, cf. also the commentary to AD -237.

\textsuperscript{328} The chronology of this conflict is notoriously uncertain, see Will 1979\textsuperscript{2}, 294-296.

\textsuperscript{329} Also the chronology of these separatist movements in quite unclear, as is their precise nature; see Will 1979\textsuperscript{2}, 262-290 and 301-313, also Luther 1999.

\textsuperscript{330} See the discussion in Will 1979\textsuperscript{2}, 308-312. As AD -229B informs us of the presence of the king and his sons in Babylon in winter 229 BC, the date of this expedition can be narrowed down by another year.
significant size served to re-affirm Seleucid sovereignty over territories which were either – and often only nominally – still under Seleucid control (Persis, Arachosia, Carmania, also Failaka) or had defected from central authority (Parthia, Bactria). Especially the Bactrian king Euthydemus proved to be a tough opponent, and it was only after several years of siege of his capital city Bactra that he agreed to acknowledge formally the suzerainty of the Seleucid king. Hence, at least in this last instance one could arguably speak of a case of warfare. Then again the question arises whether the whole campaign – and similarly the campaign of Alexander the Great into the Eastern provinces of the Achaemenid empire after Gaugamela – constitutes an instance of actual warfare or whether it is better characterized as display of power in somewhat neglected areas, including attempts at pacification of noncompliant provinces and potentates.

In the light of these difficulties of definition, and the fact that it is possible to find an instance of an armed conflict somewhere in (or also outside of) the empire in most years of the Seleucid period, it has been decided to focus under the heading of warfare outside of Babylonia exclusively on the conflicts with other major powers, hence the wars against Egypt (both the seven Syrian wars and the attempts at re-conquest of the province during the Late Achaemenid period) and the other Hellenistic dynast(ie)s, as well as the confrontation with Rome. If every event that could be considered in some way as military activity were to be considered independent of its magnitude or plausible impact on Babylonia, the almost yearly occurrence of the category would render any analysis meaningless. This finding is of course grounded in the prevailing ideology of kingship during the Hellenistic period which very much emphasized the importance of military prowess as royal attribute, exerting a “constant compulsion on the kings to prove themselves active and successful military figures”. The Seleucid Empire is hardly an exception here, most of its kings did not die a peaceful death. The fate of the founder of the dynasty, who was assassinated in the aftermath his victory over Lysimachus at Corupedium in 281 BC by Ptolemy Ceraunus, a son of Ptolemy I and refugee at Seleucus’ court is instructive here. Many of his successors hardly fared any better, Seleucus III was murdered by his courtiers during a campaign against Attalus of Pergamum, Antiochus III was killed while plundering a temple in Elymais, and his son Antiochus IV died of illness during a campaign into the eastern satrapies.

The impact of some of the other, ‘minor’ kinds of campaign – the subjugation of usurpers and the repression of rebellious cities or tribes – will then be considered only if a direct connection to Babylon can be established from the sources. For instance, and as is shown below, “Army convocations” took often place in the city of Babylon also when the actual aim of the campaign was a region as far away as Sidon, to pick one random example.

This minimalist approach centres thus on those conflicts which owing to their scale are most likely to have exerted some kind of influence also in more distant regions. However, also with this restricted focus on major wars, still some examples of campaigns that are not very likely to have influenced commodity Babylonian prices at all can be found. Also these instances need of course to be retained in order not to convey a wrong impression of the potential of warfare abroad to influence Babylonian prices and make for a more balanced assessment. A good case in point is the Seventh Syrian War (147-145 BC). This conflict brought about an utter defeat for the Seleucid Empire ending in the loss of Coele-Syria and a brief interregnum with Ptolemy VII Philometor on the throne in Antioch. However, the whole episode only affected the far west of the empire, the region along the shores of the Mediterranean. Ptolemy met little resistance on his way northwards,
there were no major battles fought. The whole war is maybe best characterized as only one episode of the ongoing struggles for the Seleucid throne between various contestants, in this specific case between Alexander Balas and Demetrius II. However, none of the contestants seems to have been able to draw on the resources of the province of Babylonia in this conflict.

Others of these perpetual conflicts with the Ptolemaic empire are more promising candidates of warfare outside of the province of Babylon which still has repercussions in the Babylonian price data. The possible consequences of the First Syrian War in 274 BC – a demand shock due to an army conscription in Babylon – have already been discussed at length in the previous chapter, whereas the Third Syrian War (246-241 BC) does only partly belong into the category of warfare abroad as it was the province of Babylonia itself to suffer an invasion during the first year of this conflict. After Ptolemy III’s withdrawal due to domestic problems fighting however continued in Syria, especially for the city of Seleucia-in-Pieria, and in Asia Minor, peace was only made in 241 BC.

The Second Syrian War was fought between 259 and 253 BC mainly in the regions of Asia Minor and coastal Syrian and Cilicia. Especially the first year or so of the conflict seems to have entailed a precarious situation for the Seleucids with invasions of Ptolemaic troops as far as Tarsus and Arados. Implications for Babylonia could have been at best indirect, in form of levies or tax impositions to finance the war. Convocations of military troops in the city are not attested during this conflict, and rather unlikely considering the absence of larger battles once the initial threat was warded off. Coincidentally, Babylonia suffered from internal unrest throughout the late 260s and early 250s according to the evidence of the ADs. As these local skirmishes started considerably before the war at a distance of about three years, any connection between these events seems unlikely. The Second Syrian War ended with an armistice confirming minor gains of territory for Antiochus II from Ptolemy but which were largely offset by the emergence of independent kinglets in Asia Minor such as Cappadocia. A major influx of booty is thus also not to be expected. However, considering its duration and importance (vis-à-vis the punitive expeditions of the Achaemenid kings on Cyprus alluded to above) one should be cautious not to discard a priori the possibility of repercussions in the price data.

Also the Fourth Syrian War, which can be succinctly described as an abortive attempt of Antiochus III to re-conquer and annex Coele-Syria (219-217 BC) took place relatively far away from Babylonia. The possibility of an army convocation in Babylon in the run-up to the battle of Raphia following the pattern of the events in the First Syrian War in 274/3 BC is very likely, in particular during the four-month truce in winter 219/8 BC which both sides used for extensive preparations. Polybius (V 79.6-7) explicitly mentions the presence of eastern contingents including Persian bowmen and slingers, Medians, Cissians, Cadusians, and Carmanians among the 65,000 strong army of Antiochus III, but how these troops made their way westwards is alas not specified. Babylon is certainly the most logical meeting point for these Eastern auxiliaries for a campaign in the West, in which case an increase in demand may have driven up prices. Be that as it may, the absence of any price data from the decade 220-211 BC reduces this instance in any case to theoretical speculation.

The Syrian Wars number five and six were more successful for the Seleucid dynasty. The latter campaign (170-168 BC) constituted certainly a brief moment of glory – the conquest of Egypt by Antiochus IV in early 169 BC – which but was turned to naught already the following year by the brusque intervention of the Roman legate, C. Popillius

335 Described in BCHP 11 (www.livius.org/babylonia). This is document not yet considered in the account of Grainger 2010, 153-170, who assumes (162) that Ptolemy crossed the Euphrates but did not reach the city of Babylon.
337 See the commentary to AD -261C for tentative explanations of these episodes of local rebellion.
338 The events during this period of ceasefire are discussed in Grainger 2010, 202-208.
Laenas. A passage in Polybius points towards the capture of a substantial booty during this campaign, but whether these gains led to an increase of the monetary base also noticeable in Babylon is doubtful. The Seleucid empire seems to have struggled with financial difficulties throughout the reign of Antiochus IV: the installation of a zazakku – a financial officer appointed by the king rather than by temple authorities – in Babylon, the attempts at interventions in the temple in Jerusalem culminating in the revolt of the Maccabees, as well as Antiochus IV’s ignominious death during an attempt of a temple raid rather point towards chronic shortage in precious metal in the years following the Egyptian campaign. Against this background, the reduction of the weight of bronze coins during these years is best interpreted as attempt to increase revenue from seignorage. Again, we do not expect too strong an impact on prices from Babylon.

The Fifth Syrian War (202-195 BC) on the other hand met with more enduring success and brought with it the conquest of Coele-Syria for the Seleucid Empire. Especially for the decisive battle at Mt. Paneion in 200 BC, the convocation of an imperial contingent including Babylonian troops can again reasonably be hypothesized. J. Grainger goes so far as to postulate the conscription of an army even bigger in size than the one that fought the Ptolemaic army unsuccessfully at Raphia about two decades earlier.

In addition to these conflicts between Seleucids and Ptolemies, the Roman War of Antiochus III (192-188 BC) has to be considered, which was equally fought on a grand scale. At the decisive battle at Magnesia (ad Sipylum), more than 70,000 troops fought on the Seleucid side according to Livy. Again one has to account for the possibility that at some point during the campaign reinforcements were mustered in and sent from Babylon. The incorporation into the Seleucid empire of vast parts of Asia Minor in the period between the Fifth Syrian War and the Roman War – with a few exceptions only (such as Smyrna and Lampsacus) most cities readily accepted Antiochus’ III claims to suzerainty – was achieved by a much smaller force, with estimates of the Seleucid troop size ranging between 20,000 and 30,000 soldiers. In addition to an eventual convocation, the harsh conditions of the treaty of Apameia following the Seleucid defeat in terms of indemnity payment and reduction of the army size have already been noted above.

Most conflicts outside of Babylonia dating to the Late Achaemenid period were fought against relatively minor enemies in a location far away from Babylonia are known, for which no repercussions in the commodity price data of the ADs can plausibly be postulated. A prominent case in point is the campaign to subdue the rebellious Cypriote king Evagoras in the 380s BC, which factually amounted to little more than the subjugation of a minor ally, although the Great King was probably involved in person in

340 According to Polyb. XXX 26.9, the pompē at Daphne in 166 BC was financed to a large part by means of the spoils of the Egyptian campaign. Also in modern scholarship a substantial booty in precious metal is tacitly assumed, e.g. Mittag 2006, 198 and 222.
341 See now Mittag 2006, 198-201, 235-281, and 328-331, with further literature, for a discussion of these factors.
342 Le Rider 1994, 27-28, who also provides alternative explanations of this weight reduction such as an adjustment to a distorted exchange rate between bronze and silver. See also Mittag 2006, 182-198.
344 His number of 70,000 troops in Grainger 2010, 257 constitutes an educated guess only. Polybius XVI 18-19 is the only ancient account of the battle, see also Grainger 2010, 256-261.
345 Livy XXXVII 44. His number for the Roman strength, 30,000 soldiers total, is rather a propagandistic understatement. Grainger 2002, 322-323 estimates a force level of approximately 50,000 for both sides. In the context of the battle at Magnesia (ad Sipylum), he expressly points to Babylonia as one of the more important regions for recruitments in case of larger battles, 271.
346 Schmitt 1964, 269
347 Grainger 2002, 36-37 and 124; see also 191-192 on the small size of the army with which he set over to Greece in 192 BC (in the words of Grainger “a nominal force only”, 191).
this conflict at the head of his army. As established above, campaigns like this shall not be considered here. More demanding in terms of manpower and military operations required for victory was the tenacious re-conquest of Egypt, which only after several abortive campaigns (in spring 373 and 351/0 BC) was brought to a successful close around spring 342 BC. For this last campaign, Diodorus (XVI 51.3) explicitly makes a connection with Babylon, writing that the city was the destination of the army (carrying with it ‘many possessions and spoils’) upon its return. A reference to the failure of 373 BC is probably contained in a fragmentary Diary. The same diary also reports the occurrence of famine in Babylonia, but whether there was a direct causal relationship between the campaign in Egypt and the unfavourable supply situation in Babylon is open to doubt. On the other hand, it is not implausible to assume that an eventual army convocation earlier this year for the impending Egyptian campaign has aggravated a pre-existing scarce supply situation.

Summary of the periods of warfare abroad:

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- Rebellion in Babylonia:

It has been attempted to account for the fundamental differences for example in the extent and intensity of the episodes of bellicose activities by distinguishing between warfare on the one hand and rebellion on the other. It should be clarified from the outset that only instances of rebellion in Babylon are likely to have had repercussions in the Babylonian price data and hence of interest here. Rebellions in other parts of with Achaemenid or Seleucid Empire shall not be considered. This definition thus excludes for example the so-called “Great Satraps’ Revolt” from the reign of Artaxerxes II and also the well documented episode of the protracted revolt in Judea under the Maccabees, which started in the last years of the reign of Antiochus IV. Interestingly, there is evidence for this latter rebellion that an involvement of the imperial army is rather unlikely; the conflicts seem to have been fought by local and at the most regional troops only. This documentation of this conflict incidentally provides us also with some order of magnitude for the troops needed to quell local revolts. Most numbers given in the Books of Maccabees were rejected by B. Bar-Kokhva as certainly too high, the only one he was inclined to accept were the 20,000 infantry of the force of Bacchides at the battle of Elasa in 160 BC. He also assumes that for this battle a larger force was raised compared to previous combats as it followed several Seleucid defeats, however, the difference in number to the forces gathered for the decisive encounters in the major conflicts with the Ptolemies, amounting to up to 70,000 soldiers is noteworthy. The size of the army mustered for the battle at Elasa was even slightly below the numbers provided by J. Grainger for the size of the regular field army of Antiochus III (as opposed to the enormous contingents mustered for important battles, such as Raphia), which he puts at

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348 See van der Spek 1998, 240-251 and the commentary to AD -381C on this conflict. See also Briant 1996, 666-671 and 1011 (also including a brief discussion of AD -381C) for the wider context of the campaign.
349 These campaigns of Artaxerxes II against the pharaohs Nekhtanebo I and II (30th dynasty) are discussed by Briant 1996, 671-674, 700-706 and 1030-1031.
350 AD -373B, see van der Spek 1998, 251-252.
351 This revolt has been (convincingly) interpreted by Weiskopf 1989 to have been a series of at best loosely interconnected instances of insubordination of medium to high rank officials and local dynasts. AD -366A possibly refers to one episode during this revolt, but the events take place in ‘Mesopotamia’ (i.e. Assyria in modern usage), cf. van der Spek 1998, 253-255.
352 Mittag 2006, 268-277. Among the Seleucid military officials charged with the subjugation of the insurgents were Nikanor, the meridarch of Samaria, and Gorgias, the stratēgos of Idumea.
353 Bar-Kokhva 1989, 44 and 1976, 13-15. The troops under the command of Nikanor and Gorgias were for example defeated near Emmaus in summer 165 BC.
about 30,000.\textsuperscript{354} Accepting the 20,000 infantry thus as exceptionally high number for the subduing of a local revolt we assume that usually less than 10,000 troops were involved in the conflicts described below.

Unfortunately, already a quick look at the material at our disposal reveals that quite often instances of rebellions in Babylon are not accompanied by adequate price data. The revolt of Molon during the reign of Antiochus III\textsuperscript{355} is a prominent example. No Diaries are extant for the period during which it affected Babylonia (spring 221-February 220 BC), only for the period between Molon’s defection in Media and his invasion of Babylonia in autumn/winter 222 BC we do have some prices. Also the clash in 320 BC between the future satrap of Babylonia appointed by Perdiccas, Archon, and the satrap he was to replace, Docimus, from which the former emerged victoriously,\textsuperscript{356} dates to a period for which no prices are documented. From the years between 322 and 309 BC, not a single diary survived. A similar or rather even worse case is constituted by the events narrated in AD -362,\textsuperscript{357} which mentions armed conflict and an episode of plundering in Babylonia in the vicinity of the town of Sippar in the winter of 363/2 BC. As a son of the king as well as royal troops are involved, it was suspected by the editors of the tablet that the diary describes a revolt of an Achaemenid prince in connection with the struggles for the succession of king Artaxerxes II. However, there is not a single diary with price data extant from the period between autumn 367 and winter 347 BC. In spite of the troubled history of the last Achaemenid kings – the murder of Artaxerxes III and several of his sons, including the short-lived Arses/Artaxerxes IV upon instigation of the ‘eunuch’ Bagoas as well as violent accession to the throne of Darius III – no other revolts are attested from the satrapy of Babylonia.\textsuperscript{358}

Interestingly, instances of rebellion against the central authority in or around Babylon, or of strife between different fractions in the city occur with a somewhat higher frequency during the Seleucid period. An exemplary case is provided by the events in 262-261 BC. Fragmentary Diaries mention the seizure of fields (AD -261B, 2), the evacuation of precious objects (gold and silver, but also garments) into the royal palace for safeguarding against an enemy (AD -261C, r11-12) and the execution of a death penalty (AD -261C, 11). Unusually for the Diaries of the Seleucid period, two officials are called by their name (Paini and Theron), and also the garrison in the city of Babylon was involved in these events.\textsuperscript{359} Only a few years later, there was against unrest in the city. According to AD -255A, the “people of the land” entered the centre of the city under arms, but unfortunately, nothing more is preserved in this document.

Another potential case dates to spring 278 BC, when according to an Astronomical Diary, “fear and panic” (hattu u gilittu) occurred in the land (AD -277A, 6). The word hattu, fear, is often employed to characterize the atmosphere in the country during periods of warfare. A quite close parallel is provided by AD -144. In the account of the invasion of the Elamite king Kammaskires following his victory over the Babylonian troops under the stratēgos Ardāya, just like in 278 BC, “fear and panic” afflicted the country. The chronicle BCHP 3 (=ABC 10), dating to the period of warfare between the diadochi, uses twice (r24 and r37) a different expression, “weeping and mourning” (sipdu u bikītu) to describe the impact of warfare. One might thus speculate that also in January 278 BC all was not well in Babylon, however, there are good arguments that militate against a bellicose background in this instance. First of all, the same diary (AD-278) reports in unfortunately very broken passages that later the same year thieves who had removed cultic paraphernalia from the storehouse in the juniper garden were put to death by burning. The fear mentioned in this

\textsuperscript{354} Grainger 2002, 36-37

\textsuperscript{355} Schmitt 1964, 114-150.

\textsuperscript{356} On this event see Schober 1981, 38-40 and more recently van der Spek, Seleucus.

\textsuperscript{357} This diary came to light only after the publication of ADART I (to which it belongs chronologically) and was published by Hunger/van der Spek 2006.

\textsuperscript{358} See Briant 1996, 789-800 for a critical discussion of the Greek sources on the eventful transition from Artaxerxes III to Darius III.

\textsuperscript{359} The passages are briefly discussed in van der Spek 2006a, 297 and in Boiy 2004, 143.
diary could thus be explained as religiously motivated. Another approach would be to focus on the unusual position of the remark among the astronomical day-to-day observation – as was also the case in AD -309, but not so in AD -144, where fear and panic are at the end of the historical section, after the description of the destructive effects of Kamnaskires’ invasion – and conclude that the fear was triggered by a particularly unfavourable celestial constellation occurring on that day or similar. In any case, as this diary can be satisfactorily reconstructed (months I to VII recorded in AD -277A did not have historical sections) and the extant historical sections do not refer to bellicose actions, but only to judicial matters concerned with sacrilegious actions, we will not infer the presence of armed conflict in Babylonia on the meagre basis of the occurrence of fear in the country.

About two decades after the events of 262/1 BC, a major crisis seems to have erupted as during the 230s BC, most diaries allude to warlike activities. As was discussed in greater detail in the previous chapter, the decade or so between ca. 240 and 230 BC was marked by repeated occurrence of skirmishes in the city involving military officials on the local level.\footnote{See also van der Spek 2006a, 299-301 and Boiy 2004. 150-152. See also the discussion in the previous chapter for additional adverse factor (droughts, locusts) at work during these years.} Actual moments of revolt are attested in the Diaries of the years 238, 235 and 229 BC, with an additional more doubtful (due to the fragmentary state of the tablet) instance in 231 BC.

After a period of relative quiet during most the reign of Antiochus III (with the exception of the revolt of Molon discussed above), the next potential attestation of a domestic crisis in Babylon dates to 178 BC. However, as all that is extant in the AD of that year is a reference to the troops of the king, we deal again with an at best questionable case. The case is similar for 157 BC, when a skirmish of unknown dimensions is reported in another very fragmentary Diary (AD -156A, r20). An instance from 161 BC is again more certain, AD -162 describes (ethnic?) strife between the Greek residents of Babylon and the ‘people of the land’.\footnote{Van der Spek 2005 and 2009 (especially 108) on the parallel evidence provided by the chronicle BCHP 14.} The conflicts dragged on for several months, and it seems that the whole affair was brought to a conclusion in the spring of the following year by means of a judicial trial.\footnote{For a more detailed discussion of the matter see the commentary to AD -161A.}

Summary of rebellions and civil unrest in Babylonia:

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5.2.2 Regression results

Before discussing the results of the regressions for the Late Achaemenid and Seleucid periods (ca. 400 BC – 140 BC), an apparent contradiction needs to be addressed. The prices in the Astronomical Diaries are most often indicated for periods of one month and less – usually beginning, middle, and end of the month – whereas the instances of warfare in the preceding section have been dated according to years only. Theoretically it would of course be possible to date at least some of the instances more precisely, however, there are good arguments not to do so and stick to a cruder method of dating. First of all, what is most often recorded in the Diaries or reported by a Greek or Roman historian is not an entire war campaign but rather single episodes thereof, such as a particular battle, a mustering of a larger or smaller part of the army, or else. Secondly, as opposed to the causal factors discussed in the following section (such as “Presence of an army”), the impact of warfare is not strictly punctual. As has been already mentioned in the introduction, an episode of warfare in antiquity as well as today usually consists of a multitude of single events spread irregularly over time. Hence, importantly, almost every
single type of event that potentially occurs during a war, be it a period of siege, a gathering of
an army, or a battle fought in the vicinity of Babylon entailing crop destruction and or
even damages to the canal system exerts a detrimental impact on prices not only at the
precise moment of its occurrence but also in the weeks and even months after or also
before they actually take place.

The drawback of using two different yardsticks – i.e. months for prices but years
for the events – on the other hand is comparatively small. The main risk is that the error of
the regression will increase, resulting in insignificant results, but as the sample employed is
comparatively large this is in general not the case here. A second risk is that the magnitude
of the impact of the categories analyzed will be underestimated due to the potential
inclusion of prices from stable periods which according to theory should be lower than
during periods of warfare. However, as this effect concerns all three categories under
discussion here, the more important relative magnitudes should (and in fact do) remain
unaffected. In the light of all these facts, and also for the sake of internal coherence, the
historical episodes to be analyzed will thus be dated by year only.

A final word of warning pertains to the method employed. Note that the aim of a
regression is to demonstrate whether there exists a relationship between two or more
variables, and if so, to make a statement about the strength of that relationship.\textsuperscript{363}
Regression does not say anything about causation. The best way to exemplify this is the
category of rebellion in Babylon. Usually one would expect rebellions to drive up prices
due to bellicose actions entailing crop destruction, market interruption and similar
phenomena. However, the opposite can equally hold true and throughout the course of
history, high prices are a widely attested cause for riots and unrest to occur.

For both barley and dates, a pattern of a seasonal fluctuation – low prices in the
months after the harvest, high prices in the period preceding the harvest – has been
established beyond doubt.\textsuperscript{364} Consequently, it has been judged useful to include for these
two commodities also monthly dummies to control for the more regular pattern of intra-
annual volatility (variables 1 to 12 on the regression sheets). Especially for barley this
method yielded good results in line with earlier research on seasonality. A proportionally
high growth rate in its price (at t-values above 1) is shown in the months from December to
February. The month with the highest price increase was January, thus the month when the
price-alleviating effect of the date harvest in autumn dwindled and the new barley harvest
(usually in April/May) was still about three months away. January was incidentally also the
only month to yield a result significant at the 5% level. For dates, the results of the
seasonal regression in combination with the political events were not significant, with the
t-value in all cases clearly below 1.

As regards the impact of political history, the results are similar for barley and
dates. Domestic warfare (variable 13, see also Table 5.3.1 above) undeniably exerts a very
strong impact on both commodities. The partial regression coefficients amounted to 6.90
and 3.71 respectively, both results were clearly significant at the 5% level, with the t-value
exceeding 10 in both cases. The higher coefficient for barley signifying stronger price
increases in cases of warfare can furthermore be interpreted as underlining the lower
demand elasticity of the country’s most important staple crop.

The regression for warfare abroad (variable 14) did not yield significant results for
both commodities, whereas the smaller armed conflicts such as rebellions or civil strife
(variable 15) are significant for barley at the 5% level (t-value of 1.897), the partial
regression coefficient amounting to 0.85. Hence, as expected the magnitude of price
increases correlated to this category of events is significantly smaller than with warfare.
For dates, the results are less pleasing. The results is significant only at the 20% level (t-
value of 1.298), hence still of some relevance, and again the regression coefficient is
smaller than the one for barley.

\textsuperscript{363} See Feinstein/Thomas 2002, 94-95
\textsuperscript{364} Temin 2002, especially 57-58, van der Spek/Mandemakers 2003, 525-528 (in a review of Slotsky 1997,
whose analysis of the price data of the Astronomical Diaries did not show a pattern of seasonal variation due
to a somewhat flawed methodology), Földvári \textit{et al}. 2011.
The coefficient of determination ($R^2$) is satisfactory for both regressions, amounting to 0.37 for barley and to 0.30 for dates. The conclusion is thus that price fluctuations of staple crops in Babylonia can indeed be explained to a considerable extent by the vicissitudes of political history, which take clear precedence over seasonal variation as regards impact on prices. The efficacy of the dummies for domestic warfare and rebellion support the notion that barley and date price in Babylon are subject to a supply-and-demand based price-determining mechanism. The insignificance of the dummy for warfare abroad on the other hand can be interpreted as militating against any claims of over-regional market integration in the Seleucid Empire. Possible dearness of basic commodities elsewhere in the empire did not influence the prices of staple crops.

The outcome of the regressions for commodities other than barley and dates are of very variegated explanatory power. The regression for kasû has for all dummies employed such a low value for the coefficient of determination (and also for the regression coefficients and t-values) as to be meaningless, there is thus nor relationship between the price of kasû and the different types of warfare. The explanation for this abnormality resides in the nature of this commodity, usually identified with the dodder-plant (cuscuta) which is a parasitical plant rather than a cultivated crop. Furthermore, cuscuta is not a foodstuff but was mainly used as spice to season date beer, the typical beverage of first millennium BC Babylonia. Cuscuta was thus not only immune to crop destruction but also had a very high level of demand elasticity. It is not surprising that both these characteristics combined lead to an absence of any discernible effect of political history on its prices.

Cress has also a lower $R^2$ than one might hope for (0.11), hence only a comparatively small amount of the overall price fluctuation is explained by the regression. However, the results of all three dummies are significant at a 5% level and conform to expectations. Again, warfare has by far the strongest impact and yields the most solid result. Interestingly, and as opposed to both barley and dates also warfare abroad has an impact on the price of this commodity, roughly at the same magnitude of rebellions in Babylonia. This can be tentatively explained by the fact that cress was often stronger than other commodities affected by army convocations in Babylon, e.g. in 274/3 BC during the First Syrian War.

Also sesame (not at 5% but at 10%) and wool (at 5%) were affected by warfare abroad, but in a positive way: the price of both commodities decreased during these episodes. The pattern exhibited by these commodities thus lends weight to van der Spek’s caveat (2000, 299) that warfare abroad can also lead to falling prices in Babylonia due to e.g. a decrease in demand. A corollary of this line of interpretation is that export

<table>
<thead>
<tr>
<th>Commodity</th>
<th>$n$</th>
<th>$R^2$</th>
<th>Domestic warfare (t-value)</th>
<th>Warfare abroad (t-value)</th>
<th>Rebellion (t-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>349</td>
<td>0.37</td>
<td>6.91 (13.51)</td>
<td>0.21 (0.66)</td>
<td>0.83 (1.87)</td>
</tr>
<tr>
<td>Dates</td>
<td>300</td>
<td>0.30</td>
<td>3.72 (10.35)</td>
<td>0.09 (0.39)</td>
<td>0.39 (1.28)</td>
</tr>
<tr>
<td>Cress</td>
<td>260</td>
<td>0.11</td>
<td>5.73 (5.16)</td>
<td>1.86 (2.57)</td>
<td>1.48 (1.81)</td>
</tr>
<tr>
<td>Kasû</td>
<td>221</td>
<td>0.01</td>
<td>0.16 (0.99)</td>
<td>0.06 (0.56)</td>
<td>0.07 (0.58)</td>
</tr>
<tr>
<td>Sesame</td>
<td>257</td>
<td>0.29</td>
<td>13.54 (9.07)</td>
<td>-1.65 (-1.63)</td>
<td>0.67 (0.58)</td>
</tr>
<tr>
<td>Wool</td>
<td>232</td>
<td>0.22</td>
<td>1.80 (6.90)</td>
<td>-0.43 (-2.25)</td>
<td>0.99 (3.48)</td>
</tr>
</tbody>
</table>

Table 5.3.1: The impact of warfare and rebellion on commodity prices

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365 $n$: Number of observations; $R^2$: Coefficient of determination.
366 The case for an identification of kasû with cuscuta was most exhaustively made by Stol 1994. Slotsky 1997 accepts his argumentation but still retains the translation mustard used by Hunger/Sachs in primary edition of the Diaries, see 31-34 (with a succinct summary of the alternative suggestions of identification).
367 See the discussion of the outlier of winter 274/3 BC in the preceding chapter and also the regression of the dummy “Presence of an army” on cress prices in the next section.
possibilities in politically difficult periods seem to have been rather limited. This is not to say that trade did not take place, but that the additional supply accruing due to the fall in demand could not be easily disposed of. Also a deflationary effect as a consequence of silver requisitions cannot be excluded but is difficult to reconcile with the notable increase in the price of cress.

Overall, wool shows a pattern similar to that of cress, but its $R^2$ has a higher explanatory power (0.22). All three regression coefficients are significant at a 5% level, with domestic warfare causing the largest price increases. The decrease in the wool price during periods of warfare abroad was clearly on a lower scale than the increase caused by rebellions (-0.46 and 0.98, respectively). The results for sesame are likewise as expected regarding the general trends of all commodities, and the coefficient of determination is slightly better still than the one for wool (0.29). The impact of warfare abroad can be readily compared to the values obtained for cress (only with a negative sign) but the coefficient of regression of domestic warfare is somewhat odd as it is double the value for the staple crop barley (13.49). There is no ready explanation as to why this particular commodity is so thoroughly affected by warfare whereas for the category of rebellions the results are statistically not relevant.

Overall, the results of the regression are encouraging. For all commodities, domestic warfare clearly exerted the strongest price-driving influence and also yielded the most solid results from a statistical point of view. The category was usually followed by rebellions in Babylonia, with a smaller degree of correlation to the price data and occasionally (with dates and sesame) statistically insignificant results. The effects of warfare abroad are more variegated – increasing the price for cress but driving down prices for sesame and wool – and more tenuous in their statistical reliability. The results were insignificant for both barley and dates. The absolute values of the regression coefficients are somewhat surprising at times. The ranking order barley (6.90) – dates (3.71) – wool (1.80) for warfare in Babylonia is still very much conforming to expectations when considering the demand elasticities of the single products, but the high values for sesame (5.72) and especially sesame (13.49) are puzzling. Here, clearly other, more elusive factors come into play, such as the impact of wartime destruction on the different crops, nutritional requirements of the armies standing in the country etc. For example, one might argue that the high level of perishability of fruit and vegetables put disproportionately high strains on the demand for cress, one of the most important suppliers of essential vitamins (especially vitamin C) in Babylonia.\(^{368}\)

5.3 The causes underlying prices rises

5.3.1 Warfare-related factors

In this section, two types of price driving forces that seem particularly effective during periods of warfare, both in Babylonia and abroad, shall be analyzed, namely military operations in Babylonia and army convocations. The former category consists to a large part of instances also contained in the categories of domestic warfare and rebellion in Babylon discussed in the preceding part, the latter to a certain extent of instances also included under warfare in Babylonia and warfare abroad, with several instances of army convocations for the purpose of subjugating internal enemies hitherto not considered. However, in this section the focus will be less on the full historical episodes but rather on punctual events that are part of them, hence the recorded instances of battles, of popular unrest, or of plundering. Also episodes hitherto not recorded will be included into the category of “Presence of an army”, whereas not all instances of warfare in Babylonia comprise also occurrences of armed conflict. From a different angle, military operations

\(^{368}\) On cress see Stol 1983/84, on its role in first millennium BC institutional households see Jankovic 2008, especially 445.
can generally be said to represent the supply side (spoliation, crop destruction etc) whereas army presence puts strains on the demand side. We will not only calculate the direct effects of these two factors but also their cross-effect, since they can be active simultaneously. This procedure provides us with an indication of how much of the total price increases during the various episodes of warfare is explained by the occurrence of military actions and army presence alone. The remaining residual that will give as an idea of how much of the price increases has to be attributed to other factors not yet taken into consideration. Again, the regression analysis shall be preceded by introductory remarks elucidating in more detail which events are to be considered and the rationale of their inclusion.

- Military operations in Babylon and its countryside

As seen in the preceding section, armed conflict in the city of Babylon and its immediate surroundings are encountered quite frequently in both classical and cuneiform literature, sometimes even for the same period as in the case of the warfare between Alexander’s successors. The aim of the current regression is to measure the total impact of armed conflicts within Babylonia. After all, warfare and rebellion are characterized by similar phenomena albeit on a different scale. Additionally, the concern here is not with armies merely passing through Babylon in the course of military operations (as was for example the case in 317/6 BC, when the imperial army under the lead of Antigonus the One-Eyed only passed through Babylon in its pursuit of Eumenes while the actual battles took place at a considerable distance from Babylon in Gabiene and Paraetacene) but only with genuine instance of armed conflicts in and around Babylon. By this definition, neither the battle at Cunaxa (to the north of Babylon) nor the battle at Gaugamela shall be included in the regression as both were not fought in immediate vicinity of the city.

Among the wartime phenomena which potentially affect prices, occurrences of plundering stand out in number of attestations. The terse style of Babylonian historiography unfortunately hardly ever provides us with more precise details as can be illustrated by a few lines from the so-called ‘Chronicle of the Diadochi’ BCHP 3 (r25-26)\(^{369}\) dating to the final period of conflicts between Antigonus the One-Eyed and Seleucus in winter 309/8 BC which read: [...] Antigonus (?)] came out from Babylon and plundered city and country side [...] he went down to Cutha and plundered [...]. In a similar vein, AD -144 (r20-22) reports the plundering of the countryside by the Elamite army under Kamnaskires, while in a defensive reaction the inhabitants of the countryside around Babylonia seem to have sought to safeguard their possessions in an unspecified manner. Likewise allusions to protective measures against plundering also occur in episodes that have been qualified as rebellions. Exemplary is the case documented by AD -261C, when various commodities (among which precious metals) were brought for protective reasons into the palace in spring 261 BC.

Also Greek authors report several episodes of pillaging. Diodorus in his description of the campaign of Cyrus the Younger reports that his troops seized “booty from foraging” near Thapsacus on the Euphrates (XIV 21.6). He also mentions in the course of the hostilities between Seleucus and Eumenes that the latter was forced to cross the Tigris in 317 BC because his troops could not find provisions as the countryside lay plundered (XIX 12.4).\(^{370}\) Similar actions are also attested directly for the city of Babylon, for example in autumn 311 BC when Demetrius, having recaptured part of the city from Seleucus and his stratēgos Nikanor plundered the country before returning to the shores of the Mediterranean.\(^{371}\)

Plutarch (Dem. VII 2) furthermore mentions a siege laid to one of the city’s citadels not be captured immediately in the course of these hostilities. Siege warfare is of course a

\(^{369}\) Also published as ABC 10 in Grayson 1975; see also Del Monte 1997, 183-194, and Glassner 2004. 242-247.
\(^{370}\) In the context of the same campaign Diodorus specifies (XIX 13.6) that Eumenes had to distribute rice, sesame and dates to his soldiers due to a lack of grain.
\(^{371}\) Plut. Dem. VII 3 and Diod. XIX 100.7.
particularly effective means of cutting one’s enemy off from supplies and a well-known cause of dearth.\textsuperscript{372} Also cuneiform documents attest instances in which the city of Babylon or its fortifications suffered a siege. The chronicle BCHP 11 reporting the invasion of Babylonia by Ptolemy III in winter 246/5 BC states (lines 7-8) that after the capture of Seleucia-on-the-Euphrates “battle equipment and numerous siege engines” were transferred from there to Babylon.

Often, Astronomical Diaries and also chronicles simply refer to a ‘battle’, šaltu, taking place without specifying further details (e.g. ADs -237 and -234 or BCHP 14), or to kings ‘marching around victoriously, šaltaniš atalluku (e.g. AD -144). Occasionally, as for example in the report of Gaugamela in AD -330A+B, troops are said to ‘cause a defeat’ (dabdû šakînu) of their enemy. It is only on rare occasions that destructions within or around the city potentially affecting commodity prices are described in more detail. One of the few instances is again provided by BCHP 3, which relates in r27 the destruction of a storehouse of the temple of Nergal by the hands of the troops of Antigonus.\textsuperscript{373} Another unfortunately fragmentary passage in the same chronicle (r6-7) points to even graver damage to the city when Seleucus seems to have tried to employ the Euphrates as means of combat in order to blow a breach into some defensive rig by washing it away.

This incident of course raises the question of damages to Babylonia’s canal system so vital for its economy, but the sources are not very informative on this issue. In particular Seleucus seems to have had little hesitation to take advantage of Babylonia’s landscape. In addition to the ruse above, Diodorus (XVIII 73.3)\textsuperscript{374} reports that in his pursuit of Eumenes in 318 BC he tried to inundate the camp of his opponent by breaching a canal (which stratagem was warded off successfully by Eumenes). That battles taking place in Babylonia potentially affected both crops and the canal system can also be inferred from a passage in Xenophon\textsuperscript{375} which describes the digging of a trench of substantial dimensions around the royal camp near the battle field of Cunaxa as a defensive measure by Artaxerxes II.

In addition to the phenomena listed thus far putting strains on the supply side, one has to reckon with other more general disruptions of economic life caused by episodes of armed conflict. A prominent example is evacuations of the city which occurred for example in summer 163 BC when according to a Diary (AD-162) the Greek part of the population left the city together with their households in a period of civil unrest. Also during Demetrius’ attempt at re-conquest of Babylon from Seleucus in 311 BC, Seleucus’ general in charge Nicanor ordered the inhabitants of the city to leave for their own safety (Diod. XIX 100.3-7).

Summary of the instances of military operations in Babylonia:

\begin{center}
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\end{center}

- Army presence

The most obvious instances of army presence are of course the instances of domestic warfare as defined in the preceding chapter. Moreover, we have seen that also during campaigns in other parts of the empire or even beyond army convocations occasionally took place in Babylon, with at least one certain case (during the First Syrian

\textsuperscript{372} See Eph’al 2009 for a recent discussion of siege warfare in the Ancient Near East.

\textsuperscript{373} Line r30 in the hypothetical but plausible completion by van der Spek/Finkel on www.livius.org reports additionally the destruction of houses in the city during the ongoing hostilities.

\textsuperscript{374} For a similar passage in the context of the same campaign see Diod. XIX 13.1-4.

\textsuperscript{375} Xen. Anab. I 7.14-16, see also the parallel account of Diod. XIV 22.4. According to the latter, the trench around Artaxerxes’ military camp was 60 feet wide and 10 feet deep, whereas Xenophon puts the dimensions at 5 wide by 3 deep fathoms, hence 30 by 18 feet, running over a length of 12 parasangs (60 kilometers!).
War in winter 274/3) and other hypothetical instances (e.g. in 219/8 BC in the run-up to the battle at Mount Paneion). Additionally, we shall also include campaigns which were led against rebels within the empire but which directly involved Babylonia as meeting point of substantial army contingents. In these cases it has to be kept in mind that the numbers given by Greek historians for the army size of the Achaemenid Great Kings (usually 300,000 infantry) for such expeditions are wildly exaggerated. The first instance to be mentioned is the campaign against the land of Razaunda led by Artaxerxes II described in AD -369, when the conscription of the army took place in the city of Babylon. Another episode in this context was the revolt of the Sidonians under their king Tennes in 346 or 345 BC supported by the Egyptian king Nectanebo II. Despite initial successes against the Persians troops mustered by the satraps of the Transeuphratene, Belesys and Mazaeus, the city was forced into surrender rather rapidly: the Babylonian chronicle ABC 9 reports the arrival of deportees from Phoenicia in October 345 BC. As Diodorus (XVI 41.1) explicitly mentions that after the initial setback troops were sent from Babylonia to quell the revolt, it shall also be included in this investigation. Not to be considered here on the other hand is the campaign against the Cypriote king Evagoras mentioned in AD -381C, for which campaigns troops were mustered according to Diodorus (XV 2.2) in Phocaea and Cyme. As these punitive campaigns against the Phoenician coast and the island of Cyprus are best placed into the wider context of an envisaged re-conquest of Egypt, these certainly larger operations (starting in 373, 351, and 343 BC respectively) shall be retained here as at least possible cases. From the Seleucid period, one might add the short-lived and abortive attempt at re-conquest of Parthia and Bactria under Seleucus II as possible instance for the presence of army. However, this campaign is difficult to treat as a dummy because its date is known only very approximately. É. Will hypothesizes a date between 230 and 227 BC, but Seleucus II with his sons was still west of the Euphrates in spring 229 BC (and thus not on campaign) according to AD -229B. As the following years are not documented (neither in terms of price data nor of historical information) – the diaries for years -228 and -227 are not extant – it is maybe the safest solution not to consider this campaign here.

The effect of an army presence is simply an increase in demand due to the presence of a larger number of people the needs of whom had to be satisfied. The provisioning required for a longer campaign leading possibly through uninhabited or even hostile territory entailed also a higher than usual demand of these army troops. There is ample evidence that the officials in charge did not hesitate to resort to confiscation as means of procuring foodstuff as well as money when the need arose. A famous example is provided by BM 68610, a judicial record concerning a dispute over a tract temple land between the Šamaš-temple of Sippar or Larsa and the royal official Iltalimatu. The latter seems to have had laid a wrongful claim to the land in question, the ownership of which was subsequently returned to the temple but tellingly not without having satisfied royal demands to the amount of one half of that land’s harvest in the year of the trial. Also in the ADs one can find occasional references to sequestrations of fields (AD -261B) and confiscations foodstuff (AD -309). Additionally, AD -273B describing the military preparations for

376 Binder 2008, 322; 300,000 infantry seems to have constituted “bei vielen griechischen Autoren die Normgröße der Standardheeresgruppe”.
377 The land of the Cadusians against which Artaxerxes II led his troops according to Plutarch (Art. 24.1) has been tentatively identified by van der Spek 1998, 249 with the Razaunda of AD -369, r8. See the commentary to AD -369 for a more detailed discussion of this hypothesis (contested by Binder 2008, 316-321) and related issues.
378 See Briant 1996, 700-709.
379 See Will 19792, 308-313 on the meagre sources at our disposal and an assessment of this campaign.
380 The text was originally published by Porter Travels II (1877), and discussed by van der Spek 1986, 202-211 and 1993b, 65-66, and most recently Joannès 2006, 112-115.
381 The diary inserts the note ina piš-ki TI-qé, “he took illegally”, in the price section, the commodity in question is very likely dates, cf. the commentary to AD -309, 12.
the Seleucid counter-attack against Ptolemy’s invasion of Syria refers to what seems to have been a withdrawal of tax privileges on arable land (AD -273B).  

Also classical sources provide us with a good number of examples of the ways the presence of an army constituted a burden for any province. An interesting attempt at quantifying the needs of the imperial army of Antigonus the One-eyed is given by Diodorus (XIX 58.2), who puts its annual consumption in the context of the arrangements for the siege of the city of Tyre in Phoenicia at 4.5 millions of medimnoi (237.000 metric tons) of wheat. Diodorus specifies that this amount had to be provided by the local allies, the harvest of whose countries was thus probably to a significant extent put at the disposal of the army they were hosting. Hence, it was not exclusively the presence of a hostile, conquering army that put strains on the country’s economy, although in that latter case, plundering and destructions have to be reckoned with as well in addition to an increase in demand.

Summary of the instances of army convocations:

<table>
<thead>
<tr>
<th>Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>373</td>
<td></td>
</tr>
<tr>
<td>369</td>
<td></td>
</tr>
<tr>
<td>351</td>
<td></td>
</tr>
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<td>346</td>
<td></td>
</tr>
<tr>
<td>343</td>
<td></td>
</tr>
<tr>
<td>331</td>
<td></td>
</tr>
<tr>
<td>323/2</td>
<td></td>
</tr>
<tr>
<td>318</td>
<td></td>
</tr>
<tr>
<td>316</td>
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<td>311</td>
<td></td>
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<td>308</td>
<td></td>
</tr>
<tr>
<td>274/3</td>
<td></td>
</tr>
<tr>
<td>246/5</td>
<td></td>
</tr>
<tr>
<td>219/8</td>
<td></td>
</tr>
<tr>
<td>145-144</td>
<td></td>
</tr>
</tbody>
</table>

5.3.2 Regression results

Splitting up the effects of warfare on commodity prices between military operations themselves and army presence shows a pattern that is not unexpected. Just as was the case in the preceding analysis, barley prices were stronger affected than date prices, which in turn were stronger affected than wool prices (the regression coefficient for this latter commodity is also statistically insignificant for the category of Army presence). Hence, the respective demand elasticity of the commodities determines the magnitude of the price increases. Cress is less affected than dates by Military operations, but disproportionately strong affected by Army presence, a phenomenon that has been tentatively explained above with the high perishability of suppliers of vitamins. The coefficients for kasû are again insignificant, whereas sesame is the commodity that is affected most strongly by both dummies (and as was already the case in the category Domestic warfare). The $R^2$ is for all commodities except for kasû at around 0.2, in most cases slightly higher.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>$n$</th>
<th>$R^2$</th>
<th>Military operations (t-value)</th>
<th>Army presence (t-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>349</td>
<td>0.24</td>
<td>3.00 (7.47)</td>
<td>1.05 (3.44)</td>
</tr>
<tr>
<td>Dates</td>
<td>300</td>
<td>0.21</td>
<td>1.67 (6.41)</td>
<td>0.76 (3.69)</td>
</tr>
<tr>
<td>Cress</td>
<td>260</td>
<td>0.22</td>
<td>1.42 (2.13)</td>
<td>5.32 (7.31)</td>
</tr>
<tr>
<td>Kasû</td>
<td>221</td>
<td>0.015</td>
<td>0.09 (0.83)</td>
<td>0.16 (1.36)</td>
</tr>
<tr>
<td>Sesame</td>
<td>257</td>
<td>0.19</td>
<td>4.97 (4.85)</td>
<td>4.54 (4.60)</td>
</tr>
<tr>
<td>Wool</td>
<td>232</td>
<td>0.20</td>
<td>1.54 (7.14)</td>
<td>0.06 (0.35)</td>
</tr>
</tbody>
</table>

382 See van der Spek 1993a, 67-70 on this interpretation, cf. the commentary to AD -273B, r37/8.
383 Assuming that the size of his army amounted to some 40,000 men (including allies and craftsmen), this would result in a daily ration of slightly over 16 litres of wheat per soldier per day. In the light of the numbers given by Diodorus (XIX 27.1 and 28.4; cf. the discussion above in chapter 5.2.1) for the respective army sizes of Antigonus and Eumenes during the campaigns in winter 317/6 BC, 40.000 seem a reasonable ‘educated guess’. The daily ration thus obtained is certainly too generous but one has to take into account also the considerably higher allowances for the various higher ranks of the army as well as of the royal commander himself and his philoi.
384 The same author (XVII 64.3-6) has a similar episode (albeit without an attempt at quantification) for the aftermath of the battle at Gaugamela, when the victorious army of Alexander the Great found 3.000 talents of silver and foodstuff in abundance in the nearby city of Arbela.
Table 5.3.2: The impact of military operations and army presence on commodity prices\textsuperscript{385}

With the conspicuous exception of cress, military operations reveal themselves a stronger price-increasing force than the mere presence of an army, particularly so for barley and dates. This result can be interpreted as indicating that whereas the Babylonian economy was better capable of coping with an increased demand, it was more susceptible to supply shocks. Such a reading aligns well with the finding that inter-annual storage was not practiced as means of price stabilization and risk reduction on a significant scale discussed in more detailed in the following chapter. It also underlines the strong impact that armed conflict had on commodity prices in the ancient world and is moreover a typical pattern for pre-industrial societies at large. To further assess the impact of the factors under discussion here, also the cross-effect, hence the impact of simultaneous occurrences of military operations and army presence should be considered.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>n</th>
<th>$R^2$</th>
<th>Cross-effect (t-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>349</td>
<td>0.38</td>
<td>6.33 (8.79)</td>
</tr>
<tr>
<td>Dates</td>
<td>300</td>
<td>0.34</td>
<td>3.65 (7.49)</td>
</tr>
<tr>
<td>Cress</td>
<td>260</td>
<td>0.23</td>
<td>-2.2 (-1.47)</td>
</tr>
<tr>
<td>Sesame</td>
<td>257</td>
<td>0.33</td>
<td>14.49 (7.24)</td>
</tr>
<tr>
<td>Wool</td>
<td>232</td>
<td>0.25</td>
<td>1.5 (3.65)</td>
</tr>
</tbody>
</table>

Table 5.3.3: The cross-effect of Military operations and Army presence on commodity prices\textsuperscript{386}

Indeed, table 5.4.2 above shows that the contemporary occurrence of both factors for the same dataset causes a shock that is more than the mere sum of the constituent parts. For barley, that difference amounts to an additional increase of ca. 20%, and somewhat less for dates. The cross-effect is strongest for sesame but curiously turns negative for cress. This means that the cress price is higher when only one of the factors is present. This at first glance curious pattern can however be explained by the disproportionately strong price increases of cress in cases of army convocations in Babylon for campaigns fought elsewhere, the best example being the cress prices in winter 274/3 BC.

5.4 Conclusion

Regression analysis (where applicable) provided us with a simple tool of quantifying the repercussions of political history in commodity prices in Babylonia. The quantitative aspect is twofold. First of all, the t-values of the single regressions confirm that the results thus obtained are unlikely to be accidental. Indeed, most the regressions were significant at 95%, meaning that there is only a 5% chance that each of the results is coincidental.

\textsuperscript{385} n: Number of observation; $R^2$: coefficient of determination.

\textsuperscript{386} As all relevant values for kastu (coefficient of determination and coefficient of regression) were at about 0.0, the results have not been reported in table 5.4.2. Again, seasonality has been accounted for both barley and dates by means of monthly dummies. It is not surprising that the regression coefficients of tables 5.3.1 (Column ‘Warfare in Babylonia’) and 5.3.3 often bear great similarity to one another as the parameters considered are very similar.
Secondly, the impact of distinct categories of events (episodes of warfare, army convocations, etc) on the price observations of the ADs can be expressed as percentile price increases. Considering elasticity of demand, it hardly comes as surprise that the price of barley was usually stronger affected than the one for dates, and the latter stronger than the one for wool. This sequence is the same for both ‘Warfare’ and ‘Military presence’. As regards the remaining commodities, the results for kasû are normally statistically clearly insignificant (and also the regression coefficients tend towards 0), the cause of which pattern is to be sought in the nature of this commodity as parasitical plant rather than as a crop to be cultivated. On the other end of the scale, sesame proved to be the commodity most strongly influenced by the vicissitudes of history. The fact that cress was disproportionately strong affected by the category ‘Army presence’ has just been adduced as explanation for the odd value of the coefficient of the cross-effect, it also explains why this commodity is also the only one affected by the category ‘Warfare abroad’ on a significant level. Before contextualizing the Babylonian price data in a comparison with various other regions from world history of the pre-industrial period, we shall first dedicate ourselves to the question of means of stabilizing prices in the light of the considerable fluctuations just analyzed.

A final remark pertains to the way the regression analysis was carried out in this chapter, namely in two separate steps distinguishing between historical episodes and underlying causes. If both calculations were carried out in a single regression, the results for barley would still be a very strong and significant price-increasing impact by the category of domestic warfare (regression coefficient 7.07, t-value 8.01) and a more moderate effect the category of ‘internal rebellion’ (regression coefficient 1.46, t-value 3.49). However, the underlying factors of ‘Army presence’ and ‘Military operations’ are already considered in these values, and it is precisely this overlap that causes their coefficients not only to decrease but moreover to become statistically meaningless, with t-values around and below 1.0 only. This problem is commonly referred to as multicollinearity (see Feinstein/Thomas 2002, 322).
6. Price volatility and storage

6.1 Introduction

In the discussions of the commodity price series of the Astronomical Diaries, price volatility, which is most commonly measured by the coefficient of variation (or, a cruder yardstick, the standard deviation), has been mentioned several times. Price volatility is caused by supply and demand shocks, the most prominent factors influencing volatility are exogenous shocks and seasonal fluctuations. According to K. G. Persson, a high level of price volatility is indicative of weak market integration. Indeed, spatial market integration, hence trade between different regions will level out price differences between those regions that are integrated into the trading network because of the ‘law of one price’ and thereby reduce volatility within the individual regions. On the basis of archival documents it is indubitable that within Babylonia are certain extent of market integration had been achieved by the 6th century BC, and it is likely that the situation was not all too different in the Late Achaemenid and Hellenistic periods. However, trade with regions beyond Babylonia seems to have been confined to luxury goods (ivory, lapis lazuli, etc.) and material not available in Babylonia (such as timber). The main obstacle for interregional trade with staple goods such as barley or other grains were (as was the case for much of the pre-industrial world) the prohibitively high transport costs.

Among alternative risk-aversion strategies with the aim to stabilize prices, Földvári/van Leeuwen 2011 list diversification of the consumption structure and inter-temporal risk reduction techniques such as most prominently storage. The former clearly played an important role in the economy of Babylonia in the first millennium BC, which can be qualified as a ‘dual-crop economy’ based on the production of barley on the one hand and of dates on the other. That the two commodities are complementary has been shown for the first time by P. Vargyas who noted that the date harvest indeed had an alleviating effect on barley prices. Hence, the peculiar structure of the Babylonian agriculture contributed to price stability by reducing seasonal variation to a considerable extent. Additionally, the fact that the commodities were negatively correlated to one another, with the harvest periods of these two commodities being about half a year apart (barley in spring, dates in autumn) was certainly no disadvantage in that regard.

The final strategy that needs to be considered is inter-annual storage, or carry-over. To put it simple, the availability of sufficient stocks of foodstuffs in case of crop failure will extenuate the concomitant price increases and thus contribute to a lower level of price volatility. In spite of these stabilizing effects of carry-over, its level is usually assessed at fairly low rates in pre-modern societies. Particularly influential was an article by D. McCloskey and S. Nash arguing that one major impediment to inter-annual storage in Medieval England was a high interest rate, which is to be equalled with the opportunity

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388 The most detailed treatment of the question is Jursa 2010, 61-99, see his assessment of the city of Babylon “as the central node within a network of exchange covering all of Babylonia” (140) in the 6th century BC. See also chapter 2.3 on regional integration in Babylonia.
389 On various aspects of trade in first millennium BC Babylonia see Graslin-Thomé 2009, cf. 271-273 on the absence of long distance trade for staple goods because of prohibitively high transport costs. The only commodity of those recorded in the Ads for which trade was possible and even likely is wool, see chapter 3.6.
390 Vargyas 1997, in particular 339-340. A precise estimate on the impact of the dual-crop structure on the seasonal variation of both commodities is provided by Földvári et al. 2011. See also graph 6.6.6, especially the bars for the period 225-140 BC.
cost of interest forgone on the sum expended for storage.\textsuperscript{391} Also Hellenistic Babylonia was such a case of a society with high interest rates. Direct evidence is sparse but telling: Although the very high interest rates – usually 40\% in case of silver loans, and even higher in cases of loans in commodities (barley) – found in the business archive of Mūrānu and his son Ea-tabtanā-bulli, which make up the bulk of attestations for Seleucid Babylonia are to be interpreted rather as penalties for delayed payment,\textsuperscript{392} the few extant genuine rates of interest from Late Achaemenid in Hellenistic Babylonia attest to a range of the annual interest rate between 20\% (Jursa 1998, text 16) and even 40\% (Stolper 1993 A2-10). In sum, it is safe to conclude that in the Hellenistic period, the interest rate on silver loans was close to the standard Neo-Babylonian rate of 20\% per annum and probably higher. Additionally, one has to consider that interest on loans in barley or dates was even higher. One possible explanation of this phenomenon was given by D. Flynn and A. Giraldez: due to the comparatively small extent of monetization, silver was a more sought after commodity. Repayments in kind were hence charged a disproportionately high interest to make repayment in cash more attractive. Such a line of argument is also congruent with a notion of (comparatively) high interest rates due to a (comparatively) low level of monetization and low availability of silver.\textsuperscript{394}

Besides the high level of interest rates, another important factor militating against carry-over on a larger scale in first millennium BC Babylonia for the major producers such as the temples was the underlying political structure: in order to meet tax requirements, temples were already in the Neo-Babylonian forced to sell the lion’s share of their cash-crops immediately after harvest. To quote M. Jursa (2010, 597), who detected a seasonal pattern in sales of the Neo-Babylonian Ebabbar-temple’s date harvest with a distinct peak immediately after the harvest, “by and large the temple did not hoard dates with the intention of making them available to outsiders after the intensive phase of selling following the harvest” which he interprets as “a reflection of the temple’s pressing need for money: the evidence suggests that Ebabbar had to attempt to sell a maximum amount of its major cash crop in as short a time as possible”.

The silver loans considered so far stem from an urban context, and the people involved in these transactions were high temple officials or urban entrepreneurs (or both) with a certain access to cash money. As regards small-scale farmers in a rural setting, however, the evidence points quite unambiguously to a lack of access to capital markets. The promissory notes from the Murašû-archive from late 5\(^{th}\) century Nippur (as well as those from several other smaller archives) shows that in a rural context credit was in most cases extended by specialized entrepreneurs to tenants of fiefs (i.e. land on which service was incumbent in a general way) so that the latter could pay their tax obligations – but not for productive purposes.\textsuperscript{395} This claim is in so far justified as repayment in this substantial text corpus is invariably stipulated a) in kind and b) in the harvest month. The importance of loans to fulfil tax obligations is shown by other archival evidence which in general shows also an increasing tax burden for the later part of the Achaemenid reign over Babylonia, starting with Darius I (523-486 BC).\textsuperscript{396}

\textsuperscript{391} McCluskey/Nash 1984. See also Persson 1999, 55-62 and 67-72 for the same conclusion (based on different price series and a different argumentation) that carry-over in pre-modern societies was negligible.

\textsuperscript{392} Jursa 2006 provides an edition of this archive and a discussion of the modus operandi of Mūrānu and his son, see particularly 161-162 for interest rates. Table 6 in Földvári \textit{et al.} (187-189) charts all interest rates from Late Achaemenid and Hellenistic Babylon published to date; the data contained therein is also included in Table 57 in Jursa 2010, 497-499, which centres on the material from the 6\(^{th}\) century BC.

\textsuperscript{393} Flynn, D./Giraldez, A. 2002.

\textsuperscript{394} This approach also provides a partial explanation of why interest rates on silver loans tended to be lower – in general close to the iconic 20\%-value – in the long 6\(^{th}\) century: this period was characterized by an extension of the monetary economy, silver was thus comparatively readily available. Cf. Jursa 2010, 490-499.

\textsuperscript{395} The system was first described by Stolper 1985, on credit see particularly p. 104-107.

\textsuperscript{396} Jursa/Waerzeggers 2009. Cf. also Jursa 2010 emphasizing the dependence of small-scale farmers “on outside funds in order to be able to fulfil their tax obligations” (252) considered “potentially disruptive to the economy” (Jursa 2010, p.60)
other hand, e.g. in form of so-called Harrānu (trading)-partnerships is again confined to the higher strata of (urban) society. Although the opportunity costs (interest foregone) of these peasants was (at least in theory) low because they simply did not even have the access to liquid assets, they cannot be expected to have engaged in storage on any significant level because of tax obligations and/or the requirement to repay consumption loans.

6.2 The price data from the Astronomical Diaries and their relevance for storage

A promising way of additionally testing the hypothesis that carry-over was small also in Hellenistic times is an investigation of the attestations of old (labīru) and new (eššu) barley and dates occasionally mentioned in the Astronomical Diaries and Commodity Price Lists of the Hellenistic period. Such an investigation is all the more interesting as it is one of the few possibilities to ascertain independently economic structures of the Late Achaemenid and Hellenistic periods, without recourse to the 6th century BC. The reasoning behind this analysis is that eššu should refer to freshly harvested produce, and labīru to produce already in the storehouse for an extended period. As can be expected in a society in which storage played a marginal role, there are only very few references to “old” barley or dates, and indeed, the whole dataset contains only two instances that can be interpreted as referring to carry-over, one for dates and one for kasū.

The two tables below charts all attestations of new barley and new dates in the ADs and the commodity price lists. In column IV, “Difference in time period” the precise points in time of the price observations within the month are given, and the attestations of barley (dates) and new barley (new dates) respectively are separated by a colon (:). New barley, as one might think, generally appears indeed during the harvest period, hence the Babylonian months nisannu (I) and ayyaru (II), mutatis mutandis, new dates only appear in autumn. Barley designated as eššu either replaces barley without additional attribute (as in AD -308) or, less frequently, runs parallel to it (S/W texts 9 and 12). Column V, “Difference in equivalent” shows the price decreases with the change from barley to ‘new’ barley; again, the same holds true for dates. This effect can be first and foremost explained as a consequence of the alleviation of the supply situation with the arrival of the new harvest rather than as a difference in quality or else. Taking the two findings together, it seems clear that the designation “new” refers less to a specific quality of a commodity than pointing simply to the fact that a new harvest has arrived on the market. The fact that ‘new’ barley most often simply takes the place of the commodity without further designation can be interpreted as pointing to the absence of larger stocks of that commodity, especially when considering the (almost complete) absence of attestations of ‘old’ barley.

<table>
<thead>
<tr>
<th>Attestation</th>
<th>Date</th>
<th>Commodity</th>
<th>Difference in time period</th>
<th>Difference in equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD -308</td>
<td>Apr/May 309</td>
<td>Barley – New barley</td>
<td>b : e</td>
<td>+6</td>
</tr>
<tr>
<td>S/W text 12</td>
<td>?? month II</td>
<td>Barley – New barley</td>
<td>m = m</td>
<td>+18</td>
</tr>
<tr>
<td>S/W text 9</td>
<td>Apr/May 126</td>
<td>Barley – New barley</td>
<td>11-e : 15; 16-17; 18; 19-22; 26-e</td>
<td>+15; +24; +15; +12; +19</td>
</tr>
<tr>
<td>AD -119B₁</td>
<td>Apr/May 120</td>
<td>Barley – New barley</td>
<td>e – m-e</td>
<td>+2,5</td>
</tr>
</tbody>
</table>

397 Jursa 2010, 206-208. On the distinction between rural consumption loans and urban credit for business activities see also the succinct summary remarks in C. Wunsch 2002, 249-250. Also, the chapter ‘Credit and management’ in van de Mieroop 1997 (197-214) deals exclusively with productive credit.

398 This was also the approach by McCloskey/Nash 1984 in their analysis of storage in medieval England, see 174-175 for the paucity of attestation of “old grain” in account.

399 b = beginning of the month; m = middle of the month; e = end of the month; w = whole month.
AD -118° Apr/May 119 Barley – New barley 18 : [...] : [...] +14; +16; +11; +17; +20; +38

AD -105C May/June 106 Barley – New barley 7 : 7-13 +??

AD -94 May/June 95 Barley – New barley [...] : 22-e +5 or +41

AD -85A May/June 86 Barley – New barley [1] 7 : 19 [...] +??

AD -73 June/July 74 New barley w ??

Figure 6.1: Attestations of new barley

The fact that the price difference between “regular” and “new produce” is notably larger with dates than with barley as well as the fact that new dates when parallel in time to regular ones are usually cheaper can be tentatively explained by the particularities of storage: in order to store dates, the fruit has to be dried, resulting in a much higher caloric value per litre (as well as per kilo). A similar reasoning could equally apply to the same phenomenon in the barley data, where, too, new produce is cheaper than the “regular” one in instances where attestations run parallel. One can tentatively argue that this cereal is stored with its hulls already removed.

<table>
<thead>
<tr>
<th>Attestation</th>
<th>Date</th>
<th>Commodity</th>
<th>Difference in time period</th>
<th>Difference in equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD -328</td>
<td>Sep/Oct 329</td>
<td>Dates – New dates</td>
<td>m = m</td>
<td>+27</td>
</tr>
<tr>
<td>AD -251</td>
<td>Sep/Oct 252</td>
<td>New dates</td>
<td>w</td>
<td>??</td>
</tr>
<tr>
<td>AD -218</td>
<td>Sep/Oct 219</td>
<td>New dates</td>
<td>w</td>
<td>??</td>
</tr>
<tr>
<td>S/W text 5</td>
<td>Oct/Nov 170</td>
<td>New dates – Dates</td>
<td>VIII : IX</td>
<td>??</td>
</tr>
<tr>
<td>AD -144</td>
<td>Oct/Nov 170</td>
<td>Dates – New dates</td>
<td>w = w</td>
<td>+18</td>
</tr>
<tr>
<td>AD -140B</td>
<td>Nov/Dec 141</td>
<td>Dates – New dates</td>
<td>e = e</td>
<td>+72</td>
</tr>
<tr>
<td>AD -132</td>
<td>Oct/Nov 133</td>
<td>Dates – New dates</td>
<td>[...] : m</td>
<td>+60</td>
</tr>
<tr>
<td>S/W text 9</td>
<td>Sept/Oct 126</td>
<td>Dates – New dates</td>
<td>b : m</td>
<td>+36(+)</td>
</tr>
<tr>
<td>S/W text 9</td>
<td>Oct/Nov 125</td>
<td>Dates – New dates</td>
<td>12-20 : 23-26</td>
<td>+18</td>
</tr>
<tr>
<td>AD -123B</td>
<td>Aug/Sept 124</td>
<td>Dates – New dates</td>
<td>-e = -e</td>
<td>+42</td>
</tr>
<tr>
<td>AD -118A</td>
<td>Oct/Nov 119</td>
<td>Old dates – New dates</td>
<td>m : w</td>
<td>+26 (new)</td>
</tr>
<tr>
<td>AD -99</td>
<td>Oct/Nov 100</td>
<td>Dates – New dates</td>
<td>w = w</td>
<td>+18</td>
</tr>
<tr>
<td>AD -86B</td>
<td>Oct/Nov 87</td>
<td>Dates – New dates</td>
<td>[...] : 1-3</td>
<td>+??</td>
</tr>
<tr>
<td>S/W text 17</td>
<td>?? month VII</td>
<td>Dates – New dates</td>
<td>w = w</td>
<td>+24(+)</td>
</tr>
</tbody>
</table>

Figure 6.2: Attestations of new dates

The same phenomenon is also visible, although to a much lesser extent, with the price data of kasû and cress. Note that also the documentation is more meagre for these commodities. For cress, there are only two telling instances (AD -105C and AD -77A). The cress equivalent in month III of year -105 is effectively the same as it is for new cress harvested at the end of month II in the same year. The new cress harvested in the last days of month III in -77 is slightly cheaper the cress without additional designation at the beginning of the same month.

For kasû, the situation is much the same. Most telling is the instance in AD -124, giving an equivalent for new kasû that is 36(+) litres higher than the one for regular kasû in the same month. The large difference between ADs -182 and -181 can be explained by the fact that the price of -181 is the price for new kasû during the ongoing harvest (month IV,

See already Földvári et al. 2011, 174.

This scenario is especially plausible if one assumes with Charles 1984, 29, that the hulls are usually removed prior to consumption.
hence June/July) and thus a period of high supplies, whereas the earlier reference dates from month XI, hence the period right in between of two harvests.

Commodities can equally be designated as “old”. The price for kasû designated as old in month X of year -186 (this instance is the only one of old kasû) is lower than the price for regular kasû in the immediately following month. It is unlikely that this passage refers to the harvest, as both attestations of new kasû arrived at the market in month IV. Although the possibility of a second harvest cannot be entirely discarded, we might effectively be dealing with an attestation of carry-over here. In this interpretation, kasû without an additional attribute would refer to the commodity of the harvest of ~July 187 BC, the old variety thus at least from the year 188 BC. Being obviously less appreciated, the price of old kasû was notably cheaper.

In addition to one fruitless reference to old barley in S/W text 17, there are a few occurrences of old dates. The equivalent in AD -336 is unfortunately broken, and the evidence from S/W text 6 is ambiguous as regards the equivalent. In month IV, old dates are clearly cheaper than regular dates, but in month III old dates are slightly more expensive than regular dates at the beginning of the month. If however the date price (for regular dates, to be sure) increased during that month which is quite a probable scenario considering the effects of seasonality, we would have the same pattern of old dates being cheaper than their regular equivalent.

The only explicit attestation of both old and new dates together in one passage is AD -118A. In this diary, old dates are more expensive than new ones. The fact that old dates were thus not necessarily perceived as being of inferior quality can explained with the fact that dates have to be dried in order to be storable, the caloric content per litre (as capacity measure) is thus higher as they contain less water. The most interesting point of S/W text 6 is however that it is the only instance referring to either old or new dates not during the harvest season. One possible interpretation of this passage is to explain it — similarly to the reference to old kasû in AD -186B — as referring to inter-annual storage: if the regular dates stem from the preceding harvest of autumn 138 BC, then the dates designated as old must be from an earlier harvest, possibly autumn 139 BC. As date palms bear fruit only once every year, the possibility of a second harvest can definitely be excluded in this case. This instance is the only rather certain attestation for inter-annual storage in the corpus of the ADs for a staple good.

<table>
<thead>
<tr>
<th>Attestation</th>
<th>Date</th>
<th>Commodity</th>
<th>Difference in time period</th>
<th>Difference in equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD -203</td>
<td>Nov/Dec 204</td>
<td>Old dates</td>
<td>b-m-e</td>
<td>??</td>
</tr>
<tr>
<td>AD -193B</td>
<td>Sept/Oct 194</td>
<td>Old dates</td>
<td>w</td>
<td>??</td>
</tr>
<tr>
<td>AD -156B</td>
<td>Nov/Dec 157</td>
<td>Old dates</td>
<td>w</td>
<td>??</td>
</tr>
<tr>
<td>S/W text 6</td>
<td>May/June 137</td>
<td>Dates – Old dates</td>
<td>b – w</td>
<td>-6(+)</td>
</tr>
<tr>
<td>S/W text 6</td>
<td>June/July 137</td>
<td>Dates – Old dates</td>
<td>w = w</td>
<td>+18(+)</td>
</tr>
</tbody>
</table>

Figure 6.3: Attestation of old dates

6.3 Archival evidence and storage facilities

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402 As has been said above, this explanation may account also for the fact that new dates are cheaper than the date from the storerooms.
403 There is by the way an analogous nomenclature of wine produced in Vienna: white wine (mostly from Veltliner-grapes) is called “Heuriger” (i.e. “This year’s”) only until the following grape harvest, after which it is (normatively) sold as “Alter (Wein)”.
404 See e.g. Cocquerillat 1968, 30-35 for the fruit cycle of the date palm: the pollinisation in Mesopotamia usually takes place in the month of nisannu. After a ripening period of ca. 180 days the fruits are harvested in month of tašritu (October/November).
Evidence to old produce, i.e. produce that was stored for longer than one harvest year is thus very meagre in these abstract price notations discussed so far. This is consistent with the notion of carry-over having played a very minor role only in Late Babylonian economy. The evidence from the administrative documents from the temple households, which equally mention sometimes new and old produce, points into the same direction. As there are only very few pertinent documents from Hellenistic Babylonia, we will also consider the Neo-Babylonian evidence. The letter corpus of that period adds some interesting passages with regards to specifically “old” dates. The letter CT 22, 84, dated by E. Ebeling (1949, 51) on prosopographical grounds to the late 7th century, reads (lines 16-22) ul-tu a-ga-na ZÚ.LUM eš-šu-tu u ZÚ.LUM.MA la-bi-ru-tu šá ana sat-tuk-ku ū a-bi ana AB-iā ū-še-bi-lā, “From here I have sent up old and new dates, fit for the regular offerings, to my father” There is no indication as to the precise date of the letter within the year. However, after what has been said about commodities specified as “new” in the discussion of the commodity price lists and Astronomical Diaries, a date in autumn shortly after the date harvest seems to be the only possible option. This precious instance of a co-existence of new and old dates is another one of the few attestations of carry-over from Babylonia. An observation on the side is that if the reading sat-tuk-ku is correct, no differences seem to have existed between old or new dates as regards cultic purposes.

CT 22 104 and 203 mention quite impressive amounts of old dates. In the former, 20 kurru (3,600 litres), of old dates are possibly to be sold in the city of Babylon, and the latter deals with a consignment of 5,400 litres of old dates (30 GUR ŠE.BAR SUMUN-tì). Finally, one should mention BM 75787, a text which documents the sale of explicitly old dates from the šutum šarri, a storage facility – according to M. Jursa (2010, 582/3) “an attempt to clear out the storehouse in the expectation of the new harvest.”

This instance and its interpretation are telling: although carry-over was thus theoretically possible in Mesopotamia, it seems not to have been among the economic strategies usually adopted by the larger institutions.

From the Hellenistic period, the evidence is as usual more meagre. CT 49, 102, is a promissory note dating to 24(?) SE and mentions [15 GUR] ŠE.BAR pe-še-tu eš-še-tu4, 15 kurru of new white barley (completion M. Stolper 1993, 51). This transaction, the date of which is severely damaged seems thus to have taken place at harvest time.

More telling is again the evidence referring to dates. Important documents for our purposes stem from the so-called “Brewer’s archive” from Borsippa. A potentially interesting text is CT 49, 36 a letter-order of a paymaster (bēl minde) of the brewers, Bulluṭ. In this text Bulluṭ orders the disbursal of the substantial amount of 1.248 litres of dates in the artabē-measure to two persons, Nabû-aplu-uşur and Bēl-šaḵnu. The letter is dated to 30 VII of year 6 of Antigonus ‘being general’ (5 November 312 BC), thus from the period of harvest. The dates importantly are specified as “from year 5” (ZÚ.LUM.MA šu-u šá MU 5.KAM). At first sight, this letter-order seems to record an attempt of the temple authorities to clear the stores for the incoming harvest (as we have seen before with BM 75787). If this was case, text CT 49, 36 would be one of the few documents directly attesting to the possibility of carry-over in Hellenistic Babylonia as according to this interpretation the Ezida-temple still had considerable amounts of dates left at the time of the new harvest. There is however another, more convincing interpretation of this text. The designation of a commodity as “of year x” is not infrequent in these letter-orders from Borsippa and usually refers to annual ‘ration’ of a given commodity (attested are barley, barrel
dates, and wool) to which a professional group was entitled. To give two examples, tablet CT 49, 18, dating from year 6 of Alexander IV orders the issue of “6 minas of wool, from the wool of the master-builders of year 6” to an individual. CT 49, 4 from year 4 of king Artaxerxes III orders the disbursal of 180 litres of barley “from the barley of the brewers of year 4”. We thus suggest that the document CT 49 36 is a settlement of the arrears which the Ezida-temple had incurred. The temple has thus not been able in year 5 of Antigonus (313/2) BC to meet its obligations vis-à-vis the persons entitled to income and was dependant on the arrival of the new date-harvest to settle this debt. A look at the political situation gives additional plausibility to this interpretation. The war between Alexander the Great’s prospective successors was still in full swing – autumn 312 saw the crucial defeat of Antigonus and his son Demetrius at Gaza against a coalition of Ptolemy and Seleucus,410 paving the way for the latter’s return to Babylon in spring 311 —, and the devastating effects of the continuous warfare on the Babylonian economy as reflected particularly in the price data of the Astronomical Diaries has been widely acknowledged.411 It would not be surprising if even the Ezida-temple in the prolonged period of hardship struggled with economic difficulties.

In support of the hypothesis just expounded one can also adduce the fact that there are a number of additional instances where the year indicated in combination with a commodity is explicitly stated to be a ration (PAD$^{\text{HLA}}$, kurummatu) such as CT 49 2 and 3, the latter of which reads (lines 4-6): 2 GUR ŠE.BAR TA ŠE.BAR PAD$^{\text{HLA}}$ šá ĽÚ.LUNGAMES šá MU 4.KAM, “360 litres of barley from the rations of the brewers, of year 4 (Artaxerxes III)".412 Moreover, in the clear majority of cases the year in which the transaction was recorded and the year to which is referred are one and the same. Attestations from CT 49 include texts 4 for barley, 16, 17, 18 and 49 for wool, as well as 22, 38, 40, 42 and 56 (dates). There is only one other document in CT 49 which can be interpreted as pointing to arrears in payments. CT 49, 4 dating from month VI of year 5 of Artaxerxes III records the payment of 180 litres of barley of the previous year 4: 1 GUR ŠE.BAR TA ŠE.BAR šá ĽÚ.LUNGAMES šá MU 4.KAM, “1 kurru of barley from the barley of the brewers of year 4”. In this case, the formulation is even less ambiguous than in CT 49, 36 and clearly refers to the entitlement of the brewers of year 4 as can be easily seen by comparison with CT 49 3 quoted above.

As regards storage facilities, the written evidence for our period is even scantier, although it should go without saying that no society can make do without intra-annual storage, which is necessary to ensure consumption throughout the year of commodities harvested at one certain point in time. Several designations for “storehouse” were in use in the Hellenistic period.413 The Astronomical Diaries mention the “property” (NÍG.GA, makkūru) of the goddesses Zababa and Ninlil (AD -254, 13) in connection with a theft, and of the Esangila (ADs - 330A+B, r5, -168A r6), with one instance (-168A r6) referring to gold dedicated to the temple stored therein. Other facilities attested in our period are a bit qati in the Esangila-complex where the guardians of the statues had a room (AD -200, r13-15), and the treasury, bit bušé (AD -187A, r11, r12; AD -168A, r19, r20), which was located in the juniper garden, rebuilt in the early 160s BC, and according to AD -187A served inter alia as storage room of some cultic paraphernalia. The evidence from the Hellenistic chronicle series is similar to the picture drawn in the Diaries: the so-called “Judicial chronicle” (BCHP17) first published by F. Joannès 2000 describes the proceedings after a theft in the bit bušé, again precious metals (gold, silver) are mentioned and a connection to property of the gods is made (lines 3-4). All these instances thus seem to refer to storehouses of various valuables such as precious stones rather than basic commodities. Recourse to Neo-Babylonian material however shows that hirelings were employed during date harvest for the dul-lu ša ZÚ.LUM.MA in a bit makkūri (E

411 See above chapters 4 and 5, cf. also van der Spek 2000.
412 Other instances (CT 49 118, 123//122//182 and 124) which explicitly refer to rations of a given year can be found in the Mūrānu-archive, cf. Jursa 2006.
413 See additionally the table in Jursa 1995, 92 for an overview of the different storage facilities of the Sipparean Ebabbar temple.
Traces of such a practice are equally attested in Hellenistic Babylonia. Several records of deposit and related texts published by M. Stolper 1993 (some of which stem from the archive of Mūrānu mentioned earlier) specify the commodity deposited as NĪG.GA of a god (mostly Bēl and/or Nabû). There is good reason to assume that these properties of the god(s) were also stored in the bīt makkūri. Firstly, there is the obvious correspondence of NĪG.GA and É NĪG.GA, which is strengthened by text A2-7 which mentions explicitly a disbursal from the É NĪG.GA rather than designating the commodity given out as “NĪG.GA DN” as is customary in these texts. Furthermore, the items given as deposit were mostly silver, as one would expect according to the attestations in the Astronomical Diaries. There is however at least one instance (Stolper 1993, A2-4) in which dates specified as NĪG.GA dAG are given as deposit. Meagre as the direct evidence may be, the term “general purpose storehouse” coined by M. Jursa (2004b, 160) seems thus appropriate for our period as well.

Another important matter as regards carry-over is storage loss, together with the prevailing rate of interest the most important cost factor involved. Storage loss has been estimated to amount to at least 10% for both medieval England (McCloskey/Nash) and Ancient Egypt (P. Adamson), the latter tentatively envisaging a somewhat higher rate for Mesopotamia due to climatic conditions more conducive to fungal attacks. This latter phenomenon is indeed well-attested in Babylonian written sources, most explicitly on tablet 12 of the omen collection šumma ālu. A few pertinent lines read:

(15) DIŠ KA.TAR <BABBAR> ina É iš-pi-ki GAR É BI i-har-[ru-ub],
If there is white fungus in a storehouse, that house will be devasta[ted]

(37) DIŠ ka-tar-ru na Ī.DUB:I.KUN, IGI Ī.DUB MEŠ DIR MEŠ SUD MEŠ
If fungus is seen in a storage-bin/on a threshold, full storage-bins will become empty

(75) DIŠ KA.TAR SIG7 ina Ī.DUB GAR ŠE ina É LÚ NU GAL-ši
If there is green fungus in a storage-bin, there will be no grain in the man’s house.

(81) DIŠ KA.TAR SIG7 ina ŠÀ Ī.DUB MEŠ GAR Ī.DUB MEŠ DIR MEŠ SUD MEŠ
If there is green fungus inside storage-bins, full storage-bins will become empty

There is thus little doubt about the consequence of a fungal attack, all apodoses refer essentially to the same outcome, namely loss of the infested crop. The places where such fungal decay occurred are either the storehouse in general (as in line 15) or directly the storage jars. Another interesting place for a (in that instance white) fungus to occur is the lower millstone (um-mat NA4HAR.HAR). In addition to these occurrences of fungal attacks, tablet 13 of šumma ālu deals with lichen infections in various storage facilities: distinct storehouses for grain, sesame, oil, and dates are mentioned (lines 47-50). The prominence of both fungi and lichen in the omen series – to each of them is dedicated a whole tablet of the series – point to these infections being a widespread problem in Mesopotamia, the risk of high storage loss being therefore considerable.

Summarizing, the evidence from both administrative documents and Astronomical Diaries points to a very minor role of storage only. The scarcity of attestations of ‘old’ produce and the fact the ‘new’ produce usually replaces the variety without further designation at the harvest unequivocally point in that direction. Additionally, also the high storage loss were noted, the risk of fungal and lichen attacks were considered paramount.

415 Stolper 1993, texts 2, 3, 16, 18, A2-7, A2-10.
417 We follow the edition of S. Freedman 1998 (191-205 for tablet 12).
418 The same apodosis is given in case of the appearance of a red miqtu-fungus on the roof a man’s house (line 64).
interest rates in combination with rather small seasonal price increases\textsuperscript{419} and the tax structure (at least as it is known from the Achaemenid period, hence before 484 BC) were certainly not conducive to storage. It is not surprising that the commodity for which there are at least a few indications of storage is dates rather than barley, as dates can be dried and hence increase in value as the caloric value per litre thereby increases.

\textsuperscript{419} See Földvári \textit{et al.} 2011 for a more detailed elaboration of this point.
Overview: Old (lābiru) and New (eššu) commodities

AD -366 iv, 17: Month VI, 38 Art. II (16 Sep – 15 Oct 367 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>old</td>
<td>w</td>
<td>36 (-71)</td>
</tr>
</tbody>
</table>

Note: In the preceding months IV and V, the date equivalent fluctuates between 60 and 66 litres per shekel

AD -328, 24: Month VI, 8 Alexander III (14 Sep – 13 Oct 329 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>---</td>
<td>m</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>m</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>---</td>
<td>e</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>e</td>
<td>[…]</td>
</tr>
</tbody>
</table>

AD -308, 17: Month VI, 8 Alexander IV (10 Apr – 9 May 309 BC)

<table>
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<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>---</td>
<td>b</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>e</td>
<td>13.5</td>
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AD -251, 7: Month VI, 60 SE (4 Sep – 3 Oct 252 BC)

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<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>new</td>
<td>w</td>
<td>108</td>
</tr>
</tbody>
</table>

AD -218, 3: Month VII, 93 SE (30 Sep – 28 Oct 219 BC)

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<th>Price equivalent</th>
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</thead>
<tbody>
<tr>
<td>Dates</td>
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<td>w</td>
<td>102</td>
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</tbody>
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AD -203, 9: Month VIII 108 SE (12 Nov – 10 Dec 204 BC)

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<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>old</td>
<td>b</td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>old¹</td>
<td>m</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>old¹</td>
<td>e</td>
<td>198</td>
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AD -193B, 12: Month VII 118 SE (23 Sep – 22 Oct 194 BC)

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<th>Period</th>
<th>Price equivalent</th>
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</thead>
<tbody>
<tr>
<td>Dates</td>
<td>old</td>
<td>w</td>
<td>96</td>
</tr>
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### AD -186B, r11: Month X 125 SE (2 – 31 Jan 186 BC)

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<th>Price equivalent</th>
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<tbody>
<tr>
<td>Mustard</td>
<td>old</td>
<td>w</td>
<td>450</td>
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### AD -181, r3: Month IV 130 SE (14 Jul – 12 Aug 182 BC)

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<tbody>
<tr>
<td>Mustard</td>
<td>new</td>
<td>w</td>
<td>405</td>
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</tbody>
</table>

### S/W text 5: Month VIII 142 SE (28 Oct – 26 Nov 170 BC)

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</thead>
<tbody>
<tr>
<td>Dates</td>
<td>new</td>
<td>b</td>
<td>450(+)</td>
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### AD -156B, 16: Month VIII 155 SE (2 Nov – 1 Dec 157 BC)

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</thead>
<tbody>
<tr>
<td>Dates</td>
<td>old</td>
<td>w</td>
<td>[…]</td>
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</tbody>
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### AD -144, r15: Month VIII 167 SE (21 Oct – 18 Nov 145 BC)

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<tr>
<td>Dates</td>
<td>---</td>
<td>e</td>
<td>432</td>
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<td></td>
<td>new</td>
<td>e</td>
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### AD -140B, r6: Month VII 171 SE (6 Oct – 4 Nov 141 BC)

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<td>---</td>
<td>b</td>
<td>216(+)</td>
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<tr>
<td></td>
<td>old</td>
<td>m</td>
<td>[…]</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>e</td>
<td>504</td>
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### S/W text 6: Month III 175 SE (27 May – 25 June 137 BC)

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<td>---</td>
<td>b</td>
<td>216(+)</td>
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<tr>
<td></td>
<td>old</td>
<td>m</td>
<td>[…]</td>
</tr>
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<td></td>
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<td>w</td>
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### S/W text 6: Month IV 175 SE (26 June – 25 July 137 BC)

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<tr>
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<td>w</td>
<td>162</td>
</tr>
<tr>
<td>old</td>
<td>w</td>
<td>180(+)</td>
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### AD -132B, r15: Month VII 179 SE (8 Oct -6 Nov 133 BC)

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<tr>
<td>Dates</td>
<td>---</td>
<td>[…]</td>
<td>240</td>
</tr>
<tr>
<td>new</td>
<td>m</td>
<td>300</td>
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new(?): [...][180]+144
new(?): e 288 (-323)

S/W text 9: Month II 186 SE (27 Apr – 25 May 126 BC)

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<td>---</td>
<td>1</td>
<td>18 (-35)</td>
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<tr>
<td></td>
<td></td>
<td>until 7</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8-10</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11-e</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>15</td>
<td>36</td>
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<tr>
<td></td>
<td></td>
<td>16-17</td>
<td>45</td>
</tr>
<tr>
<td>new</td>
<td></td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19-22</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26-e</td>
<td>40</td>
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S/W text 9: Month VII 186 SE (21 Sep – 20 Oct 126 BC)

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<td>Dates</td>
<td>---</td>
<td>b</td>
<td>72</td>
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<td></td>
<td>new</td>
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AD -124, r3: Month IV 187 SE (13 Jul – 10 Aug 125 BC)

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<tbody>
<tr>
<td>Mustard</td>
<td>---</td>
<td>w</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>w</td>
<td>252 (-288)</td>
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AD -123B, 13: Month VI 188 SE (30 Aug -27 Sep 124 BC)

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</thead>
<tbody>
<tr>
<td>Dates</td>
<td>---</td>
<td>--</td>
<td>41.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-e</td>
<td>60</td>
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<tr>
<td></td>
<td>new</td>
<td>-e</td>
<td>102</td>
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S/W text 9: Month VII 187 SE (10 Oct – 8 Nov 125 BC)

<table>
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<th>Period</th>
<th>Price equivalent</th>
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<tbody>
<tr>
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<td>12-20</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>b</td>
<td>[...]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23-26</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-e</td>
<td>114</td>
</tr>
</tbody>
</table>

AD -119B₁, 7: Month I 192 SE (20 Apr – 19 May 120 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>---</td>
<td>b</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-e</td>
<td>33.5</td>
</tr>
<tr>
<td>new</td>
<td>m-e</td>
<td></td>
<td>36²⁴⁵</td>
</tr>
</tbody>
</table>

²⁴⁵ Variant AD -119A₂: 33.5 litres/shekel for new barley in an unspecified period (w?).
AD -118A, 16: Month I 193 SE (9 Apr – 8 May 119 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>---</td>
<td>1-3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-9</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>25,5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11-12</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14-17</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19</td>
<td>[...]</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>[…]</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[…]</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26-27</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td></td>
<td>29</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>66</td>
</tr>
</tbody>
</table>

AD -118A, r16: Month VII 193 SE (4 Oct – 2 Nov 119 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>old</td>
<td>-m</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-e</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>w</td>
<td>87</td>
</tr>
</tbody>
</table>

AD -105C, 27: Month II 206 SE (16 May – 13 June 106 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>---</td>
<td>-6</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>8-e</td>
<td>75</td>
</tr>
<tr>
<td>Cress</td>
<td>new</td>
<td>7-13</td>
<td>72 (-107)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-m</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-e</td>
<td>30</td>
</tr>
</tbody>
</table>

AD -99: Month VII 212 SE (4 Oct – 2 Nov 100 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>---</td>
<td>w</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>w</td>
<td>90</td>
</tr>
</tbody>
</table>

AD -94, 16: Month II 217 SE (14 May - 12 June 95 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>---</td>
<td>[…]</td>
<td>[36/72]+31</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>22-e</td>
<td>108</td>
</tr>
</tbody>
</table>

AD -86B, 5: Month VII 225 SE (10 Oct – 7 Nov 87 BC)

---

421 All the equivalents after day 19 should refer to new barley.
<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>---</td>
<td>[…]</td>
<td>[…]+ ½</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>1-3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>[…]</td>
</tr>
</tbody>
</table>

**AD -85A, 11:** Month II 226 SE (5 May – 3 June 86 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>---</td>
<td>1-2</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>[…]</td>
<td>[…]</td>
</tr>
</tbody>
</table>

**AD -77A, r4:** Month III 234 SE (5 June – 3 July 78 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cress</td>
<td>---</td>
<td>b</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>3-c</td>
<td>9</td>
</tr>
</tbody>
</table>

**AD -73, 14:** Month III 238 SE (20 Jun – 19 Jul 74 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>new</td>
<td>w</td>
<td>45 (81')</td>
</tr>
</tbody>
</table>

**S/W text 12:** Month II, undated (possibly 171 SE = 141/0 BC)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>---</td>
<td>b</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td></td>
<td>m</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>[…]</td>
<td>162</td>
</tr>
<tr>
<td></td>
<td></td>
<td>m</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e</td>
<td>[…]</td>
</tr>
</tbody>
</table>

**S/W text 17:** Month IV, undated

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>old</td>
<td>w</td>
<td>105(+)</td>
</tr>
</tbody>
</table>

**S/W text 17:** Month VII, undated

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Designation</th>
<th>Period</th>
<th>Price equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>---</td>
<td>w</td>
<td>[180]+120</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>w</td>
<td>324 (-359)</td>
</tr>
</tbody>
</table>
7. Conclusion and outlook

The preceding pages have shown that prices in Late Achaemenid and Seleucid Babylonia were indeed heavily influenced by historical events. Among the factors causing price increases, warfare and armed conflict in and around Babylon stand out in efficacy. Another quantifiable event category is constituted by the presence of the army, both in periods of warfare in Babylonia and simply because of convocations of army contingents as a consequence of conflicts in other provinces. In the former case, also a significant cross-effect between the categories of ‘Warfare’ and ‘Presence of the army’ could be established.

In addition to these types of events which proved to be quantifiable in a relatively uncomplicated manner, additional factors not easily amenable to statistical analysis, such as locust invasions, could be made out. Also, not only such exogenous shocks – hence one-time effects – had repercussions in the price data. An important role regarding the determination of the price level was also played by changes in the amount of money in circulation and climatic change. Little surprisingly, demand elasticity played a crucial role regarding the magnitude of the impact of historical events, the staple foods barley and dates (in this order) were stronger affected than cress, *kasû*, or wool.422

What are now the implications of these results? Most obviously, they further corroborate the by now common opinion that prices in 1st millennium BC Babylonia were to a significant extent set by the interplay of supply and demand, with an additional important role for the level of monetisation. After all, the exogenous shocks discussed in the preceding chapters drove up or depressed prices by affecting one of these factors.

More interestingly, it is now also possible to gauge the performance of the Babylonian economy in a comparative perspective. A convenient yardstick of market performance is price volatility as expressed by the coefficient of variation. The CV can be expected to be the lower the more an economy is capable of handling unexpected supply or demand shocks by various means (trade and hence spatial market integration, storage, technical innovations, and similar).

<table>
<thead>
<tr>
<th>Region</th>
<th>Commodity</th>
<th>Time period</th>
<th>CV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babylon</td>
<td>Barley</td>
<td>620-484 BC</td>
<td>0.99</td>
</tr>
<tr>
<td>Babylon</td>
<td>Barley</td>
<td>573-549 BC</td>
<td>0.42</td>
</tr>
<tr>
<td>Babylon</td>
<td>Dates</td>
<td>620-484 BC</td>
<td>0.6</td>
</tr>
<tr>
<td>Babylon</td>
<td>Barley</td>
<td>305-230 BC</td>
<td>0.63</td>
</tr>
<tr>
<td>Babylon</td>
<td>Barley</td>
<td>230-140 BC</td>
<td>0.41</td>
</tr>
<tr>
<td>Babylon</td>
<td>Dates</td>
<td>305-230 BC</td>
<td>0.39</td>
</tr>
<tr>
<td>Cairo</td>
<td>Wheat</td>
<td>1260-1512</td>
<td>0.79</td>
</tr>
<tr>
<td>Syria</td>
<td>Wheat</td>
<td>1260-1512</td>
<td>0.65</td>
</tr>
<tr>
<td>Calcutta</td>
<td>Wheat</td>
<td>1764-1794</td>
<td>0.79</td>
</tr>
<tr>
<td>Calcutta</td>
<td>Wheat</td>
<td>1870-1910</td>
<td>0.18</td>
</tr>
<tr>
<td>Calcutta</td>
<td>Rice</td>
<td>1764-1794</td>
<td>0.38</td>
</tr>
<tr>
<td>Calcutta</td>
<td>Rice</td>
<td>1870-1910</td>
<td>0.18</td>
</tr>
<tr>
<td>(Central) Europe</td>
<td>Grain</td>
<td>1500-1799</td>
<td>0.15-0.25</td>
</tr>
</tbody>
</table>

Table 7.1: Price volatility in comparison

As table above clearly shows, Babylonia does not fare all too well when compared to early modern Europe, which displays a significantly lower level of price volatility.423

422 For further summarizing remarks especially as regards the long-term development of prices see section 3.6.
423 The data of this table stems from Jursa 2010 (6th century Babylonia), Söderberg 2004 (Cairo and Syria), Studer 2008 (Calcutta, see also his table 6 (417) for the low CVs of 0.15-02 of various European cities in the
The most representative values for the CV in Babylonia amount to 0.6-0.4 (the very high value of 0.99 in the period 620-484 BC was caused by the inflationary tendencies in the last quarter of the 6th century BC, see Jursa 2010, 745-753), whereas volatility in Europe was only at about half this level and less. On the other hand, the level of volatility in Babylonia in the period discussed in this thesis is comparable to the medieval Near East (Cairo, Syria), or rather even slightly more favourable than in these regions. Another suitable point of reference in terms of price volatility is constituted by India in the 18th century, before the country’s economy made a giant leap in the late 19th century. Not unlike Babylonia, India had a kind of dual-crop economy (rice and wheat) with a notable difference in the volatility of the two main crops, similar to barley and dates in Seleucid Babylonia.

This comparatively high level of price volatility is hardly surprising in the light of the strong repercussions which historical events could be shown to have had in Babylonian commodity prices. The topic is all the more important as a high level of price volatility for example hampers further development of market efficiency. The overall result is that although the Babylonian market worked in a fairly efficient manner – prices indeed behaved as market prices and moved in a perfect random walk, see e.g. Temin 2002 – the performance of the economy, hence its capacity to balance exogenous shock was very limited due to the presence of the various factors just mentioned.

But what were the causes behind these substantially fluctuating prices? After all, there were several factors conducive to price stability present in first millennium BC Babylonia. First of all, a highly productive agriculture (in terms of seed/yield-ratio) benefitting from a sophisticated system of irrigation ensured a constant and relatively abundant supply. A second characteristic was the dual-crop regime mitigating intra-annual seasonal fluctuation (Földvári et al. 2011) and thus also the overall level of volatility. Also the institutional framework, e.g. the ability of the state to achieve acceptance regarding the measuring units to be used in commercial transactions was fairly stable in spite of the regime changes from the Achaemenids to the Seleucids and later to the Parthians.

However, on the negative side, several key factors outweigh these beneficial traits. First of all, due to prohibitively high transport costs Babylonian farmers were not able to trade their surplus in staple goods supraregionally. It is hence misleading and a rather unfelicitous analogy with Roman Egypt or Sicily to tag Babylonia as “the granary of much more extensive realms”. Rather, a bumper harvest would simply cause prices to dwindle due to the prevailing glut but not necessarily entail larger profits for farmers – which in turn constituted a major disincentive for any investments in agriculture. Vice versa, in times of harvest failure, the supply situation was likely to remain strained for extended periods as additional supplies were hard to come by (and hence also the susceptibility of pre-industrial economies to display autocorrelation).

The absence of storage as one means of risk aversion and price stabilization has been amply discussed in chapter 6. Another aspect to be considered is the structure of urbanisation in first millennium BC Babylonia. As the research of van Zanden et al. 2011 has shown, price volatility tends to be higher in regions with one dominant city, for example Babylonia and Babylon or also 12th century Egypt and Cairo compared to less

period 1764-1794), and Bateman 2010 (early modern Europe); for the CVs of barley and dates during the Seleucid period see chapters 3.4 and 3.5. See also van Zanden et al. 2011 for more data.

424 See Studer 2008, 400-407 for a quick overview of India’s economic development in the colonial period. Note also the considerable numbers of outliers – caused by harvest failure – in his data for western India in Figure 2, 397-398.


426 See Jursa 2010, 48-53 (and Table 2) on agricultural productivity in Babylonia.

427 Adams 1981, 176. The major difference was of course that Sicily and Egypt were located at (or in the case of Egypt rather connected via the Nile with) the shores of the Mediterranean and had hence access to cheap waterways. On the grain market of the Roman Empire see Erdkamp 2005, 175-205 (see also his chapter 5, ‘Rome and the corn provinces’ (205-257 for a discussion of the supply of the city of Rome by means of the surplus generated in Sicily and Egypt.)
centralized regions (in which often also a different political economy prevailed) such as Tuscany or the Low Countries.

Another factor contributing to instable prices was the shifting monetary supply. As we have seen, especially the inflation in the last quarter of the 4th century BC can be attributed to a considerable extent by an increasing amount of silver in circulation. In the second century BC, a reverse movement, a drain of silver in the later reign of Antiochus III, caused several extremely low prices and likely also played a part in the pattern of decreasing prices in the first half of the second century BC.

Finally, in particular for the high level of volatility during the Late Achaemenid period, the focus on internal power structures might prove rewarding. Especially the interlinkage of the markets for capital, means of production, and commodities in the hand of a few powerful entrepreneur-type businessmen (best known is the Murašû-clan in the region around Nippur) is likely to have constituted a major impediment for markets to work efficiently. With the increasing number of texts becoming available from this period (and the similar growth of evidence for Hellenistic Uruk), such an investigation focussing on the institutional background of the commodity prices rather than on exogenous shocks will constitute another step forward in the research on the economy of first millennium BC Babylonia.

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428 See van Zanden 2004, 1040-1042 on the harmful role of Chinese moneylenders on market efficiency on Java during the 19th century.
Appendix: A historical commentary to the historical sections of the ADs

Abbreviations used frequently in this commentary:

U.E.: Upper Edge
Lo.E.: Lower Edge
L.E.: Left edge
R.E. Right Edge
x: illegible sign
..: missing sign
PN: Personal Name
GN: Geographical Name
DN: Divine Name

Almost all of the tablets belonging to the corpus of the ADs are damaged, and many of them substantially so. There are, however, various possibilities of estimating the original size of a given tablet. The first option is simply to measure the thickness of a tablet on the opposite edges (either right – left or upper – lower edge), thus by establishing its curvature. This is a rather crude methodology yielding only very approximate results. However, this approach is useful when estimating the number of months originally recorded on a small fragment: for example, a considerable difference in thickness on upper and lower edge points towards substantial loss of information. Additionally, the standardized formulations employed in various sections of an AD can be very helpful in this regard. Three such formulations revealed themselves apt to establish a minimum guess of how many signs are lost to either side.

• The introductory date formula, unfortunately often not preserved, starts the tablet and ideally comprises the year, the reigning king and the name of the month. In the Seleucid period, years are no longer dated according to the reigning king but to the Seleucid era. Still, the king’s name – and very often also the name of his co-ruler, the heir apparent – are usually indicated. A good example is AD-245, 1: MU 1 SU 6-kam 'an-ti-'u-ku-su LUGAL BAR. “Year 66, king Antiochus, month of nisannu.” Or, in case of a co-regency: [MU 1 ME 38-kam 'an-ti-'u-uk-su u 'an]-ti-'u-uk-su A-šú LUGALMES ÚDU₆, “[Year 138, Antiochus and Antiochus, his son (being) kings, month of tašritu.” Of course also this relatively fixed formula is subject to minor variation.

Closey related to this date formula is the summary formula. This formula always starts in a new line, and is generally found at the end of the tablet (hence, on the reverse) and on the edges (often left or upper edge) or on both. It is in fact by no means uncommon to find more than one summary on a tablet. The standard formula in Achaemenid times reads: EN.NUN (or, occasionally: na-šar) šá gi-né-e TA x EN TIL y MU Z.KAM (civil name of the king) (‘ár-šú or ‘u-ma-kuš or ‘ár-ta-šá-ta) šá (royal name) (‘ár-tak-šat-su or ‘da-ri-ia-muš) LUGAL MU-sú na-bu-ú (or: SAᵢ-ú); “Diary from month x until the end of month y, year z of king (civil name) who is called (royal name).” One can therefore calculate that about 25 signs are contained in such a summary, however, one has to account for the fact that minor variations occur. For example, sometimes the part stating “who is called (royal name)” is omitted. It also has to be taken into consideration that often not all available space, especially on the edges, was made use of. The part EN.NUN (or: na-šar) šá gi-né-e TA x EN TIL y MU Z.KAM remains the same in the Hellenistic period, followed by the king’s name, and often the name of the co-ruler, as was the case in the date formula.

• Also the price quotations (see ADART I, 34) are a useful means of restoring the minimum amount of signs missing on a given tablet. A standard price quotation

429 The determinativum ITU for month is omitted by the scribe in this instance.
reads ITU BI KILLAM ŠE (variant: še-im) [...]. ZÜ (variants: ZÜ.LUM and ZÜ.LUM.MA) ... kās ... SAH (variant: sah-še10) ... ŠE.GIŠ.Ī (variant: ŠE.GIŠ) ... SIKHI.A ... ma-na (seldom only ma) a-na 1 GIN KÛ.BABBAR ep-šu. The main problem of this approach is that prices are often given not only once, but several times in one month, this holds true especially for the later period. Also, the basic commodities could be written differently (e.g. ŠE or še-im for barley:), and the heavy price fluctuations means that it is sometimes impossible to establish which units (kurru, pānu, sūtu, qū) were actually recorded on the tablet. Occasionally, a produce can be “cut off” from the market or is specified as “new” (GIBIL) or “of good quality” (babbanû). However, as most of these variations increase the amount of signs, 30-35 signs can be safely assumed as required minimum for a complete price section.

- In the summary of the planetary constellations (see ADART I, 25-26), it was recorded in which zodiacal sign the planets Jupiter, Venus, Mercury, Saturn and Mars – normally in this sequence – were visible. What renders an exact estimate concerning the number of signs lost in this section more difficult is the fact that within one month planets can wander from one star sign to another; also, instead of the position in a star sign also the first or last appearance of a planet could be recorded.
ADART I: 1. Diaries of the Late Achaemenid period

Year 392/1 BC = Artaxerxes II year 13

AD -391: Month XII₂
Museum number: BM 47735 (= 81-11-3,440)
Previous editions: ADART I, 66-69 and plate 8
Commentary: Koch 1991/2, 107-109

Description of the tablet:

The tablet is 7.2 cm long as measured at the upper edge, and 1.2 cm high at the left edge, but 4 cm at the right edge. Its thickness is around 1.9 cm at the upper edge, increasing to 2.8 cm at the broken lower edge. The fragment constituted the upper right corner of a tablet. In the first line, the regnal year and the birth name of the reigning king Artaxerxes II – Arses, normally rendered ṣa-ra-tak-šat-su in cuneiform – are lacking in the date formula, which starts with the royal name ṣa-ra-tak-šat-su. We therefore assume that six signs (MU 13.KAM ṣa-ra-šú) are missing at the beginning. As hardly ever all available space on the edges was consumed it is likely that even less signs have to be completed in the notice discussed below. The end of this line is complete, as there is some vacant space to the right.

The tablet itself contains the astronomical observations of month XII₂ of the year 13 of Artaxerxes II on the obverse, the reverse is not inscribed. The completely extant colophon on U.E. 1 confirms that this diary was for one month, month XII₂ (U.E. 1), only. This tablet was dated to Artaxerxes II by H. Hunger, and his date was confirmed by J. Koch.⁴³⁰

Date: Art. II 13, XII₂ = 18 March – 16 April 391 BC

Text:
U.E.2: [... ... ...] ḏasal-lú-hi

Commentary:
U.E.2: Asalluhi (also Asarluhhi) is an epithet of Babylon’s principal deity Marduk,⁴³¹ its mention is unique in the Astronomical Diaries. Although Asalluhi is occasionally attested as theophoric element of a personal name (and note further that there was a certain inclination of the scribes for unusual writings in colophons, see Hunger 1968, 4), it is very improbable that in this instance the scribe’s name or, more likely given the position at the very end of the line, the name of his ancestor are to be completed. There is too little space for such a solution.

Interesting in this context is a ‘blessing formula’ found in two texts from Uruk,⁴³² “Saviour is Asarluhhi, the king”, DINGIR DI-mu: ḏasari-lú LUGAL. The determinative DINGIR in AD -391 is definitely preceded by another sign, of which only a few traces are extant. We assume a similar employment of the DN in our tablet. Such formulas are occasionally attested in the Diaries (e.g., ADs -418, -361, -332A), most commonly in the form “At the command of Bēl and Bēltiya, may it be well”, ina a-mat ḏEN u ḏGAŠAN-iá liš-lim). These blessing formulas are usually located on the upper edge, as is the case with the presently discussed Diary.

Year 383/2 BC = Artaxerxes II year 22

⁴³¹ In the creation myth enûma elīš (VI, 101 and 147-150) the name was one of the fifty epithets awarded to Marduk after his victory over Tiamat. See e.g. Black/Green 1992 (s.v. Asarluhhi) and Leick 1991 (s.v. Asarluhhi) for the origin and characteristics of the god Asalluhi.
⁴³² YOS 3, 195 and BIN 1, 91. I owe the references to J. Hackl (Vienna).
Description of the tablet:
The height of the tablet from top to bottom is 11.6 cm, including roughly 2 cm and more completely erased space. The thickness at the right edge of the tablet is less than 2.5 cm, increasing to 3.6 cm at the broken beginning on the left side. In the somewhat better preserved section of month II, the length of a line amounts to about 5 cm maximum, decreasing in the section of the following month to 3.6 cm. The scribe made some use of the space on the edges, of which the right edge contains traces of a colophon. The reverse is slightly more damaged, only a square of 4.5 cm in height and 4 cm in length is extant.

This fragment was the right-hand part of a tablet. The endings of lines are ideally completely preserved. On the obverse we find quotations of months II to IV. As the reverse shows entries for months X and XI, this tablet contained originally a diary of the whole year 22 of Artaxerxes II, or at least excerpts of every month. Consequently, a substantial part of the tablet must be lost. Line 13 should ideally have contained the price indication for wool and the whole summary of the planetary positions.

The months are separated from each other horizontal lines, the historical quotations are found at the end of their respective month’s section. They are very short notices about diseases and damage done to an unknown (building?) structure. The section containing month II is better preserved, the historical note in line 21 starts at the height of the end of the sign ri in line 13.

Date: Art. II 22, II = 17 May – 15 June 382 BC

Text and translation:
13: [(unknown amount of signs) .. .. .. GIG.KA u ri-šu-tu ina KUR MAH (vacat)
[(unknown amount of signs) .. .. .. the ‘mouth disease’ and reddening were strong in
the country.

Date: Art. II 22, III = 16 June – 14 July 382 BC

Text and translation:
21: [.. .. .. .. .. .. .. ..] KÙ.BABBAR EN muh-hi A\textsuperscript{MES} na-qar-u’
[.. .. .. .. .. .. .. ..] (some building structures (with ornamentations made) of ?) silver
were torn down until the (level of the) water.

Commentary:
13: CAD R translates rišûtu as “itch”, AHw as “Rötung”. Both dictionaries agree that the word denominates a skin disease. A more exact identification of this disease as psoriasis or eczema was proposed by Finkel 2000, 152.

21: The reading of qar is marked with a question mark in LBAT, but this reading is seems to be the most likely solution also after collation. The verb naqâru of this enigmatic phrase appears again in AD -140C, 43 with agûru, brickwork, as object and most probably the “people” (LU\textsuperscript{UNMES}), as subject, referring therefore in this later instance to damage done deliberately rather than caused by erosion, which is also a possible interpretation of the verb. According to CAD N, the most common objects of this verb (besides cities) are generally buildings and walls. Another possible reading of line 21 could be that some object was torn down to the water level with some tool made of silver.

This diary dates to the period of the tenacious but ultimately successful campaigns against Evagoras of Salamis on Cyprus, which are explicitly mentioned in the diary AD -381C. Politically, the first quarter or so of the 4th century BC was quite a prosperous time.
for Achaemenid Empire: the Spartan troops under the command of Agesilaus had been expelled already in 394 BC from the Western satrapies in Asia Minor. In the year 387/6 BC the so-called “King’s Peace”, a major diplomatic triumph for Artaxerxes II, was imposed on the Greeks. 386 BC was also the year of the decisive naval victory over Evagoras.

For this reason, it is not easy to find an explanation for the presence of diseases in line 13. Diseases regularly occur in the ADs that report of war, most prominently in AD -273B U.E.1, which attests the presence of the ekkētu-disease during the First Syrian War. Also, in AD -143A 21 rišītu reappears in the context of internal warfare in Babylonia. In combination with what has been said regarding the verb naqāru one is tempted to hypothesize the occurrence of hitherto unattested internal strife of little overall importance in Babylonia.

This diary is particularly valuable for our purposes because we have both an attestation of local unrest (at least according to our interpretation) and extant prices quotations. In fact, the equivalent for kasū stood at exceptionally low of 42 litres per shekel of silver, and also the equivalents of sesame (7.5 litres per shekel) and, less striking, cress (21 litres per shekel) are among the lowest found in the whole corpus of the ADs for the respective commodities. These attestations date from month II, the month which also contains the reference to the occurrence of rišītu. Also barley equivalents are below the average of the Late Achaemenid period in this year (cf. graph 3.2.1), whereas the equivalents of dates and wool do not show any unusual deviation. As was shown in the discussions of prices throughout the thesis, it is indeed expected that not all commodities are affected, and even less to the same extent, by bellicose episodes.

**Year 382/1 BC = Artaxerxes II year 23**

**AD -381A**: Months I and V  
Museum number: BM 34987+35131+35233 (= Sp.II 511+677+800)  
Copies: LBAT 639+670+167  
Previous editions: ADART I, 76-81 and plate 11

**Description of the tablet:**

Three fragments can be attributed to this diary. The height of the join BM 34987+35131 constituting the left hand part of the tablet amounts to ca. 10 cm. BM 35233, which continues BM 34987 to the right, is 4.5 cm high. The length of the join BM 34987+35233 is 7.7 cm, the length of the fragment BM 35131 around 3 cm. The thickness is 2.7 cm on the preserved edges, increasing to 3.5 at the broken right edges of both BM 35233 and 35131. The left edge is not completely preserved, but as the introductory date in line one of BM 34987 is almost completely preserved, the loss on the left hand side should not exceed three signs. The reverse of the join is more badly damaged, with a gap between BM 34987+35233 and a less well preserved left edge.

A date formula is found on both the upper edge and on the reverse of the tablet. Of the latter (i.e. to the right of BM 35233), both the number of years and the king’s name(s) are broken. This means that eleven signs are missing if both names of the king were indicated, as is the case in the first line of this diary. This number is thus a minimal guess for any possible completion, but very likely not all available space was actually used.

The second historical passage of this diary is found in the section for month V on the reverse of BM 35131, the lower part of the join. It is clear from the fact that BM 35233 continues BM 34987 on the right hand side that we have to account for at least 15-20 signs missing in this line (number of signs in the lines of BM 35233 plus considering the fact that BM 35131 is a slimmer piece than its upper part BM 34987). Due to the lack of any

433 Briant 1996, 668.
434 See van der Spek 1998, 240-251 for an appealing chronology of this campaign. On the reign of Artaxerxes II and his external policies see Briant 1996, 634-694 (subchapter XV 3 bears the telling title “Artaxerxes le Victorieux”); see also the positive judgement of Artaxerxes’ rule in Binder 2008, 85-86.
useful information, no more exact computations about how much is actually missing can be made.

**Date:** Art. II 23, I = 08 April – 06 May 382 BC

**Text and translation:**

8: ... . IZI.ŠUB ina KI eri-du10 GÁL . ...
... . A ‘fall of fire’ occurred in the district of Eridu.

**Commentary:**

8: The event in question is found on fragment BM 35233 in the middle of the astronomical section and can therefore be precisely dated to the night before the 15 Nisannu which is the night of 22/23 April 382 BC. The district of Eridu, the central district of Babylon in which the Esangila complex was situated, appears quite frequently in connection with a so-called ‘falls of fire’, which are lightning strokes.435

The terminology of this passage is quite interesting. A miqitti išāti, occasionally also read izišubbû, is as opposed to a birqu not only a thunderbolt, but one which hits the earth and causes a fire. It is a very common expression in omen literature and ranges among (den) „besonders gefürchteten oder häufig auftretenden Vorzeichen“.436 In chapter 2.1.2 it has been established that these lightning strokes were indeed recorded because of their ominous relevance. As regards the meteorological context in this instance, the night is described to have been ‘overcast’, and for the following day rain showers (AN UTAH, ītku) are noted.

**Date:** Art. II 23, V = 3 August – 1 September 382 BC

**Text:**

r3: [...] AGRIG kal[=...[...

r4: [...] U4 4.KAM ina  ḫ[=...[...

**Translation:**

r3: [...] the mašennu [15-20 signs minimum missing]

r4: [...] Day 4, in Bab[yon’ ... ]

**Commentary:**

r3: This line gives the only attestation of the mašennu in the ADs. The title is translated by Tom Boiy as ‘administrator’, but due to the scarcity of the attestation of this title in Hellenistic Babylonia, he could not provide a description of his competences.437 In the slightly earlier Murašû-archive (late 5th century BC), the mašennu was one of the highest officials of the Persian administration, on an intermediary level between the satrap/the princes and the canal managers (ša ana muhhi šīti ša ibr[N or similar). He performed mainly judicial tasks concerning crown land and rentals of canals and is described by Stolper as a “crown agent”.438 Jursa 1995 comes to a similar result concerning the tasks of the mašennu of the Neo-Babylonian and Early Achaemenid periods and his high position in the hierarchy (“ein Beamter überregionaler Bedeutung”).439

**AD -381B: Month III**

Museum number: BM 47725 (= 81-11-3,430)

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435 E.g. AD -370, 10, see table 2.3 for a comprehensive list of lightning strokes in the ADs. For lightning strokes in the vicinity of temples see also the commentary to AD -257B, 5.

436 Maul 1994, 117. on miqitti išāšis in general see 117-156. See also chapter 2.1 for their ominous relevance.


438 Stolper 1985, 45-49.

Description of the tablet:
The maximal length of this fragment is 8.3 cm at the lower end of the obverse (coincidentally the position of the historical note), and its height ranges between 3.4 and 1.8 cm. Its thickness is 2.7 cm in the centre of the lower edge, and slightly thicker at the upper broken edge. BM 47725 is divided in two columns on both obverse and reverse. The historical section containing a notice about a locust invasion concludes the section for month III and is divided from the next entry concerning month IV by means of a horizontal line. The section of month IV extends onto the reverse.

As is clear from H. Hunger’s completions in the astrological section on the reverse, not too many signs can be broken off at the end of column II. Moreover, there is only one sign needed to complete our historical notice, so possibly not all space available was made use of in this instance.

Date: Art. II 23, III = 05 June – 04 July 382 BC

Text and translation:
Col. II 6: ... ITU BI ZI-tut BURU₅ TUR₁ Z[I-α]
... That month, (there was) an invasion of small locusts.

Commentary:
Col. II 6: ADART I, 83 translates ‘a small attack’, probably the sign given as i is read TUR. Although this is quite a plausible solution, we would prefer the TUR referring to the locusts immediately preceding this sign, even more so as in other diaries locusts are often specified with adjectives, e.g. AD -178C, r14 speaks of BURU₅ SIG₇, erbī ṣargītu, green locusts. This interpretation finds additional confirmation in lexical lists which translate the logogram BURU₅.TUR as zīru or zirzirru, ‘dwarf locust’.

This entry is the first attestation of a not infrequently occurring type of event. The assumption that such locust invasions entailed crop destruction and therefore had a price-driving effect is readily at hand. Indeed, there are several instances for which a direct connection between such a locust invasion and high barley prices can be plausibly argued. Unfortunately, however, in the majority of instances the data is inconclusive.

AD -381C: Month XII²
Museum number: BM 33478 (= Rm 4,32)
Copies: Listed as LBAT *162
Previous editions: ADART I, 58-61 and plate 5; van der Spek 1998, 240
Commentary: Koch 1991/2, 101-103

Description of the tablet:
The length of the tablet at the last line of the reverse measures 5.6 cm, the maximum length at the upper edge is 6.8 cm. The tablet is 2.5 cm thick at the left side of the upper edge, the thickness increases to 3.3 cm at the right side of the broken lower edge of the fragment. The extant height does not exceed 1.8 cm. BM 33478 is the uppermost part of the diary for the period VII-XII of Artaxerxes II, year 23. The first five signs of the standard introductory date formula are missing (MU 24.KAM ‘år-) in line 1, which is also the amount of signs missing at the beginning of the lines containing historical information on the reverse. To the right much more must be broken off. The date formula on the upper edge lacks the year and the name(s) of the king, which amounts to 18 signs, if both names

440 See the references in CAD Z (1961) s.v. zīru B (p. 136b) and s.v. zirzirru (p. 137b); cf. also Hurowitz 1993, 590(41).
441 Pirngruber Locusts.
442 The number in ADART I is AD -440. The tablet was re-dated on astronomical grounds by Koch 1991/2 and discussed with the new date already in van der Spek 1998.
are given. This number of signs constitutes a minimum guess as hardly ever all possible space is actually consumed on the edges.

**Date:** Art. II, 23 XII₂ = 26 March – 24 April 381 BC

**Text:**

r4: [ITU BI ... ... KUR sa-la-mi-né-e URU SIG-ú šá KUR ku-up-ru šá ana DÙ ...

r5: [... ... ... ]...su-un-du KUR ia-a-mu-un-ia-am-mu šá LUGAL DÙ-u[š ... ... ...]

**Translation:**

r4: [... ... ...] the land of Salamis, a famous city (!) on Cyprus, who/which to make ...

r5: [... ... ... ]-sundu (GN or PN), land of the Ionian Sea?, which the king mad[e ... ... ...]

**Commentary:**

r4: The (māt) Kupru was listed in neither main dictionary (AHw nor CAD), and nor in RGCT 8. It is identified as Cyprus by van der Spek 1998, 240. Consequently, he considers sa-mi-né-e a scribal error for the city of Salamis. In the light of the historical context and the reference to something designated as ‘Ionian’, his interpretation is highly probable. Nevertheless, it should also be noted that Kupru constitutes a hapax legomenon. The regular Akkadian term for the island of Cyprus is Alashiya, and the Semitic root *kpr (Hebrew kopher, henna) is according to the communis opinio not related to Greek Kupros. Given the Greek cultural dominance over the island during the period in question and the frequent contacts between Greeks and the East, it is tempting to assume that Kupru entered the Akkadian language as a Greek loanword. That Salamis is called simultaneously a land and a city may seem somewhat confusing at first glance, however also the Lycian city Sardis is called a land in AD -273B, r29 and 34, but 20 years it is later designated as city (AD -253 B16).

r5: For the beginning of the line (-su-un-du) no explanation can be offered so far, most probably it is a GN. Ia-a-mu-un-ia-am-mu might be “Ionian sea”, with the final signs ia-am-mu rendering Aramaic יים, ‘sea’. It is tempting to connect this expression to the designation ‘Ionians who live by the sea’ which is frequently encountered in Old-Persian royal inscription. In that case, a reference to the Greeks living in the coastal regions of Asia Minor is the most probable explanation of this word.

The connection of this diary with the campaign of Artaxerxes II against Evagoras of Salamis, or, more precisely with its termination, was established by van der Spek 1998. He also proposed to fill the gap in the beginning of r4 with [ITU BI LUGAL šá], “That month, the king of ...”, which is a possible solution considering the length of the gap. It is equally possible that a Persian official was sent to Cyprus to carry out (ana DÙ) something on behalf of the Great King. As this notice seemingly deals with the end of the conflict, a likely interpretation of this line is the conclusion of a peace treaty, in a restoration ana epēšu šulmu or similar. The DÙ in line four is anyway infinite and in a relative clause and must be followed by a finite verbal form. The second DÙ in line five is more elusive.

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443 Knapp 1996 provides a concise discussion of the terminology; see also Radner 2010, 435-440 for a history of Cyprus in the Neo-Assyrian period, when the island also appears under the name of Ya’ in the inscriptions of Sargon II.

444 See van der Spek 2003, 306 for more instances.


446 This option was, among others, also considered by van der Spek 1998, 241. He refrained from restoration of the line due to the broad range of meanings of the word epēšu (see CAD E s.v. epēšu, 201-225). However, if the interpretation that the end of the war against Evagoras is the events recorded in this diary holds true, then we can exclude almost every other possibility for the given context.
In this instance only the subject, the king, is clear, but because of the many uncertainties in this line (see commentary above) no interpretation can be given. The fact that a region as far away as Cyprus was mentioned in the Diaries, which generally focus on Babylonia, was tentatively explained by Briant by the personal presence of the king on the island in the course of the mentioned events.

The Cypriote king Evagoras was a tributary ally of the Great King. He took part in the latter’s operations against the Spartans, who were a constant factor of unrest until 394 BC, when the Achaemenid fleet guided by the Athenian Konon won a decisive victory near the island of Knidos. Already before this event, Agesilaus, the main driving force behind the Spartan hostilities in Asia Minor since 396 BC, was ordered back to the Peloponnesus. From about 391/90 BC onwards, after the pacification of the Eastern Aegean, Evagoras tried to extend his influence also by means of military action over other cities on the island. In particular, he tried to gain influence over Kition (modern Larnaka). In spite of some successes in the beginning of the conflict, e.g., he was able to win the important Phoenician city of Tyre over to his side, it was exactly before Kition that he was decisively defeated in a sea battle in 386 BC against the Persian navy led by Orontes and Tiribazes. After lengthy negotiations he surrendered, but was still recognized as (tributary) king of Salamis after the conclusion of the war, under the condition of refraining from any expansionist goals. As the control of the island of Cyprus meant also control of the Eastern Mediterranean, this campaign is considered an important victory for Artaxerxes II with regard to his plans of a re-conquest of Egypt. According to Isocrates (Evag. 60), victory was bought dearly: the Great King spent 15,000 talents in the course of this campaign.

Year 379/8 BC = Artaxerxes II year 26

AD -378: Month VIII
Museum number: BM 35195 (= Sp.II 749)
Copies: LBAT 171; SSB I plate 1
Previous editions: ADART I, 90-93 and plate 13; SSB I, 76-79

Description of the tablet:
The maximum length of the tablet amounts to 8.8 cm at lines 8-10 of the obverse. The height of the section for month VIII measures 4.6 cm with additional space of 0.9 cm from the preceding section and even less from the following one. The tablet’s maximum thickness is 2 cm, but there are no traces of the reverse extant. BM 35195 is ideally completely preserved at the left hand edge. As the line discussed here is more broken than the following ones we have to add some 7 signs to catch up to the longest preserved lines. The total loss of signs is substantial: line 12 must have contained almost the complete price section, the ending of which is extant in beginning of line 13. Note also that for barley more than one entry is given in this month.

Date: Art. II 26, VIII = 28 October – 25 November 379 BC

Text and translation:
5: ... 12 LUGAL u DUMU LUGAL šá É r[e-du-tí .. .. .. ..]
... Day 12 (= 08 November 379), the king and the crown prince [... .. .. ..]

447 This is the suggestion by Briant 1996, 1010-1011 by analogy with Chronicles and other Astronomical Diaries, and also referring to Diod. XV 2.1.
448 See Briant 1996, 628-9, against Isocrates’ biased biography of Evagoras. It may be added here that in Evag. 63 in a slip of the tongue also Isocrates speaks explicitly of ‘defection’.
449 His surrender is not mentioned in Isocrates, but confirmed by Diodorus XV 8.2-3.
450 For an exhaustive treatment of the events in question see Briant 1996, 628-629; 666-668 and 671 on Evagoras and 660-664 on Agesilaus. For the campaign against Evagoras see also the account with corrected chronology and important additions concerning the peace negotiations by van der Spek 1998.
Commentary:
5: If the completion šá Š[E] ṭ(e-du-ti) proposed by Hunger/Sachs in ADART I, is correct, then Artaxerxes II took care of settling his succession quite early in his reign, 19 years before his death. The crown prince in this text is in all probability Darius, Artaxerxes’ eldest son. As this diary dates from 379 BC, he can hardly have been 50 years of age at the time of his appointment as crown prince, as is sustained in Plutarch’s Vita of Artaxerxes.452

Note that this entry is not the only remaining line of an historical section, but is squeezed into the astronomical day-by-day observations. For the construction of a whole phrase with object and verb we will need at least five or six signs after ŠE[dišti]. As such insertions into the astronomical sections are mostly just a short phrase (e.g. omen protases, see the commentary to the next diary -375C), it is best to assume not more than the minimum amount if signs required.

Year 376/5 BC = Artaxerxes II year 29

AD -375C: Month XII
Museum number: BM 32333+32420 (= S+ 76-11-17,2065+2154)
Previous editions: ADART I, 98-101 and plate 14

Description of the tablet:
As the reverse side of this join is better preserved it was measured there. The fragment is up to 6.4 cm wide and 3.3 cm high. The thickness of 2.1 cm at the left edge which is not completely preserved increases to 3.3 cm at the broken right edge.

If Hunger’s restoration of line r3 is correct, not more than 2 signs of the beginning of the reverse of BM 32420 can be missing. This is very much in accordance with the curvature of the tablet. The absence of a date formula or similar formulaic sections complicate any estimation about the original length of the tablet, but not much more than the space required for the entry of one day and one night should be taken into consideration as the astronomical account seems to be quite exhaustive.

Date: Art. II, 29 XII = 19 February – 20 March 375 BC

Text and translation:
[That month,] a bitch gave birth and the front feet […]… … … … … …

Commentary:
r2: This is, after the miqitti išāti of AD -381A, the first attestation in our corpus of the omen-related events – short notices which resemble or in the case of AD -373A, r9 even quote verbatim the protases of the omens of the collections šumma ālu and šumma izbu – which occasionally appear in the diaries. This one is placed after the (to the greater part lost) section on prices, i.e. in the position where we would expect an historical section. However, as we have shown in chapter 2.1.2 especially in the earlier period such notes were rather inserted among the day-to-day observations. As regards a motivation for this at first sight odd position we pointed out parallels to similar genres of other, later times such as English medieval chronicles for example, concluding that because of their importance as signs of the divine revealing parts of the future, omens “demanded closer scrutiny than

451 The title ‘Crown price of the Succession House’ (Ē re[du-ti]) was particularly popular in the Neo-Assyrian period – in Esarhaddon’s succession treaty SAA II, 6, Aššurbanipal is regularly designated as DUMU MAN GAL šá ŠĒ US-ti (line 47 et passim) – but occurs occasionally also in later periods. It is still attested in the Seleucid period in chronicle BCHP 5, 8 (see www.livius.org/babylonia.html) dating to the early 3rd century BC, the crown prince in that case was Antiochus I; see van der Spek 2006, 273.

452 Plut. Art. 26, 2. Objections against this statement have already been raised, see most recently Binder 2008, 336 with references to previous literature.
ordinary evidence”.

The importance of these ominous events and their position in the Astronomical Diaries, particularly as potential indicators of a change in Babylonian scientific thought has been more amply discussed in chapter 2.1.

**Year 374/3 BC = Artaxerxes II year 31**

**AD -373A:** Months VII and VIII  
Museum number: BM 36622+37169 (= 80-6-17,352+920)  
Copies: LBAT *233 (=BM 36622)  
Previous editions: ADART I, 100-103 and plate 15

**Description of the tablet:**  
The total height of the tablet amounts to about 7.5 cm, its thickness at the left edge of 2.1 cm increases to 3 cm at the broken right edge. Its length does not exceed 4 cm and decreases in the lower part. Possibly this tablet originally contained a diary of only two months, VII and VIII, both being partly extant. The date formula on the left edge mentions month VIII as the last one of this diary, its end (r14) bears a catch-line mentioning StU GAN (IX). It is clear that this fragment was the upper left part of diary. There is some blank space of 0.8 cm height between the section of month VIII and the catch-line. Thanks to the join, there are no gaps at the left edge of this diary. As there are neither price indications nor a planetary summary extant, it is difficult to estimate how much space is missing to the right.

**Date:** Art. II 31, VII = 3 October – 1 November 374 BC

**Text:**
9:  ₯ina¹ URU pu-lat-ka-tu₄ (traces) [... ...]  
10: E₃MES GUL₃MES [... ...]

**Translation:**
9:  ‘in the town of Pallukkat [... ...]  
10: houses were destroyed. ...

**Commentary:**
9-10: This passage is also in the middle of an astronomical section, which continues immediately after GUL₃MES. The city of Pallukkat (modern day Fallūga) appears only this one time in the diaries, it is not be confused with the canal of the same name and which is attested more frequently for its crucial role in regulating the level of the Euphrates. Why an event seemingly irrelevant to the inhabitants of Babylon such as the destruction of houses in a city of minor importance is noted in the diaries is unclear. The passage is placed into the astronomical section, an occasional feature of these early ADs which has been discussed in chapter 2. It is possible that we are dealing with an event that was rather recorded because of its divinatory significance. The cause of destruction is unclear. The event can be considered in context with the bellicose events narrated in the following diary, but also with the adverse weather conditions mentioned in line 8, which lists GI₃R, GÜ U AN UTAH IM ŞĀR, ‘lightning, thunder, rain shower, gusty wind’.

**Date:** Art. II 31, VIII = 2 November – 1 December 374 BC

**Text and translation:**
r9:  [UR.]KU a-na UR.KU GU₇ [... ...]

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454 RGTC 8 s.v. Pallukattu (245-246). See also Jursa 2004a and 2010, 342. Cf. also below under AD -322.
[A] dog devoured a dog [. . . .]

Commentary:
r9: This diary yields another omen-related event inserted in the astronomical section. There is an obvious relation to an omen of the šumma ālu- series, tablet 46: šumma kalbu kalba ikul ālu šā dannata immar: ‘When a dog eats a dog, this town will see hardship’. This prediction fits very well with the historical context of the following fragment AD -373B which concerns the later months of the same year, giving an account of the abortive campaign into Egypt by Artaxerxes II in 373 BC. Babylonia, maybe due to requisitions to prepare for the campaign, seems to have been struck by a famine so severe that people were forced to sell their own children.455

AD -373B: Month XII
Museum number: BM 34792 (= Sp.II 285)
Copy: LBAT 601
Previous editions: ADART I, 104-107 and plate 15; van der Spek 1998, 251-252

Description of the tablet:
This is again a very thick tablet, measuring 2 cm at the upper edge which increases by well another centimetre towards the broken lower edge. The height amounts to 8.2 cm, the lines on the obverse do not exceed a length of 5 cm. The tablet constituted the upper left corner of a diary, the upper edge is preserved and bears the historical information. The tablet is severely eroded and the script very difficult to read. It was probably a diary for half a year, the obverse gives astronomical information for month VII, and the reverse concludes with month XII.

That substantial parts of this tablet are lacking can be seen from line r18 which must have contained almost the whole section on prices, hence 30-35 signs. As the left edge of the obverse is completely preserved we can estimate how many signs are missing at the beginning of our lines: roughly 8 signs in both cases (note that of U.E.2 is a little more extant). This means that to the right at least 25 signs are missing.

Date: Art. II 31, XII = 28 February – 28 March 373 BC

Text and translation:
r17: [. . . . . . . . . . . . . . . .] šá KÁ.GAL 4XV (traces) [. . . . (unknown amount of signs)]
[. . . . . . . . . . . . . . . .] of the Ištar city-gate [. . . . (unknown amount of signs)]

Commentary:
r17: After the sign ‘15’ for Ištar there is one large vertical wedge followed by two smaller ones, as well as some indistinct traces. This note is inserted at the end of the astronomical section, just before the beginning of the price section. The famous Ištar city-gate is located at the north side of the inner city walls, in the Eastern part of the city.456 It is in close vicinity to the royal palace, which is found on the right hand side when entering the city through this gate. Also the procession road Ay-ibûr-šabû, leading to the Esangila first and then to the bridge over the Euphrates, had its starting point at this gate. The context of this mention is unclear. As it is inserted into the astronomical day-to-day observations, a miqittu išāti is a probable completion. The weather as recorded in the preceding line (GÌR GÙ UM MAH, ‘lightning, much thunder’) suits such an interpretation.

Text:
U.E.1: [. . . . . . . . . . . . . . . . Ú.G]UG ina KUR GAR-an UNMEŠ[SI] [DUMU-MEŠ-ši-na ana KÙ.BABBAR BURME . . (unknown amount of signs)]
U.E.2: [. . . . . . . . . . . . . . . . me mim-ma ši-pir DINGIR-ù-tu GIƎ šá ina EK[. . . . . . (unknown

455 See also chapter 2.1.3 for a closer discussion of this passage.
456 Boiy 2004, 65 provides a convenient map of Hellenistic Babylon (Fig. 3); see 56-58 for a brief summary of pertinent Babylonian topographical texts, based on George 1992.
Translation:

U.E.1: [.. .. .. .. .. .. .. fami]ne occurred in the land. The people [sold their children .. .. .. (unknown amount of signs)]

U.E.2: [.. .. .. .. .. ..] all the divine rites like those in Babylon [.. .. .. (unknown amount of signs)]

U.E.3: (vacat) the royal troops which [.. .. .. (unknown amount of signs)]

U.E.4: [.. .. .. .. .. .. .. ..] year [.. .. .. (unknown amount of signs)]

Commentary:

U.E.1: A major famine with the consequence of people selling their children is also attested in a diary exactly 100 years later, which describes the preparations of a campaign in the First Syrian War. H. Hunger’s completion of this line (ADART I, 107) is based on the wording of this later diary AD -273B (U.E. 1). It is unlikely that the further continuation of AD -273B was the same also in this diary as AD -273B r33 states that ‘purchases were made with copper coins from Ionia’, which is an unlikely scenario before the arrival of the Greeks. It was only during the Seleucid period, and already quite early under this dynasty, that a large increase of the circulation of ‘copper’ (i.e. bronze) coins is attested (see below the discussion of AD -273B).

U.E.2: The meaning of the term šipir ilūti is a bit difficult to explain. One possibility is a reference to some cultic proceedings involving extispicy or similar provoked divinatory procedures. Also a translation ‘divine rites’ is possible, but on the other hand cultic proceedings are normally designated in this corpus by more common and unambiguous terms such as ginû or nēpešu. Thirdly, also an interpretation as ‘divine affliction’ in the sense of a disease beleaguering the country – a notice that appears quite frequently in such circumstances such as warfare – can maybe be taken into consideration. As a matter of fact, diseases were considered as signs of divine anger in Babylonia and often bear a ‘theophoric’ element in their names, most notably under the form of qāt DN, “the hand of DN”.

U.E.3: The presence of the troops of the king in this diary most explicitly establishes a connection to bellicose events, namely the abortive Egyptian campaign of Artaxerxes II of winter 373/2 BC known also from Greek sources.

U.E.4: As U.E.3 begins with an uninscribed space, it represents probably the conclusion of the historical section. U.E.4 is thus best interpreted as catch-line containing the first line of a now lost diary of (the first months of) the following year Artaxerxes II 32.

The context of this diary, the beginning of the ultimately abortive Egyptian campaign in March 373, has already been recognized in the discussion of this diary by van der Spek 1998. The current pharaoh, Nektanebo (30th dynasty) adopted a strategy that had already proven successful for his predecessor against the Persian army under the high command of Pharnabazos: to impede the Persians to take hold of Egypt by simply relying

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457 For a translation as ‘divine message’ see CAD Š III (1992), s.v. šipru 1 (73-74). For the distinction provoked/unprovoked divination see already Bottéro 1974.

458 In our parallel diary AD -273 U.E.1 the country is afflicted by the ekketu-disease. For a translation of šipru in this sense see CAD Š III s.v. šipru VIII.

459 On this kind of diseases see Heeßel 2006.

460 There is some discrepancy between the copy LBAT 601 and the edition in ADART, which indicates by means of brackets a lost beginning. However, collation confirmed that the first extant signs of this line (ŁE.ERIN) are indeed preceded by an empty space.
on the natural defences of the country, in particular by fortifying the arms of the Nile in the
delta region.\textsuperscript{461}

There are also some prices extant on the tablet, but unfortunately only so for dates.
Nonetheless, their pattern is highly interesting. The equivalent amounted to 75 litres per
shekel in month of \textit{tasrītu} (VII), but that amount decreased to 60 litres in the end of the
same month, and in the month of \textit{addaru} (XII) the equivalent was 66 litres. Dates were
thus in this year more expensive in the period immediately after the harvest – a remarkable
result pointing to a strained supply situation due to the presence of royal troops, or a
similar scenario.\textsuperscript{462}

\textbf{Year 373/2 BC = Artaxerxes II year 31}

\textbf{AD -372 A:} Month II

Museum number: BM 32511 (= S+ 76-11-17,2252)+40865 (= 81-4-28,412)
Copy: Listed as LBAT *177 (both pieces already joined)
Previous editions: ADART I, 108-115 and plate 16

\textbf{Description of the tablet:}
The maximum height of the tablet measures 7.8 cm. Its length at the joined part
extends over almost 13 cm, the thickness of 1.8 cm at the upper left corner increases to 3.8
\text{cm} in the right corner of the broken lower edge. BM 40865, which is a badly broken
fragment, is a join to the right upper corner of BM 32511. It constitutes the beginning of a
second column, so the beginning of our relevant line is complete. If the column length
originally was the same as in column I on BM 32511, we have to account for more than 20
signs missing in this passage, under the premise that the historical phrase used up all the
available space. This note is situated on the tablet after the section concerning the river
level, and thus not inserted between the astronomical day-to-day observations. This diary is
one of the few with a colophon, which is partially preserved in column IV on the reverse of
BM 32511.

\textbf{Date:} Art. II, 32 II = 27 April – 24 May 373 BC

\textbf{Text and translation:}
Col. II, 3: \textit{šá} GIR\textsuperscript{5} TUK\textsuperscript{MEŠ} GIM (traces) [. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .]
which have feet like [. . . maximum ~20 signs missing]

\textbf{Commentary:}
Col. II, 3: We are dealing again with an omen-related statement, probably of \textit{šumma ālu}
(and not as one would expect at first glance in \textit{šumma izbu}). In this series there are some
scattered omens referring to the feet of various creatures on tablet 88,\textsuperscript{463} unfortunately,
these are severely damaged and difficult to understand. See also the entry in the following
diary AD -375C, r2 with its reference to the feet of some beast.

\textbf{Text and translation:}
1: [. . . . . .] -ŠEŠ-šū A IDPA-TIN-su
2: [. . . . . .] -ṭur-ma ib-ri
3: [. . . . . .] -U-.GUR-.A-šū 1LÜ-.DINGIR\textsuperscript{MEŠ}

\textsuperscript{461} See Briant 1996, 671-675 on the Egyptian expeditions of this king.
\textsuperscript{462} On wars abroad see the thoughts of van der Spek 2000, 299 and 305-307 (taking as an example the 1st
Syrian War).
\textsuperscript{463} CT 39, 31-33 lines 11 and 12.
Commentary:
1-3: To the left, not too many signs can be lost as can be seen by the completion of some lines of Column I on the obverse of the same tablet by H. Hunger. This is also confirmed by the curvature of the tablet. The šá in line 3 is followed by a Winkelhaken, and a few other less discernible wedges, for which R. van der Spek suggested a reading U.GUR, hence Nergal, which is a likely solution. The name in line 1 is that of the scribe who copied this tablet, the somewhat elusive line 3 probably contained the name of the actual owner (or recipient) of the tablet, who was not necessarily identical with the scribe.

Year 371/0 BC = Artaxerxes II year 34

AD -370: Month V
Museum number: BM 35333 (= Sp.II 907)
Copy: LBAT 181
Previous editions: ADART I, 120-123 and plate 18

Description of the tablet:
This tablet was measured on the reverse due to the better state of conservation. The height is 5.4 cm, and the thickness increases from 2.4 cm on the left edge to more than 3 cm at the broken right edge. The length measures 3.8 cm (obverse: 2.5 cm). As stated in the date formula on the left edge, the tablet originally constituted a diary for the whole year 34 of Artaxerxes II. However, only the left-hand side of the lower central part is extant. The obverse contains parts of months IV and V, and the beginning of the lines are complete. Considering the gaps in the astronomical section, a very substantial part to the right is broken. The safest example is line 4 on the reverse which must have contained almost the whole data on prices (and maybe even the planetary summary). Hence, at least 35 signs and possibly more are broken off.

Date: Art. II 34, V = 2 – 30 August 371 BC

Text and translation:
10: 9 IZI.SUB ina KI eri-du10[.. (unknown amount of signs)]
    Day 9 (= 10 August 371 BC) a fall of fire in Eridu [.. (unknown amount of signs)]

Commentary:
10: As was the case in AD -381A, 8 above, this note concerning a lightning stroke is inserted into the astronomical section, again it occurred in the central district of Eridu. It is curious though that this note appears after the mentioning of the “night of the 17th” in the preceding line. There are several explanations possible. Either the scribe forgot to insert this note at its proper position, or the writing ILIMMU₄ (three small Winkelhaken arranged in a diagonally descending order) for the number nine is erroneous for 21, or, most likely, he simply omitted the Winkelhaken for the number 10 preceding the extant 9 and the lightning occurred thus on the 19th. As to the meteorological background of any of the possible days in question we do not have any information as the tablet is, as mentioned above, substantially broken.

Year 369/8 BC = Artaxerxes II year 35

AD -369: Months I and XII
Museum number: BM 37097+37211 (= 80-6-17,846+964). Previous editions: ADART I, 122-125 and plate 19; van der Spek 1998, 252-253

Description of the tablet:

464 On the structure of colophons see Hunger 1968, 1-14.
This tablet is a join of two badly broken fragments. Especially the obverse is severely damaged. The length of a line measures hardly 3 cm on the obverse, but 5 cm and more on the reverse. The height as measured at the reverse varies between 3.8 and 2.6 cm. The thickness of the tablet was about 3.2 cm measured on the upper broken edge. As the reverse speaks of month XII, the fragment should be the upper part of the original tablet. If our dating of the section on the obverse is correct, we are dealing with a diary that originally contained information of a whole year, which means that a substantial portion of the tablet is lost at the left side. The right edge is completely preserved at the reverse.

**Date:** Art. II 35, I = 26 March – 23 April 370 BC

**Text and translation:**

5: [(unknown amount of signs) .. .. .. I]LLU (erasure) TAR-[i[s .. .. ..]]
   [(unknown amount of signs).. .. .. the high water failed to occur.. .. ..]

**Commentary:**

5: The space designated as ‘erasure’ here seems to bear traces of further signs. There are traces of a horizontal and one vertical wedge after the sign ILLU, and also TAR seems to be preceded by a horizontal wedge.

The obverse contains no useful hint as to which months are in question. The fact that the flood was ‘cut off’, i.e. failed to occur, points to a date early in the year as the flood was expected to take place in spring and thus in the beginning of the Babylonian year.\(^{465}\) In combination with month XII on the reverse we would deal with a diary for a whole year. TAR (parāsu) appears in the Astronomical Diaries usually either with barley (or other commodities) in the price sections or, as in this instance, with ILLU. In the latter case the presumed meaning is that the flood did not take place in this year or, possibly only to a minor extent. Whether such a non-appearance of the spring flood had immediate economic repercussions can be doubted as it will have had hardly any influence on particularly the barley harvest of the ongoing year, which took place roughly at the same time as the annual peak level of the Euphrates was expected.\(^{466}\) More important is David Brown’s observation (2002, 45) that a low peak flood led to an overall low level of the river also during the rest of the year, an influence on the prices of the following year can thus not be excluded.\(^{467}\)

An additional circumstantial argument for dating the obverse of this fragment to month I is the barley equivalent given for this month amounting to 99 litres per shekel of silver, which is the highest equivalent found for the first half of the 4th century BC. Consequently, a date during the harvest season is much more probable than one in the immediate pre-harvest season. On the reverse, in month XII and thus shortly before the next harvest season, the equivalent is notably lower, 60 and 66 litres per shekel.

**Date:** Art. II 35, XII = 14 March – 12 April 369 BC

**Text:**

r8: [.. LUGAL ÉRIN]\(^{46}\) šú id-ke-e-ma ana šal-tu₄ ina KUR Ra-za-un-du
r9: [.. .. ..]-nu-u₄ TA TIL ur-hu SÚ-tú
r10: [.. .. ..] nu [.. ..] a-na

\(^{465}\) See Brown 2002 and especially his Graph 1 depicting the average river level based on the evidence of the Astronomical Diaries. The highest point of the annual flood occurred in the period between the months March and May, hence usually in the last or first month of the Babylonian year.

\(^{466}\) Charles 1988 (3-4 and 13) postulates that a dry period in the weeks before the harvest is even favourable for the ripening process of the crop.

\(^{467}\) In van Leeuwen et al. *Climate*, the level of the Euphrates is used as an indicator of the long-term climatic change occurring between the 3rd and 2nd centuries BC. In a nutshell, it is argued that in the 2nd century BC a more favourable climate as visible in a higher general river level led to a sustained decrease in price of all the commodities recorded in the ADs. For the difficulties involved in attempting to directly relate river level and prices see also Müller 1997/98.
r11: [.....] r.....

Translation:

Translation:
r8: [..... the king] gathered his troops for a battle in the land of Razaundu
r9: [.....] took a rest after the end of a far journey
r10: [.....] x [.....] to

Commentary:

r8: The land of Razaundu was interpreted by van der Spek 1998 as the land of the Cadusians, which he equated with the land of Zaranda known from the inscriptions of Sargon II, located between Lake Urmia and the Caspian Sea. Van der Spek further established a connection between this fragment and the Cadusian campaign fought by Artaxerxes II which he thus dates to 369 BC. His arguments have recently been challenged by C. Binder, who dates the campaign after an analysis of Plutarch’s vita of Artaxerxes and the Greek parallel tradition already to 385/4 BC.468

Note that also the location of Razaunda is not undisputed as there is also a village named Rhazounda in Media somewhere east of Ecbatana. Van der Spek’s main objection of this village being the target of the campaign in AD -369 was that it is too insignificant to be mentioned in the Diaries. On the other hand the actual event described in this Diary is the fact that the king himself mustered the troops for a campaign and probably in Babylon, the ensuing campaign is only secondary.469 The link of the event narrated in the diary to the Cadusian campaign mentioned in the Classical sources is certainly tempting but cannot be ascertained beyond doubt. It is equally possible that a hitherto unknown minor expedition is the subject-matter of this diary.

r9: The nu at the beginning of the line is preceded by the heads of 2 vertical wedges. The signs in the beginning might belong to the verb nahu, thus a translation ‘he took a rest after a long trip’ or likewise is possible. An alternative translation of nahu is ‘to pacify’, which is an equally possible interpretation in the given context. Still, the meaning of the phrase remains somehow elusive.

r11: All that is left of this line are some traces (uni ? followed by a gap and vertical wedge) on the edge.

Year 369/8 BC = Artaxerxes II year 36

AD -368: Month III
Museum number: BM 36832 (= 80-6-17,572)
Previous edition: ADART I, 124-127 and plate 19

Description of the tablet:

On the reverse of this tablet, the lines have a length of approximately 4.8 cm, and about 1 cm less on the obverse. The height of the fragment ranges between 5.7 at the left edge and 4.1 cm on the broken right edge. The thickness at the lower part of the left edge is 1.5 cm, but almost 3 at the right broken edge. The reverse of BM 36832 contains information for months III and IV, the date formula on the left edge states that it was a tablet from month I to [.....], possibly we deal with a diary for four months.

The historical passage appears at the end of the section for month III on the reverse, after the prices and the planetary summary. The left edge of the tablet – i.e. the beginning of our line – is complete. In line 6 we must account for the end of the price section (at least from SikhiA onwards) and the beginning of the planetary summary, including the positions of Jupiter and Venus, hence ca. 15 signs minimum. It is also possible that the
historical section began already in line r7, e.g., with the frequent introduction ITU BI (x), ‘That month, (day x)’.

Date: Art. II 36, III = 11 June – 9 July 369 BC

Text and translation:

r8: \textit{\foreignlanguage{sumer}{LÚGIG.ME AN.TI.LA ina KUR G[ÁL .. .. ..]}}

There was a recovery of sick people in the land [.. .. ..]

Commentary:

r8: AN.TI.LA is translated by Hunger as ‘recovery’. It is probably a nominalised verbal form of Sumerian TI.LA, \textit{balāṭu}, ‘to live’ (courtesy K. Wagensonner, Vienna). \textit{\foreignlanguage{sumer}{GIG.ME AN.TI.LA}} renders thus probably \textit{marṣu uballit}, ‘a healing of sick people’, a phrase also encountered in omen apodoses.\textsuperscript{470} It is interesting to note that, whereas most instances speak of diseases and death in the country, here reference is made to a recovery of sick people. Diseases are often connected to bellicose activities in the ADs, but we do not have any reports on political history for this year. One might hypothesize a successful conclusion of the campaign in the land of Razaunda, subject of the preceding diary as cause of this positive ominous note.

Year 367/6 BC = Artaxerxes II year 38

\textbf{AD -366A BC: Month II}

Museum numbers: BM 32149 (= S+ 76-11-17,1876)+32886 (= 77-11-14,15); 32252 (= S+ 76-11-17,1979); 32529 (= S+ 76-11-17,2271)

Copies: listed as LBAT *183 (BM 32886), *184 (BM 32252), *185 (BM 32529)

Previous editions: ADART I, 128-139 and plates 20-22; van der Spek 1998, 253-255

[\textbf{AD -366B:}\textsuperscript{471} BM 35184 (=Sp. II 737); copy: listed as *186]

Description of the tablet:

The piece of the join that yields historical information is BM 32529. This fragment measures 8.8 cm maximum in height. The remains of column II, which contains the historical information on the obverse side, have a height of 4.3 cm, the length of its lines varies around 4 cm and less. The maximum length of the fragment, including the rest of column I on its left hand side, is 6.7 cm. Its thickness is about 2 cm on the upper edge, 3 cm at the broken left edge (which is the edge that follows the gap to BM 32149+) and 2.6 cm on the broken right edge. There is also a fragmentary price section found at the reverse of this fragment (column III) in the section of month V. The surface of the lower right part of the obverse of this piece is broken off. BM 32522 contains the lowest part of the column II (\textit{inter alia} the price section of month II) but has no historical information.

The length of the lines in column I can be estimated quite safely by means of the completion of the gap between BM 32529 and BM 32149+ (the latter piece constituting the left hand part of the diary, with the left edge completely preserved) in line 9 as proposed by H. Hunger. He arrived at a total line length of 26 signs, eight of which are completed. Provided that the columns were equal in length, we can suppose about 15 missing signs in each line of the historical section, the beginnings of which are complete. A similar number is obtained by estimating the size of the gap of the planetary summary immediately preceding the historical section, which is broken off in line 1 after Jupiter and starts in line 2 with Mars. Also the remnants of the price section of column III on the reverse of the same fragment point to a substantial number of signs broken off. On the other hand, in the

\textsuperscript{470} See Rochberg(-Halton) 1991, 331. AN.TI.LA is clearly not the main verb in this clause, which is the final GÁL (bašû).

\textsuperscript{471} This duplicate, inserted by Hunger in the translation of columns II and III of version A (see ADART I, 128), provides no additional historical information. It does, however, contain the part of the price section for month IV which is not extant on BM 32252.
date formula on the upper edge of BM 32529 only about seven or eight signs of the complete formula\(^{472}\) are lacking but again it has to be said that these formulae on the edges hardly ever make use of the whole space at their disposition. Additionally, lines 9 and 10 are somewhat more damaged.

**Date:** Art. II 38, II = 21 May – 18 June 367 BC

**Text:**
Col. II:

2: ... ITU BI LÚ paq-[du ... ]

3: [LÚ]ERIN-ni LUGAL šal-tu ana lib-bi LÚ-EURIN-ni [DÛME ? ... ]

4: [K]UR-ú šá bi-rît ÍDME DÛME-\(^\text{ME}\)-ma [LÚ ... ]

5: šá bi-rît ÍDME GAZ\(^\text{ME}\) ITU BI BUR\(^\text{ME}\)-ES\(^\text{ME}\) ... ]

6: šá E.SAG.ÍL ina a-\(\text{ma}\) mat LUGAL a-na Ê.Í.G(AL ... ]

7: E\(^\text{ME}\) ITU BI U₄ 19 Lu AGRIG [ ... ]

8: ina šu-šá-an Ki ana mu-ma-'i-ir-ú-tu [ ... ]

9: 25 Tat-tan-nu LÚ-\(\text{GAL}\) um-mu [ ... ]

10: ITU BI LÚ GIG AN.TL[L[A ... ]

**Translation:**

2: ... That month, an appoint[ee ... ]

3: the troops of the king [made?] battle against the troops [ ... ]

4: mountains of ‘Mesopotamia’ (lit. ‘Between the rivers’) they made and the [ ... ]

5: of ‘Mesopotamia’ were killed. That month [ ... ]

6: of the Esangila at command of the king to the bīl [ ... ]

7: were brought out. That month, day 19 (= 7 June), the mašennu [ ... ]

8: in Susa for the office of the satrap [ ... ]

9: Day 25 (=13 June 367 BC), Tattannu, the rāb ummu [ ... ]

10: That month, sick people recover[ed ... ]

**Commentary:**

2: The reading EN of the last sign in this line has been proposed by van der Spek 1998,\(^{473}\) which in the light of the determinative LÚ is a probable solution. Collation showed that the sign is more probably hu/paq, in combination with the preceding determinative LÚ a reference to a paqdu is the most likely completion. This term, meaning ‘appointee, delegate’, is also found in later diaries (e.g. AD -273B) but unfortunately, his tasks are never specified in our corpus. Also references in archival texts from Late Achaemenid and Hellenistic Babylonia do not provide us with clear idea of this official’s competences.\(^{474}\) Moreover, in the Muraššu-archive paqdu is also the regular appellation for the administrators of an estate, the bailiffs.

4/5: The absence of the determinative KUR in both lines of this passage shall not deter us from translating bi-rît nārī as ‘Mesopotamia’ in the sense of the satrapy of the same name encountered in Classical sources. Similarly, ebir nārī, Transpotamia (i.e. Syria), of which it is known for certain that it was a satrapy, lacks the determinative in AD -273B.\(^{475}\) Concerning the region designated by bi-rît nārī, literally meaning – just as the Greek word Mesopotamia – ‘(land) between the rivers’, it is important to note that contrary to modern usage the expression refers to Northern Mesopotamia only. This also coincides with the

\(^{472}\) It is in fact the complete date formula that is given on the left edge on the same tablet and on the reverse in column IV.

\(^{473}\) The sign was not interpreted in ADART I.


\(^{475}\) See e.g. Stolper 1987 and 1995 on Bēlšunu who is designated in the cuneiform documentation as LUNAM e-bir ID, ‘governor (pāhātu) of Transpotamia’. This Bēlšunu is identical with Xenophon’s governor (archōn) of Syria, Belesys.
use of the word in the Classical sources, Mesopotamia being possibly simply a translation of *birīt nārī* or the Aramaic equivalent *byn nrhyn*. The “mountains between the rivers” in line 4 could thus be the hill country of the region which is now called Assyria.

6: Van der Spek 1998, 254 hypothesizes in analogy with AD -187A, r5-18 that ‘precious objects were brought to the royal treasury’ and completes lines 6 with *a-na É [LUGAL]*. Temple property was indeed usually designated as ‘property of the Esangila-temple’, but in both extant parallel instances the genitive marker šā is lacking, the usual designation is NĪG.GA É.SAG.IL. Also, there is clearly much more space available in the lacunae than van der Spek’s minimalist completion seems to assume. Of course, he may be right after all but it is equally possible that an official (e.g. the *satammu šā É.SAG.IL*) was convoked before the king or similar. Given our estimated original length of the lines in the historical section there is quite some space for hypothetical solutions.

7: The *mašennu* was a high royal official, often on an intermediary level between the satraps and the canal inspectors (*ša muhhi sāti IDNN*). For further discussion of this title, see the commentary to AD -381A, r3.

8: The GN Susa refers to Susa in Elam, one of the four Achaemenid capital cities, clearly an apt place to receive a royal decision concerning the administrative personnel of the empire. It is conceivable that the aforementioned *mašennu* was promoted to the office of a satrap. For the title *mumaʾiru* see also the thoughtful remarks of Stolper 2006, 228 and 237.

9: This title of *rab umma* appears also in a few texts from the Murašû-archive. In one instance (BE 9 72), the holder of the title acts as manager of temple estates, and generally appears in control of landed property and even hadrus. The meaning of this title has long been elusive, a use synonymous to *rab ummānī*, chief of the troops, was the most common interpretation. More recently, M. Stolper suggested to derive this title from the word *ummu*, ‘quiver’. In either case we are thus dealing with an essentially military title. From the context of the appearances of the title it is clear that the title designates a provincial official of high status. Tattannu is a very frequent name in the Neo- and Late Babylonian periods, a prominent contemporary example is the paymaster (*bēl minde*) of the brewers of the Ezida temple in Borsippa (known from texts CT 49, 1-4 ), hardly the same person as this rather important official.

10: For *marṣu uballṭ* (AN.TILA), see the comment to AD -368, r8.

According to van der Spek 1998, the first part of this diary (lines 2- 5) deals with the so-called Great Satraps’ Revolt, more precisely with the episode of the revolt of Datames, the satrap of Cappadocia. We know from Polyaeus (VII 21.3) that this Datames,
a high imperial dignitary who was one of the officials in charge of the forces deployed against Egypt in the abortive campaign of 373 BC, crossed the Euphrates and fought against the royal troops. Datames was considered a rebel as early as 368 BC, and so actually precedes the bulk of events that make up the Great Satraps’ revolt in Asia Minor between 366 and 360. He operated mainly in southwest Anatolia, in his own satrapy Cappadocia and in Cilicia. Temporally and locally it is thus not too difficult to link him to the present diary, which speaks in line 2 of a clash between royal troops and troops of an unknown leader, whose name is broken off. Datames’ crossing of the Euphrates has commonly been interpreted as an attempt to defend the Eastern portion of his satrapy against an army led by subordinates of the king. He was subsequently engaged in bellicose episodes with Autophradates, satrap of Lydia, and Mithridates, the son of the former satrap Ariobarzanes, both commissioned by the Great king with the abatement of the rebellion. His death by the hands of Mithridates is usually dated to 361.

Against the interpretation of this diary in connection with Datames doubts have been raised. In fact, there is no external proof to verify van der Spek’s thesis. But unless we want to assume an event unknown to the Classical sources, it is difficult to see who else of the insurgent satraps could be brought in connection to this diary considering the point in time and the region.

More important for our purpose than the identification of the rebel of this diary is the general nature of these revolts. The older position relied largely on Diodor XV 90, a list of various officials and peoples allegedly having joined forces to fight imperial power. Thus, these events were thought to have been a well-organized attempt of a coup d’état against Artaxerxes II, combining the forces of several satraps and illustrious officials, above all Ariobarzanes and Orontes, as well as those of the defectors in Egypt under their king Tachos and of the ambitious Spartans. This view gave way to a now generally accepted thesis of M. Weiskopf of a series of interrelated local revolts and power struggles between these officials themselves in Asia Minor which hardly posed a threat to the empire itself and which were not directed primarily against the king. Following Weiskopf’s approach, any repercussions of this episode in the Babylonian price data are very unlikely. The markets not being integrated, local uprisings in Asia Minor will hardly have had an impact on the economy in Babylonia. On the other hand, especially in combination with the following diary which also reports an episode of unrest and strife, one may conclude that the events mentioned were not altogether insignificant, at least from a political point of view. AD -366A does not contain much price information, and those prices which are extant are not significantly above the mean of the Late Achaemenid period.

Year 363/2 BC = Artaxerxes II year 38

AD -362: Month unclear (but after month VIII)
Museum number: BM 36742+37478.
Previous editions: Hunger/van der Spek 2006

Description of the tablet:

The joining of these two pieces was carried out already by Abraham Sachs in 1957. The tablet was not included in ADART I as it could not be dated at the time of its

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482 On Datames and his highly interesting (and much debated) coinage see most recently Wiesehöfer 2003.
485 Briant 2001 93-94 (especially as regards methodological aspects).
486 It is the same Orontes whom we have already encountered in the discussion to AD -381C and who concluded the peace treaty with Evagoras of Salamis. After this episode he was made satrap of Armenia but later, having lost royal favour, was demoted to a lesser position in Western Asia Minor (Mysia). For his career see most exhaustively Weiskopf 1989, 69-91 and van der Spek 1998, 248-251.
487 See Weiskopf 1989 on the nature of this revolt, with previous literature. He was followed in the main e.g. by Briant 1996, 675-694 (note especially his elucidating remarks on the definition of rebel on 680-681) and Binder 2008, 330. See Briant 1996, 1017-1020 for a discussion of the literature, including dissenting voices.
publication. The loss at the beginning of BM 37478 can easily be estimated by the introductory date and amounts to about 5 signs (MU 42.KAM 1 ár-), the loss at the left hand side was estimated by the original editors to be ca. 15 signs. As the reverse of BM 37478, which the left-hand piece of the tablet, is completely lost, we also have to add the average number of signs this piece contains on the obverse to our completion of the historical section, about five more signs at the beginning of the lines. The length of a line on the reverse measures around 4.8 cm and on the better preserved obverse up to almost 7 cm. The thickness of the fragments at the broken upper edge is about 3 cm but only 2.5 on the preserved lower edge, and the height of the inscribed section on the reverse ranges between 1.7 and 2.7 cm. For an extensive philological commentary consult the original edition Hunger/van der Spek 2006.

**Date:** Art. II, 42, after VIII = between 29 November 363 and 27 March 362 BC

**Text:**

```
<table>
<thead>
<tr>
<th>Line</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>r1</td>
<td>[..............] [..............] [..............]</td>
</tr>
<tr>
<td>r2</td>
<td>[..............] DU[MU]šu[u] ER[IN] [..............]</td>
</tr>
<tr>
<td>r3</td>
<td>[..............] ina APIN (VIII) a-na [..............]</td>
</tr>
<tr>
<td>r4</td>
<td>[..............] ana IM šu-pal IM ŠUB[...] [..............]</td>
</tr>
<tr>
<td>r5</td>
<td>[..............] TI-ú DUMU LUGAL šá a-na ma-aš-šar-[ú] [..............]</td>
</tr>
<tr>
<td>r6</td>
<td>[..............] [BAD]šú-nu GAR-&lt;hu&gt; [..............]</td>
</tr>
<tr>
<td>r7</td>
<td>[..............] ina muh-hi KUR-[ú] [..............]</td>
</tr>
<tr>
<td>r8</td>
<td>[..............] ŠUI-su-nu ik-ta-šad URU GAZ[...] [..............]</td>
</tr>
<tr>
<td>r11</td>
<td>[ŠUI]G I-dEN DUMU šá IMU-dEN DUMU mušezi-[bu]</td>
</tr>
</tbody>
</table>
```

**Translation:**

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r1: [..............] [..............] [..............]  
r2: [..............] [..............] [..............]  
r3: [..............] [..............] [..............]  
r4: [..............] ‘above the wind’ and ‘below the wind’ (= upstream and downstream) they encamped [..............]  
r5: [..............] they took. The son of the king, who to the guard [..............]  
r6: [..............] their defeat he brought about; their booty [they plundered] [..............]  
r7: [..............] the troops of] the king which for battle in/to the mountains [..............]  
r8: [..............] they conquered. The town they captured [..............]  
r11: [..............] Hand of Mušallim-Bēl, son of Iddin-Bēl, descendant of Mušezib
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**Commentary:**

r3: It does not occur often that diaries narrate events that happened before the actual recorded time. According to Hunger/van der Spek 2006 13-14, this event involving the city of Sippar was a kind of prelude for the (bellicose) events to follow. A parallel for such a reference to earlier events with obvious impact on ongoing affairs is provided by AD - 273B (r34-38).

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488 Hunger/van der Spek 2006, 2. Their estimate is based on analogy with other tablets.
r8: Note the singular form *iktašad* for the verb pertaining to ŠU II. The dualis-sign seems to be in this period an integral component of the logogram rather than of grammatical value.

It is not clear whose sons are talked about in these lines. One possibility considered by the first editors of this fragment was that this tablet describes an episode of the struggle for the succession of the aged Artaxerxes II (who in any case was to rule for another three years after these events), and that the sons mentioned in line r2 were hence the sons of the reigning king. It is very tempting to interpret this AD as recounting the events that led to the downfall and execution of his eldest son Darius, but again this hypothesis cannot be proven. It is in any case probable that the son of the king in line 5 is Ochus, the heir apparent, who later ascended to the throne as Artaxerxes III. He is also elsewhere found in military tasks performing duties for his father. A connection to the Great Satraps’ Revolt (see above, AD -366) – in form of a campaign into the Mesopotamian heartland of Datames, or similar – is according to what has been said above is not very likely, especially when considering the date of the events described here.

It is interesting to note that the Astronomical Diaries of the 360s BC give a picture of constant unrest and upheavals in various regions of the Achaemenid Empire. The events described in cuneiform sources however cannot be convincingly connected to the events elsewhere in the empire, mainly the Great Satraps’ revolt as described by Diodorus and others in Asia Minor, although the connection between AD -366 and the campaign of Datames into Northern Mesopotamia is at least not unlikely. This also reflects a certain lack of interest of Greek authors for events beyond the Taurus in the heartland of the Achaemenid Empire, which appears only marginally in most accounts.

Whatever the magnitude of the individual events, it cannot be excluded that they contributed to the low equivalents (i.e. high prices) in this period for almost all commodities. However, if so, the empire recovered fairly well over the decades to come. The subsequent diaries, unfortunately at almost 20 years distance, have significantly higher equivalents for all commodities and contradict hypotheses of an Achaemenid empire in steady decline.

**Year 347/6 BC = Artaxerxes III year 12**

**AD -346:** Month IX, XI and XII
Museum numbers: BM 46229 (= SH 81-7-6,691 and 82-7-4,83+98+113)  
Copy: Listed as LBAT *189  
Previous publication: ADART I, 143-153 and plates 23-25

**Description of the tablet:**
This is an almost completely preserved diary for months IX to XII from year 12 of Artaxerxes III, consisting of 4 pieces. Its height is 18 cm, the length is around 16.3 cm, and its thickness slightly exceeds 2 cm in the centre of upper and lower edge. Unfortunately, the tablet is severely damaged before and after an elusive historical passage. At least five or six additional signs fit into the gap before the historical notice, and about 15 signs are required to arrive at the right edge of the tablet (It is of course not certain that the historical note occupied the whole remainder of the line).

At the reverse, the beginning of line r15 is complete. The first sign is preceded by uninscribed space, and the line itself is squeezed in between line 14 and the horizontal line separating the historical passage from the section for the following month XII. Lines 13 and 14 are badly damaged, and the tablet is severely eroded in this part especially on the left hand side. At the end of the lines, not more than 2-3 signs should be missing, as the edges of the preceding lines with the astronomical sections are completely extant.

**Date:** Art. III 12, IX = 3 December 347 – 1 January 346 BC

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490 Hunger/van der Spek 2006, 12.
**Text and translation:**
14: [ITU BI ..] x x man-nu ṭ URIKI a-na (traces) [. . . . . . . . . . . . . . . . . . . . ]
   [That month .. ..] x x was/were appointed. <From> Babylonia to [. . . . . . . . .. .. .. .. .. .. .. ..]

**Commentary:**
14: *mannu*, ‘who’, does not make sense at this point. A tempting but problematic option is to assume a form of *manû* in the D-stem, best translated as ‘to appoint’ in the corpus of the ADs and frequently occurring in this meaning in the diaries of the Parthian period. This solution would suit the content of the following section, where similar official procedures are recorded, but is difficult to reconcile with the GN Babylonia immediately following. To assume a scribal error, such an omission of a TA, is not an elegant solution.

**Date:** Art. III, 12, XI = 31 January – 1 March 346 BC

**Text:**

r13: ... ITU BI ŠI 7.KAM LÚ NUN LÚ mu-lu-u’-x- x-

r14: [KUR UR] KI ṭ INIM ṭ LUGAL’ x x GAR-an-ma ana EKI Ki [KU4-ma x x] TA EKI ana šu-šá-an KI È ITU BI U₄[+x.KAM]

r15: (blank) ši-piš-tu₄ ša LUGAL ana UGU [ ... ]

**Translation:**

r13: That month, the prince, the *mu-lu-u’*-official
r14: [of Babylonia], at the command of the king he placed and [entered] Babylon. From Babylon he went out to Susa. That month, day 10 [+n ]

r15: A royal letter concerning/to [ ... ]

**Commentary:**
13: ‘*mu-lu-u’* is an elusive hapax legomenon. CAD M (194b) informs us that *mulitu*, *lordship*, a word that occasionally appears in royal inscriptions, is a late learned loanword derived from the Emesal-form MULU which in Sumerian means *LÚ*, ‘man’.

r14: The central part of the tablet has become rather illegible, and even H. Hunger’s reading is hardly visible anymore. The travel to Susa might be interpreted, as was the case in AD -366A, as official journey to the royal court of some administrator. *Šakānu* has a wide range of meanings, from diseases that occur to sacrifices that are established. As the content of this line is very vague, no completion can be offered.

r15: This is the only attestation of a šipištu ša šarrī, a royal message in Achaemenid times. Notices of that kind became more frequent in the later Seleucid and Parthian periods, when the Diaries often contain reports of official messages of kings. These communications were frequently read out aloud in the theatre (bīt tāmarti) to the Greek community and in the ‘house of deliberation’ (bīt milki) to the Babylonians. Most of these are concerned with appointments of officials and similar administrative measures, which suits our interpretation of the preceding line very well.

**Date:** Art. III 12, XII = 2 – 30 March 346 BC

**Text and translation:**

r30: ... 27, 28, 29 BURU₅ HI.A Z[I-a] . ...
   Days 27, 28, 29, locusts attac[ked]. ...

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491 Also, one would rather expect a writing with long final vowel, thus x-man-nu-ú or similar.
492 On the identification of the bīt tāmarti with the Greek theatre in Babylon see van der Spek 2001. The interaction of the Seleucid and Parthian kings with the local dignitaries in Babylon is more fully discussed in Sciandra, Correspondence.
r33: ... ITU BI [IL]LU TAR-íš MU BI [BUR]U₄ še-im sa-ma-nu TAG
That month, the flood failed to occur. That year, the barley harvest was affected by rust.

Commentary:
r30+33: Both locusts and the absence of the spring flood have already been discussed (AD -381B and AD -369). The price pattern in this diary points to a major economic impact of this locust invasion slightly before harvest time and maybe aggravated by parasites. Samānu is tentatively identified by the CAD S as ‘an ergot-like blight, causing spots on grain and having a poisonous effect on those who eat the grain’ (s.v. samānu A, 112).

Year 344/3 BC = Artaxerxes III year 15

AD -343: Month XI
Museum number: BM 36729 (= 80-6-17,462)
Previous edition: ADART I, 152-157 and plate 25

Description of the tablet:
The obverse of the fragments ends with month XI, the reverse begins with the continuation of the same month. As the ADs are usually symmetrically arranged, recording the same number of months on obverse and reverse, it is probable that this diary recorded events for an uneven number (three or five) of months, although an irregular arrangement cannot be excluded with absolute certainty. The tablet’s maximum width amounts to 6 cm, but the lines in the historical section measure hardly 4 cm. The tablet’s total height measures around 9 cm. Its thickness at the preserved part of the right edge is about 2 cm and almost 3 cm at the broken left edge.

Very unusually, the historical notice is inserted at the beginning of the observations for month XI, which is broken on both sides. The right edge is extant in the preceding section of month X, the difference in length with the part recording month XI amounts to about five signs. The commodity price observations of month X recorded in lines 8 and 9 provide us also with an indication of how many signs are missing on the left in the historical section. The beginning of line 9 must have contained at the very least ten additional signs to contain all expected information, namely the prices of barley, dates, and kasû. The fact that line 10 should have contained the constellations of Jupiter, Venus, Saturn and Mars points to even more missing signs. It is thus possible that more than one monthly price was indicated for barley and/or dates.

Date: Art. III 15, XI = 27 January – 25 February 343 BC

Text:
12: [......] GÁL GE₆ BI ŠU₄ GAŠAN É ū dₓ [......]
13: [......] ina É DINGIRₘₑ₅ u ina É NIG.<GA> DINGIR 2 GU₄ [......]

Translation:
12: [......] it was. That night, the hands of Bēlet bīti and of the god DN [......]
13: [......] in the temples and in the temple storehouses, 2 oxen [......]

Commentary:
12: Considering the continuation in the following line which reports of sacrifices carried out, this line probably contains a reference to some nocturnal ritual action. The goddess Bēlet bīti is not attested in ritual texts from the late period (for which see Linssen 2005).

493 Pirngruber Locusts discusses the economic impact of this and other locust invasions on the barley price.
Alternatively, the reference to the ‘hand’ of a god may of course also denote the outbreak of a(n epidemic) disease.\(^{494}\)

13: It is not certain whether \(\text{É DINGIR}^{\text{MEŠ}}\) is to be translated in the plural as in ADART I, 155 (for which one would rather expect \(\text{É}^{\text{MEŠ}} \text{DINGIR}^{\text{MEŠ}}\)) or in the singular.\(^{495}\) The word reappears in AD -168A r19, referring to the temple judges (\(\text{DI.KUD}^{\text{MEŠ}} \text{šá} \text{É DINGIR}^{\text{MEŠ}}\)) and thus apparently denoting the singular. The present line is difficult to interpret. To our mind, a contraposition between ‘house of the God’ (\(\text{É} \text{šá} \text{DINGIR}\)) and ‘house of the gods’ (\(\text{É} \text{DINGIR}^{\text{MEŠ}}\)) in terms of a deliberate distinction between the temple of Marduk, the city-god of Babylon, and the temples of the other gods, is very unlikely. We are thus rather inclined to read in this line \(\text{É} \text{NÍG.<GA>} \text{DINGIR}, \text{bīt makkuri}\) of the god, and thus interpret this passage as a reference to the storehouse of the temple-complex.

It is a pity that no more historical notices of this year are extant as the campaign starting in winter 343/2 BC finally led to the re-conquest of Egypt after several abortive attempts. This is even more regrettable as according to Diodorus XVI 42.1\(^{496}\) the enrolment for this campaign took place in Babylon. However, the prices in this Diary show no traces of a demand shock. On the contrary, eight minas per shekel is the highest equivalent for wool ever attested in our corpus. Also the other attested equivalents, cress with 90 litres/shekel and sesame with 42\(^{2}\) litres/shekel are in a very high range. As has been observed by van der Spek in his analysis of the possible economic impacts of the war of Antiochus III against Rome, a draining off of silver to pay war expenses (mercenaries etc) and of men for the army may be expected to occasionally have had a deflationary effect, i.e. to lead to higher equivalents.\(^{497}\) Maybe a similar mechanism was at work here. As we know from the passage in Isocrates (Evag. 60) quoted above in the discussion of AD -381C, the Great Kings were willing to pay much silver to ensure the success of their campaigns.

**Year 339/8 BC = Artaxerxes III year 20**

**AD -338:** Month [broken]
Museum numbers: BM 48063+48069
Copy: Listed as LBAT *192
Previous editions: ADART I, 162- 165 and plate 27

**Description of the tablet:**
This fragment is a badly broken two-piece join, the date formulae in line r4 and on the upper edge state that we are dealing with a diary containing information for four months. In the beginning of line r4, at least eight signs of said formula are missing, at the end of the same line about ten. The last visible sign šá following the ‘civil’ name of the king indicates that the complete formula including the throne name was used, which is confirmed by the last signs in U.E.2: MU-šú SA₄-ú. The extant part of the reverse is largely uninscribed. We shall take the missing parts of the date formula in r4 as minimum guess for the length of the preceding lines containing the historical information.

**Date:** Art. III 20, [broken]

**Text and translation:**
r2: [\ldots \ldots \text{KU.BABBAR} \text{qa-lu}-ú i-mu-šú [\ldots \ldots \ldots \ldots \ldots ]
[\ldots \ldots (for one shekel of) refin]e\text{d}’ [silver]. At that time [\ldots \ldots \ldots \ldots ]

\(^{494}\) On this kind of diseases see Heeßel 2006.
\(^{495}\) For such a translation of \(\text{É DINGIR}^{\text{MEŠ}}\) see CAD B (1965), s.v. \text{bītu} 1c 2’ j’ (289).
\(^{496}\) Diodorus erroneously dates the campaign to 350/49 BC, the year in which an abortive attempt for re-conquest took place. See also Briant 1996, 704-706 and 1031.
Commentary:

r2: *Iunušu* is the introduction for the summary of the planetary constellations, and we thus expect the price section to precede. The first extant sign in this line was given as ŞÂM with question mark in ADART I, 165, but this reading is very dubious indeed. All that is extant are 3 vertical wedges crossing a horizontal one. We therefore propose to read this sign as ū, defining the silver mentioned in the price section as being of fine quality. 498 A parallel formulation dating to the same period is provided in, e.g., AD -346, r32: 1 GIN KU.BABBAR qa-lu-ū (also followed by i-nu-šū).

Year 333/2 BC = Darius III year 3

AD -332B: Month VI
Museum number: BM 40099
Copy: Listed as LBAT *195
Previous publications: ADART I, 172-175 and plate 29

Description of the tablet:
The historical information in this diary consists of a short notice concerning the rising of the river level when the Pallukkat– canal was blocked in high summer (Babylonian month VI). The piece is more than 6 cm high and has a maximum length on the reverse of 5 cm. Its thickness is below 2 cm at the lower edge but more than 3.5 cm at the broken upper edge. An estimate of the amount of lost signs is rendered quite difficult by the fact that the date formula on the left edge is divided between 2 lines: in any case a minimum of 4 signs in the beginning [EN.NUN ša gi-] of line 1 of this edge is missing as well as at least three signs in the end [na-bu-ū] of line 2. The gaps between days in the astronomical section also point towards a not very high number of lost signs.

Date: Dar. III 3, VI = 31 August – 29 September 333 BC

Text and translation:
6: .. .. .. ina se-ke-ri šá I pal-lu-ka-[tu4 .. .. ..]
    [.. .. .. when] the Pallukka[tu] canal was blocked .. .. ..

Commentary:

6: Extant references to the blocking of the Pallukkat– canal in the Astronomical Diaries are limited to a short period of not even a decade (AD -332B to AD -324A), roughly the period of Alexander the Great. The river is also mentioned as Pallakopas in Arrian (Anab. VII 21). This canal diverted the waters of the Euphrates to the desert west of Babylon. The location where exactly it branched off the Euphrates is disputed, with the vicinity of Sippar being the most likely solution. 499 The picture that emerges from the account of Arrian and from the notices in the Diaries is that at the time of the spring flood, a sluice gate could be opened in order to divert the water of the Euphrates into this canal, thus preventing inundations detrimental to agriculture. In summer, when the water level was lowering and draught was near, the sluice gate could be closed which led to a rise in the level of Euphrates, or at least prevented an all too low river level. 500 The date of this historical notice concerning the closure of the sluice gate, September, and thus after the summer heat but before the first autumn rains, is exactly as expected. Indeed, according to the preceding line 5, the river level rose contemporarily with the blocking of the Pallukkat.

498 On kaspu qalû see Vargyas 2001, 13–16, see now Jursa 2010, 474-490 on the various qualifications for silver, especially table 53 (474).
500 See Arrian Anab. VII 21.2-4. The existence of sluice gate is confirmed by Nbn. 506. On the average level of the Euphrates, confirming the lowest point in the period between August and September see Brown 2002, especially graph 1.
**Year 331/0 BC = Darius III year 5**

**AD -330A+B: Month VI and VII**

Museum numbers: A: BM 36761; B: 36390


**Description of the tablet:**

The two pieces are clearly part of the same tablet but do not join. According to van der Spek 2003, 297, only half of the original tablet, and possibly less, is preserved. BM 36761, the tablet containing the historical notices, measures 8.5 cm in height. The length of lines amounts to about 6.5 cm on the obverse and up to 7.5 cm on the reverse which due to stronger damage has substantial variation in the length of lines. BM 36390 is the right hand part of the first 13 lines of the obverse and contains a short reference to the famous eclipse of the moon before the battle, and to a miqitti šāti in a district in Babylon. As can be seen by the completions proposed by H. Hunger in ADART I, hardly more than three or four signs are lost at the end of the lines of this tablet. His estimates can by confirmed, as for example the gap between the end of line 10 on BM 36390 and the beginning of line 11 on BM 36761 cannot have been substantial: The night of the 25th is followed by day 25. As maximum number of signs for one line, 40 to 45 signs should be reckoned with according to Hunger’s full completion of line 13. The length of the gap in line 7 between the two tablets can thus be estimated to have amounted to about 15 signs.

**Date:** Dar. III 5, VI = 8 September – 7 October 331 BC

**Text and translation:**

4: ... ina AN.KU₁₀ NAM.USHME u šipt-i ita? [KUR MAH]

... During the eclipse, deaths and plague [were strong] in [the land]

**Commentary:**

4: This line provides additional evidence for the total eclipse of the moon before the battle of Gaugamela also mentioned by Greek authors, for example in Arrian (Anab. III 7, 6) or Q. Curtius (IV 10.1). This eclipse is known to have occurred in the night of the 20/21 September 331 BC and thus in the night of the 14 (month ululu) according to the Babylonian calendar. For Babylonian scholars, there was a close connection between celestial constellations and terrestrial, political events. This eclipse, as is also clear from the events which accompanied it (death and plague) was considered a negative omen for the reigning king Darius III. On the Greek side, on the other hand, the seer Aristander interpreted the same eclipse as being favourable for his king, Alexander.

Šiptu is a most generic word for plague and in other references to diseases in the ADs, their nature is regularly specified (ekketu-disease etc.). The suggested completion is based on parallels in the corpus such as encountered in AD -273B, r33: M[U] BI GIG ekketu ita KUR MAH, ‘That month, the ekketu-disease was strong in the land’.

**Text:**

7: ... GE₆ 18 IZI.ŠUB ina KI ku-mar [.....]KI KU₄-ba ana tar-ši É AG GAL [.....]

8: [GE₆ BI U]R KU IZI KÚ. ...

**Translation:**

7: ... Night of the 18th, a lightning stroke in the district of Kumar [.....]

501 See the discussion in van der Spek 2003, 292-294 and Del Monte 1997, 2.
502 Arrian III 7.6.
503 See also below, the commentary to this line. AD -237B, 12 has a reference to ÚŠMUS MAH, ‘much death’.
..] entered, opposite the Nabû- temple it was [. .. .]

8: [That night, a] dog was consumed by fire. ...

Commentary:
7: The ‘fall of fire’ appears here also in connection with stormy weather, as is evident from the text of the preceding line 6: ‘GÍR G[IR], lightning flas[hed]. The event took place in the night of the 24/25 September. The district of Kumar504 is situated in the Western part of the city. It is also mentioned in diary AD -234A (12) in connection with a lightning stroke. In that later diary, also the temple Enamtila located in the district of Kumar is mentioned (which also in this instance is a possible completion of the beginning of the lacuna).

8: This event again bears similarities to the omen protases of šumma ālu. Its meaning is unknown as no such omen is extant in the series.

Text:
14: ITU BI U₄ 11.KAM hat-tu₄ ina ma-dak-tu₄ ina qud-me LUGAL GAR-m[a [. . . . . . . . . . LÚÉRIN ha-ni-i]
15: ana tar-ṣî LUGAL ŠUB-û <U₄> 24.KAM ina še-ri LUGAL ŠÚ za-qip-t[u₄ [. . . . . . . . . . . . . . . . .]
16: GABA a-ha-meš im-ha-ṣu-ma BAD₅,BAD₅ LÚÉRINMES⁵ kab-t[u₄ GAR(-ma). [. . . . . . . . . . . . . . . . ]
17: LUGAL ERÍNMES⁵-ṣu ū-maš-ṣir-ū-ši-ma ana URUMEȘ⁵-šū-nu [GURMES⁵ [. . . . . . . . . . . . . . . . .]
18: [ana K]UR gu-ti-i ZAH-it-u’ (blank)

Translation:
14: That month, day 11, panic occurred in the camp before the king and [. . . . . . . . . . . . . . . . . . . . . . . . . The troops from the land of Hana]
15: encamped opposite the king. Day 24, in the morning, the king of the world, the standard [. . . . . . . . . . . . . . . . . . . . . . . . . .]
16: they fought each other and a heavy defeat of the troops [they brought about [. . . . . . . . . . . . . . . . . . . . . . . . . .]
17: the king, his troops deserted him, to their towns [they returned? [. . . . . . . . . . . . . . . . . . . . . . . . . .]
18: [to the l]and of the Guti they fled.

Commentary:
14: The panic occurred in the royal camp on 18 September 331 BC and thus some days before the eclipse mentioned in line 4, a connection can thus be excluded. Both Del Monte and van der Spek connect this statement about panic occurring in the camp to Alexander’s crossing of the Tigris on the very same day.505 Interestingly, and paradoxically, Q. Curtius speaks in IV 12.14 about panic that occurred in Alexander’s camp at the sight of Darius’ army.

15: The verb ŠUB in a military context means in the Astronomical Diaries ‘to encamp’.506 With van der Spek 2003 (298) we assume therefore that in the preceding line the troops of Alexander were mentioned. The wording of our completion for this preceding line is carried out in analogy with BCHP 1 (=ABC 8), a chronicle that also gives a short account of a battle involving Greek soldiers and a king Darius.507

Hanean (Hanû), originally referring to the inhabitants of the Syrian town of the same name, became in the Hellenistic period a common designation for people from the West, and more specifically for Macedonians and Greeks. In the same fashion, the ‘land of

505 See Del Monte 1997, 4 and van der Spek 2003, 298. The crossing is described in Curt. IV 9.15-25.
506 See also e.g. AD -273B, r30 and AD -270B, r18.
507 The latest printed edition is van der Spek 2003, 301-310. It is tempting to assume that the battle in the first lines of this text is the battle near Gaugamela, but this hypothesis cannot be ascertained.
Guti’ (line 18) was used as a generic term for the regions east of the Tigris. The use of these particular, archaizing terms has been explained as an influence of the language of divinatory treatises on the Diaries. The title LUGAL ŠÙ, šar kiššati, is a traditional Babylonian title and has not necessarily to be explained as Babylonian translation of the Greek title ‘king of Asia’, especially at such an early date.

A royal standard but of the Persian king (Artaxerxes II, to be precise) is described by Xenophon (Anab. I 10.12), “a kind of golden eagle on a shield, raised aloft upon a pole”. In cuneiform sources, the word zaqiptu occurs predominantly in a cultic context, thus maybe some ritual acts before the actual battle are described in the lacuna.

This line also falsifies Arrian’s (III 7.6-11.3) reckoning that the battle took place ten days after the moon eclipse and places the event with Plutarch in his Vita of Alexander eleven days thereafter.

16: Although dabdû can be construed with mahāšu, in this case, as indicated by the particle -ma, the two words belong to different parts of the phrase. One can assume quite safely a verb šakāmu or similar (i.e. ‘to bring about a defeat’) in the beginning of the lacuna.

17: The particular word order in this phrase: Object (the king) – Subject (his troops) – Verb (abandoned him), is reminiscent of omen language. As regards content, this diary contradicts the account of Arrian (Anab. III 13.3) who stated that the king abandoned his troops rather than the other way around. The versions of Diodorus’ (XVII 60.3) and Curtius’ (IV 15, 28-33) on the other hand are consistent with the account of the diary. The second part of the phrase is obviously referring to the dispersal of Darius’ army after the defeat in battle.

18: As noted above, Gutium stands as general term for the regions to the east of Babylonia, and it is well known that Darius III after the defeat fled towards Media. It is noteworthy that in this line the verb stands in the plural form, indicating that the defeated king was in company. As the army according to the preceding line disbanded after battle, we do not know exactly which persons are talked about now. We tacitly assume that at least a part of the army (high-ranking officials from the Iranian nobility or similar) remained loyal to and fled with its king.

Date: Dar III 5, VII = 8 October – 5 November 331 BC

Text:

508 RGCT 8, s.v. Gutium (143-144) and Hanî (15x). Joannês 1997 (149-152) provides an interesting discussion of the term Hanî. See also van der Spek 2003, 298 and 305.

509 Van der Spek 2003, 298, 305 and 328, similarly Joannès 1997, 151-152. See also the commentary to line 17 of the presently discussed diary below.

510 As has been assumed in the commentary to line 15’ on www.livius.org/babylonia. . A second option considered there, a reading LUGAL-šū, ‘its king (of the land of Hanî)’ is rightly dismissed as quite improbable, especially in the light line 11 on the reverse where LUGAL ŠÙ as title follows immediately the PN Alexander. Also Heller 2010, 360-362 doubts an equation of the Babylonian šar kiššāti and the Greek basileus tēs Asiās; his assumption (presented as fact) that the former title was bestowed upon Alexander by decision of the kiništu of the Esangila is unfounded.

511 CAD (Z) and AHw III, both s.v. zaqiptu. Note that in the Epic of Nabopolassar III 10 (Grayson 1975a, 78-86), the zaqiptu was placed on the king’s head.

Translation:

r2: for 1 shekel of silver

r3: That month, from the 1st to

r4: to Babylon he went (and said) thus: “Esangila

r5: and the Babylonians to/for the property of the Esangila

r6: Day 11, in Sippar an order of A[lexander

r7: [as follows] ‘I shall not enter your houses (or: temples)!’ Day 13,

r8: [the ‘Pure Ga’te’, the outer gate of Esangila and

r9: [Day 14, these Ionians, a bull, (they)

r10: [n] short [ribs], [n] fatty tissues

r11: Alexander, king of the world, en[tered] Babylon

r12: horses and equipment

r13: The [šatammu] and the Babylonians and the people [of the land

r14: [a message to

r15: [as follows: 

Commentary:

r2: This line contains remnants of the now lost section on prices, more precisely its final portion.

r4-5: These lines were tentatively connected by van der Spek 2003 and 2006 with restoration works begun during the reign Alexander at the Esangila-complex and speculatively translated as ‘Esangila will be restored, the Babylonians will give their tithe to the treasury of temple’. AD 168, r14 confirms that the ADs speak occasionally in a somewhat abbreviated form simply of ‘the property (NIG.GA, makkūru) of the temple’ when referring to its treasury, as is also customary in archival documents.

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513 Cf. the commentary to AD -321 (r14) on these renovation works.
514 Stolper 1993 provides several pertinent documents in translation and with commentary.
The actual arrival of Alexander is mentioned in line r14 only, and in line r6 reference is made to some instructions of Alexander in Sippar. This town lies to the north of Babylon, and lies on the road from the battlefield near Gaugamela to that city. Hence, it is fairly clear that Alexander has not yet entered Babylon. In combination with lines r8- r10 one may think that in this diary the terms of surrender and similar preparations made by (Greek) officials in Babylon before the arrival of Alexander are recorded. This hypothesis is consistent with Curtius’ statement (V 1.17) that Mazaeus, the Persian satrap of Babylon met with Alexander before his entering to offer surrender.515

r6-7: On October 18 we find Alexander in Sippar, reassuring the people not to do any harm to their houses, or possibly temples. It is commonly assumed that this message is targeted at the Babylonians516 and was part of the negotiations concerning the surrender of the city. His stay in Sippar is not mentioned by Classical authors, we know from Diódorus (XVII 64.3) only that the first stop on the way to Babylon was Arbela still further north. Day 13 (20th October) might be the day of the arrival of the first Greek officials.

r8: This KÁ.SIKIL.LA, the Pure Gate, also known as bābu kamū, Outer Gate, in the list TIN.TIR = Bābili, was the main entrance to the temple complex of the Esangila and was located at the northern side. It appears – in the corpus of the ADs only in the second century BC (AD -178C, r19 et passim) – also under the name bāb dudê.517 Van der Spek 2003 (299) suggests tentatively to complete šukēnu, ‘to prostrate oneself’, at the end of this line. This verb does in fact appear in similar cultic contexts and usually follows immediately some sacrifices offered.518 In support of his theory, we could assume that in line 7 the types of sacrifices were mentioned,519 and in fact it is known from other attestations that especially nindabû-sacrifices are performed regularly in the entrance gates; cf. the commentary to AD -209D, 16.

r9: The exact difference between the two encountered designations for Greeks in the ADs and chronicles, Hanî, Haneans and Iamanāya, Ionians, is not entirely clear. F. Joannès (1997, 150) tentatively suggested that the former terms designated Greeks from Europe and the latter Greeks from Asia Minor. Another appealing but not unproblematic suggestion interpreted the term Hanî as referring more specifically to Macedonians.520

r10: For the completion of TI, ‘rib’, (upon suggestion of M. Stol) see van der Spek 2003, 299, in his commentary to this line, referring to another text in which TI and the here extant LUGÚD.DA (which is not a very common word) appear together. Heller 2010 (374) put forward the appealing suggestion that a Greek way of sacrificing – the burning of the bones of the sacrificial animal wrapped in its fat – is described in this line.

r11-15: Alexander’s entry into Babylonia is described by both Arrian (III 16.2-5) and Curtius (V 1.17-24) as triumphal procession, for a more balanced picture in terms of an organized reception rather than a spontaneous outbreak of joy see Kuhrt 1990. We know from Classical sources that Alexander sojourned for quite some time in the city, 34 days according to Q. Curtius (V 1.39; more vaguely is Diódorus XVII 64.4, giving ‘more than 30 days’). During that period, he undertook some administrative measures. He confirmed Mazaeus as satrap and appointed Macedonians and Greeks to military and financial

515 See also the analysis of Kuhrt 1990 of these events and especially of the role of the negotiations of terms of surrender in the Babylonian documentation.
516 Already Bernard 1990, 114, followed in this by Del Monte (1997, 5) and van der Spek (2003, 299).
517 Boiy 2004, 60 and 83. His topographical remarks are largely based on George 1992.
518 ADs -187A, r8 and -171B, r7, ABC 11 (BCHP 5), 12. Several of these passages are discussed in Pirngruber 2010.
519 Van der Spek 2003 and 2006 assumes a too small number of signs broken off at the end of line 7 and completes only ‘[Greeks entered]’.
520 Glassner 2004, 514. Somewhat mitigating against this hypothesis is the GN (KUR) Makkadunu (e.g. in BCHP 9) and the nisbah (LÚ) Makkadunāya in V S 66, cf. Joannès 1997, 150. For earlier attestations of Ionians (Iamanāya) and the dynamic developments of this designation in cuneiform texts see Rollinger 2007.
offices. Agathon of Pydna was made head of the citadel whereas Apollodorus of Amphipolis and Menes of Pella were given authority of the forces remaining in the city. As supreme financial administrator, he appointed Asklepiodorus of Pydna. Some of these measures may have been the content of the official letter (šipištu) mentioned in line r14, especially when considering that such letters in the later period often concerned appointments of officials.  

521 See Boiy 2004, 107-108 and Heller 2010, 392-403, both with references.  

522 Sciandra Correspondence, cf. also above the commentary to AD -346 r15.
ADART I: 2. Diaries of the Early Hellenistic period

Year 330/29 BC = Alexander year 7

AD -329B: Month XII
Museum number: BM 45858 (= SH 81-7-6,287)
Previous editions: ADART I, 180-185 and plate 30; Del Monte 1997, 6

Description of the tablet:
The upper part of the fragment seems to be completely preserved. The tablet is dated in its first line to Alexander, king of the lands (LUGAL KUR.KUR), the first eight signs of the formula are not extant. The fragment starts with month IX, the reverse has information for month XII, we thus deal with a diary for four months. The height as measured on the better preserved reverse amounts to 8 cm, the length to 5.6 cm. The tablet is 1.8 cm thick at the upper edge and more than 3 cm at the lower broken edge. The loss at the sides is quite substantial: in the gap between the end of line 14 and the beginning of line 15 almost the whole price section has to be completed. Considering that eight signs are required to arrive at the left edge (as estimated by means of the date formula), we need account for around 15 or more signs that are broken off to the right. The historical information concludes the section of month XII.

Date: Alex. 7, XII = 22 February – 21 March 329 BC

Text and translation:
r2: \[... \ldots \ldots \text{ar}-ba-a-a \text{Dù} \text{ME}_{\ldots \ldots} \]
\[... \ldots \ldots \ldots \ldots \text{the Arabs made} \ldots \ldots \ldots \ldots \ldots \]

Commentary:
r2: Of the sign \text{ar} only a few wedges are extant. As we are in the year 329 BC it is impossible to establish a connection of this fragment with the expedition to Arabia that Alexander allegedly planned shortly before his death (and to which reference might be made in BM 41080, cf. van der Spek 2003, 310-11). We do not know whether Alexander fostered any intentions concerning Arabia before around 323 BC. Incursions of raiding Arabs threatening the region around Babylon are occasionally mentioned in the Diaries, but in general only in the later diaries of the Parthian period, in the last quarter of the 2nd century BC. In absence of convincing explanations, Del Monte (1997, 6) also considers a reference to a village called URU sá \text{ar}-ba-a-a as a possibility.

The price section mentions in line 14 exceptionally the GUR 7 LUGAL, the ‘king’s measure’. This is unique for the corpus of the Astronomical Diaries, but in practice amounts to no difference as also in the royal measure one \text{kurru} contained 180 litres.\footnote{Vargyas 2001, notes 52 (81) and 62 (83).}

Year 329/28 BC = Alexander year 7

AD -328: Months VI and VIII
Museum number: Rm 845+BM 32332+32611 (= S.76-11-17,2064+ 2356).
Copies: LBAT 197 (BM 32332), ZA 6, 232 (Rm 845, copy by Strassmaier)
Previous editions: ADART I, 184-191 and plates 30-31; Del Monte 1997, 7-8

Description of the tablet:
This three-piece join constitutes the lower left-hand side of a diary for four months (V-VIII), with month VII being divided between the obverse and reverse. The amount of missing signs to the right can be established with help of the very extensive price section in lines 23 and 24: The extant adjective GIBIL, new (\text{eššu}), must refer to dates (as month VII
was the harvest period of this commodity), and assuming that for the following products only one price in this month was given and that the price section was complete (i.e. ending with a-na 1 GIN KÙ.BABBAR), we can account for ca. 25 signs that are missing towards the right edge. Also the curvature of the tablet, the thickness of which is below 2 cm at the left edge but 2.8 cm at the broken right edge, points to considerable loss. The maximum length of the join (at fragment BM 32332) is a little more than 9 cm, the total height of the join exceeds 18 cm. The historical note, immediately preceding the final catch-line, is found on the reverse of BM 32611. The length of this piece oscillates around 7 cm.

The date formula on the left edge of this tablet calls Alexander LUGAL šá TA KUR ha-ni-i, ‘the king who is from the land of Hañî’. In the light of the more traditional titles given to Alexander in the earlier Diaries AD -330A and -329B, LUGAL SÛ (šar kiššati), ‘king of the totality’ and LUGAL KUR.KUR (šar mātāte), ‘king of the lands’ respectively, Del Monte assumed that this diary was written by a more conservative scribe who seemingly was not too pleased with the presence of a king from a faraway country and who was eager to keep a critical distance to the new ruler.524

Date: Alex. III, 8, VI = 15 September – 14 October 329 BC

Text and translation:
26: 2 KÙŠ 8 SI ina se-ke-ri šá [ ] pal-lu-kát GI[N ...

(the river level) rose 2 cubits 8 finger when the Pallukkat– canal was blocked.

Commentary:
26: See the commentary to AD -332B for the blocking of the Pallukkat– canal. Also in this instance the canal was blocked in early autumn, the period when the level of the Euphrates was at its lowest.

Date: Alex. III, year 8, VIII = 13 November – 12 December 329 BC

Text:
r23: ITU BI U₄ 13.KAM (25 November 329 BC) ina INIM LUGAL [...

Translation:
r23: That month, day 13, at the command of the king [...

524 Del Monte 1997, 8. Van der Spek 2010, 371 assumes that Alexander was designated in this diary as king of Macedonia because the year numbering was reckoned from his accession in Macedonia and thus started, maybe confusingly for the scribes, with his eighth year in cuneiform documents. The above-quoted earlier instances where Alexander is designated as LUGAL KUR.KUR militate somewhat against this idea. Also during the period of the conflict between Antigonus and Seleucus in Babylonia, scribes had to deal with such (predating) eras, see Boiy 2007, 22-27. Note that Antiochus I in the foundation cylinder of the Ezida-temple from Borsippa (V S 66) is invested with the traditional Babylonian titles, but at the same time his Macedonian origin is mentioned he is the son of king Seleucus the Macedonian (‘Si-lu-uk-ku LUGAL 1 GIN LUGAL 1 GIN ma-ak-ka-du-na-a-a). On this document see Kuhr/Sherwin-White 1991.
r26: the king’s palace they brought to the house. That month I h[...]
r27: the chief of the troops from Susa to the land of Ha[...]

**Commentary:**

r23: The date on which the king (Alexander) gave this order, which is lost in the lacuna, was the 25 November 329 BC.

r24: The Eturkalamma was the temple of Ištar of Babylon, also called Bēlet-Bābili. This temple was actually a part of the Esangila complex. T. Boiy’s assumption that the garden mentioned in the present Diary might be identical to the so-called juniper garden known from other sources seems to find confirmation in the later diary AD -168A according to which a treasury (‘the old storehouse’) is located exactly in this juniper garden (r19).

r25: Hepi indicates that this tablet is a later copy of a damaged original and that by the time this copy was made the remainder of the line was no longer legible.

r26: For leqû construed with ana GN in the meaning ‘to bring to’ see CAD L (1973) s.v. leqû 1b. Also Alteme, ‘I heard’, indicates that the events that follow (and maybe including the content of line 27) did not happen in Babylonia and that the scribe had only indirect knowledge of them. A parallel is provided by AD -273B, where Alteme introduces events that took place in Asia Minor, in Sardes.

r27: The rab kišrī, a military official, is only this one time attested in our corpus. His tasks have to remain elusive, and neither can he be identified with certainty with a person known from the Graeco-Roman sources. According to Arrian (Anab. III 16.9), Mazarus, one of Alexander’s hetairoi was appointed as citadel commander in Susa, but Q. Curtius, whose version is preferred in modern scholarship gives this commander’s name as Xenophilus. The latter is still attested in Susa several years later, in 317/6 BC, during the war between Eumenes and Antigonus Monophthalmus and he can thus hardly have been the commander sent to Macedonia in the present instance.

The first part of this historical note seems to describe administrative provisions involving movement of goods, the nature of which is unfortunately lost. This course of events has a parallel in AD -168A r18-20. In the present instance, objects that maybe were no longer of immediate use were brought out from the palace into a storehouse in the Juniper garden.

The context of the second part of the passage might be a return of veterans from a garrison in Susa to Macedonia. The dismissal of the Greek troops from Alexander’s army in Persepolis had happened considerably earlier in spring 330 and is thus difficult to reconcile with this passage. At the time of this notice, in December 329, Alexander and his troops were in their winter camp in Bactria. In Bactria and Sogdiana he had found tenacious resistance and the natives organized under Spitamenes were to keep him busy for...
another campaigning year. In this line, and especially in the date formula, a reading of Hanî as referring to Macedonia proper is certainly tempting.

Regarding the price section, it is interesting to note that in this diary two different prices are given for regular (or old?) and new dates, the equivalent of latter being considerably higher: in the middle of the month, one could acquire for one shekel of silver 51 litres of dates, but 78 litres of new dates. This finding is not surprising because dates had to be dried to be stored, and consequently their caloric value per litre – a capacity measure – was higher due to the loss of water.532

Year 325/4 BC = Alexander year 12

AD -324A: Month I and VI
Museum numbers: BM 35024+35064+35632+35087+35618+45955 (= Sp.II 551+597+625+ Sp.III 129+144+ SH.81-7-6,394)
Copies: LBAT 198 (BM 35024), 199 (BM 35064) and 200 (BM 35632)
Previous editions: ADART I, 190-195, 202-204 and plate 32; Del Monte 1997, 9-10

Description of the tablet:
The tablet is a join of six smaller fragments, arriving at a maximum length of 18 cm with a height ranging between only 4 and 7.5 cm. This join constitutes the upper right part of the original tablet, upper and right edges are partly extant. The thickness at the upper edge measures 2.7 cm and exceeds 3 cm at the broken lower edge. The very fragmentary historical note is found on piece BM 35087, the lowest part of the join. To the right substantially less signs are broken off. As some of the preceding lines are complete, we know that some eight to ten signs have to be accounted for. Note additionally that in the preceding astronomical section the scribe made ample use of the space on the right edge. To arrive at the left edge of the tablet, as is it can be reconstructed by means of line 1 containing the introductory date formula (on BM 35024), we have to account for at least 35 signs in our line (approximate number of sign in line 1 which ends at the height of the šá-sign of the historical note). The length of the gap in line r13 can be calculated in a similar fashion.

Date: Alexander 12, I = 7 April – 5 May 325 BC

Text and translation:
[.......................... .......................... .......................... .......................... ..........................] was reached. The Greeks [... .............................]

Commentary:
15: e-man-a-a is a Hellenistic variant for the more common ia-man-a-a, Greek. Another attestation of this particular spelling is found in ABC 13a, r5. Kašādu readily lends itself to speculation. The fragment dates to the period when Alexander and his army were on their way southwards towards the Indian ocean (326/5 BC), an interpretation as reference to the mutiny at the Hyphasis and the subsequent reversal from this easternmost point of the campaign is very tempting. The mutiny, in which the tired and worn-out Greek and Macedonian veterans expressed their reluctance to cross the Hyphasis-river and move on still further to the East, occurred in summer 326 BC. This is admittedly quite a long period before this diary but it will have taken quite some time for the news to arrive at Babylon. That the note refers to the arrival at the point where the Indus river flows into the ocean is chronologically not possible.

Date: Alexander 12, VI = 1 – 30 September 325 BC

532 See Földvári et al. 2011, 173.
Text and translation:

r13: ... IL[LU ... 25 ... ]pal-lu-kát LAL ...
[... ... The 25th,] (the level of the) Pallukkat receded. ...

Commentary:
r13: This passage is found on BM 35618. As the section continues with TA 26 EN TIL ITU, ‘from the 26th to the end of the month’, it is certain that the event described happened on day 25 of the Babylonian month ulūlu (25 September 325 BC); days six to 24 are thus in all likelihood treated in the same line before the substantial gap preceding this quotation. The receding of the Pallukkat in September can be connected with its blocking described in ADs -332B, 6 and -328, 26, which likewise date to early autumn.

Line r15, the last line of this diary, contains as catch-line the first indications for month VII of the same year, the summary of content on the upper edge states that the present tablet was the diary from month I to the end of month VI. Line 15 furthermore contains a colophon with remains of a PN, [-...]-Bēl, son of Mušallim-Bēl. Colophons are exceptional features in the corpus of the Astronomical Diaries, and this one is very interesting indeed. The scribe of AD -324 was namely the brother of the scribe of AD -321, Bēl-apla-iddina, son of Mušallim-Bēl, from the Mušēzib-clan. These Mušēzib were a well known family of astronomers and are attested in this profession from the Late Achaemenid to the Parthian period. This colophon is one of the very few scraps of information we have about the identity of the scribes of the ADs.

AD -324B: Months II, IV and V
Museum number: BM 34794+34919+34990+35071+35329 (= Sp.II 287+434+514+607+902+904)
Copies: LBAT 201- 205 (in the order given above)
Previous publications: ADART I, 194-201 and plate 33; Del Monte 1997, 10-11.

Description of the tablet:
Thanks to the join, the total length of the tablet can be established, 17.8 cm from the left edge to the right. The maximum height of the fragment amounts to 10.7 cm, the thickness in the centre of its lower edge measures 2.7 cm but at the broken upper edge up to almost 3.5 cm.

Date: Alexander 12, II = 6 May – 4 June 325 BC

Text and translation:
10: [... ITU BI] x MAH IZI GU7 ... [... That month,] many/a great x were/was consumed by a fire. ...

Commentary:
10: This passage is found on BM 34990, the far right piece of this join. To fill the gap between this piece and BM 35329, which is located on the far left side, we have to account for about 20 signs. As this observation is less a proper historical section than one of the

533 Cf. the commentary to this line for more information.
534 On the basis of the parallel attestations in ADs -332 and -328, a completion ina se-ke-ri and hence a translation ‘when/because the Pallukkat– canal was blocked’ should not be dismissed too easily. However, in that case, a sinking of the river level of the Euphrates is an unlikely consequence. Alternatively, it is also possible that after a particularly hot summer little water was left to be diverted into the Pallukkat, and hence the closure of the sluice gate proved to be an inefficient means of stabilizing the river level of the Euphrates.
535 Van der Spek 1985, 548-555 and 2003, 333. Also the scribe of Late Achaemenid diary AD -362 was of the same family, see Hunger/van der Spek 2006, 15. See Robson 2008, 223-225 (Table 8.1) for an overview of known scholarly tablets from this clan.
short omen-related events inserted into the astronomical day-to-day observations, it is perhaps best not to assume too many signs missing to complete this note. As to its content, nothing more can be stated than its similarity to AD -330A, 8, where a dog was consumed by fire.

**Text:**
12: [...] ITU BI K]I.LAM še-e u KI.LAM mim-ma gab-bi
13: EN U₄ 5 ina SILA₈E E₉₄ TAR-is

**Translation:**
12: [That month,] the sale of barley and of everything else
13: was 'cut off' in the streets of Babylon until the 5th. ...

**Commentary:**
12-13: The line in question is found on BMs 34990 (line 12) and 35329 (line 13). Line 13 continues afterwards with the equivalent of barley in the month in question, ayyaru. The notice of sales being ‘cut off” is occasionally found in the Diaries. The hypothesis of A. Slotsky that this formulation designated deliberate market shutdowns as means to combat shortages has been subjected to substantial criticism and we agree with the interpretation of van der Spek/Mandemakers 2003 that in these occasions supply was so meagre that there was hardly any market activity. In the present instance, some kind of shortage immediately before the arrival of the new harvest, which normally should have taken place in this month, seems the most plausible explanation. Additionally, the mismanagement of Alexander’s financial administrator Harpalus might have aggravated the situation.

The price pattern recorded in this diary is interesting. Even for the period of the sales being ‘cut off’ an (unusually low) equivalent of 9 litres per shekel of silver is given, with the arrival of the new harvest, on the 6th and 7th (11 and 12 May 325 BC) one could acquire already more than 24 litres per shekel. This quotation is followed by a gap, in the middle of the month then 36 litres of barley were given for one shekel and in the end of the month 48. In the following months, the equivalent oscillates between 40 and 50 litres per shekel. This is generally a very low level when compared to the preceding years, but prices were not as high as in the following decades, when Babylonia suffered from continuous warfare between the Successors, in particular Seleucus and Antigonus the One-Eyed.

Among mimma gabbi, also dates seem to have been included. In the middle of the month 36 litres and 42 litres in the end of the month were given per shekel of silver. These are again pretty low values. An explanation might be that due to the barley shortage, a higher demand for dates drove up prices, and of course also here the impact of Harpalus’ machinations might have played a role.

**Date:** Alexander 12, IV = 4 July – 2 August 325 BC

**Text:**
r6: ... 19 ÚZ Ú.TU-ŋa
r7: pa-a-ga u GESTU₄₈ nu-nu TUK UZU.DIR ab-bu-tu ina SAG.DU-šú GAR-in

**Translation:**
r6: ... (Day) 19, a she-goat gave birth and (the young one)
r7: had the jaw and the ears of a fish, on its head were a fungus and a lock like that of a slave. ...

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536 Slotsky 1997 (especially 28); cf. the review van der Spek/Mandemakers 2003.
538 As barley and dates were complementary commodities, the supply situation of the one also affected prices of the other, see Vargyas 1997.
Commentary:

r7: págu was identified as ‘(lower) jaw’ by M. Stol (oral communication), it is not found in the dictionaries. This omen-related event reporting the birth of an izbu, is found on fragment BM 35329. Its meaning is elusive. Collation showed that it is possible to read DIR instead of KAL (as ADART I, 198), UZU.DIR meaning kamūnu, a fungus. This word appears frequently in omen literature and also in connection with monstrous births, cf. CAD K (1971) s.v. kamūnu B, a.

Date: Alex. III, year 12, V = 3 – 31 August 325 BC

Text and translation:

r23: 

Commentary:

r23: This passage appears on BM 34919. To arrive at the left edge of the tablet, we must account for at least 15 signs and for about 20 or more to arrive at the right edge. Crowns of gods, important insignia of power, also appear in the diaries AD -277C (the crowns of Bēl and Nabû) and -171B, unfortunately always in broken context. The AGA-crown is thought to originally have been the ‘basic circlet, the ‘diadem’ that can be worn either alone, together with, or as part of (rim) the MEN-crown.’

Year 323/2 BC = Philip Arridaeus year 1

AD -322B: Month II
Museum number: BM 45962 (= SH.81-7-6,403)
Copy: LBAT 209
Previous editions: ADART I, 204 and 207 and plate 34; Del Monte 1997, 11.

Description of the tablet:

The piece in question is a small fragment of which only the obverse is inscribed. How much is lacking can be established with the help of lines 9 and 10. In the gap between these lines, the last signs of the price section, starting with SÍK HI.A, and the beginning of the summary of planetary constellations (Jupiter, Saturn and Venus are missing) have to be accounted for. Loss was thus substantial, but the historical notice was inserted into the astronomical information and is complete.

Date: P.A. 1, II = 14 May – 11 June 323 BC

Text and translation:

8:     ... 29 LUGAL NAMMES. ...
     ... Day 29, the king died. ...

11: 

Commentary:

8: This line contains the famous note of Alexander’s death in Babylon, inserted into the astronomical section. It confirms the exact date of his death on June 10/11 323 BC.

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539 It occurs also in line 8 of the Diary ‘Fragment on messengers from the politai’ preliminarily published at http://www.livius.org/babylonia.html.
540 Asher-Greve 1995/96, especially 184-186 (quote from 186). She also notes that AGA and MEN were used indistinctly already from the Old Babylonian period onwards (185). On crowns in general see also Unger, 1938.
probably on the 11\textsuperscript{th} as the evening of the 10\textsuperscript{th} should have been designated as GE\textsubscript{6} 29, “night of the 29\textsuperscript{th}”. This date seems to be confirmed by Classical authors.\textsuperscript{541} Unfortunately, this Diary contains no additional evidence on the circumstances of Alexander’s death, already subject of wild speculations in antiquity. This passage is also often referred to in order to point out the sober and emotionless style of the diaries,\textsuperscript{542} but note that in another instance (AD -181 r7-14) the death of queen Laodice and the arrival of this news in Babylon is reported in a more exhaustive manner, describing also the wailing and mourning that took place in this occasion.

11: The gate in this line was earlier interpreted as Bēl city-gate (KÁ.GAL dEN) and equated with the Marduk city-gate,\textsuperscript{543} which is situated at the eastern part of the walls and together with the gate of Zababa one of the two possibilities to enter the city from the East, leading into the city quarter of Kullab. Considering that KÁ dEN constitutes a \textit{hapax legomenon} – all other instances (AD -140C, 43 and -132C, 26) give expressly Marduk-gate (KÁ dAMAR.UTU) – we cannot exclude that the gate in this passage is actually the ENAMEL city-gate: KÁ.GAL dEN[LIL], which is situated in the western half of the city at the northern part of walls.\textsuperscript{544} This solution would do away with the unusual writing. Due to the lacuna, the general context of this passage remains elusive.

\textbf{AD -322D:} Month IX
Museum number: Rm. 792+BM 32240+32430+32489 (= S+ 76-11-17,1967+2165+2226)
Copies: Listed as LBAT *210 (BM 32240) and *211 (BM 32430)
Previous editions: ADART I, 209-219 and plates 35-36; Del Monte 1997, 11-12

\textbf{Description of the tablet:}
Quite a large part is extant of this diary. The join has a height of almost 19.5 cm, and in the lower part its length amounts to 15.5 cm. The thickness of the tablet is between 2 and 2.5 cm at the right edge, the maximum thickness at the broken left edge is 3.5 cm. How much of the tablet is broken off in the beginning of this join can be quite easily estimated as the upper part of the tablet is completely preserved: 12 signs are missing in order to establish a complete date formula in line 1 according to H. Hunger. To the right, the loss is even smaller as can be seen from the price indications and planetary constellation in lines 19-21 and 37-39. Overall, this tablet is in a very bad state of preservation.

\textbf{Date:} P. A. 1, IX = 8 December 323 – 5 January 322 BC

\textbf{Text and translation:
}\texttt{4: }\ldots [ITU BI U₄ 4\textsuperscript{7} U₃ Ú.TU-m[a \ldots \ldots SAG].DU u GÚ 3 pu-uq-qu 3 dir-\ldots \ldots lu 6 \ldots \ldots] 3 \ldots \ldots \ldots 
\ldots [\text{That month day } x \text{, an ewe gave birth and (the newborn had)} \ldots \ldots] 3 \text{ heads and necks and } 3 \text{ buttocks, } 6 \ldots \ldots] 3 \ldots \ldots \ldots]

\textbf{Commentary:
}\texttt{4:} As line 3 gives an exhaustive report of the events of the night of the 4\textsuperscript{th}, the day in question is probably 4 \textit{kislimu}, corresponding to 11 December 323 BC. Again, an ominous event of the \textit{izbu} type is reported, but its meaning is unclear.

\textbf{Text and translation:
}\texttt{22: }[\ldots \ldots \ldots] \times \times \times \times \times TA LÚERÍN[dES-šū áš-šū šal-tu₄ ana muh-hi] LÚERÍN ha-ni-i a-}

\textsuperscript{541} See the discussion in Boiy 2004, 115-117. The date of Alexander’s death as given here was first established by L. Depuydt 1997.
\textsuperscript{542} E.g. in Del Monte 1997, 11.
\textsuperscript{543} Boiy 2004, 79.
\textsuperscript{544} There is a ‘Gate of Bēlos’ in Herodotus’ description of Babylon (III 155 and 158), but the trustworthiness of his account has been show to be very limited; see most prominently Rollinger 1993.
na KUR ba-a[h]-šar G[IN ... ... ]

[... ... ...] x x x x x x with התי his troops in order to fight (lit.: because of the battle) against the troops of Hanî he w[ent] to the land of Bactria [... ... ...]

**Commentary:**

22: As stated above, the surface of this tablet is badly damaged and the beginning of the line illegible. The space below this line is uninscribed, but maybe this notice was completed at the (now broken) left edge. Del Monte (1997, 12) interpreted the Sumerogram TA as Akkadian *itti*, which is a possible but very rare reading of this logogram and not attested in the corpus of the ADs. A possible reading of this line is ‘[the general with so-and-so many soldiers] from his troops went towards Bactria in order to fight the Hanean troops’, parallel to a formulation found in ABC 8 (=BCHP 1), 5: [...] ERIN TA É.RIN[EŠ ... ... ...], ‘his few troops from the troops’.

This passage was connected by P. Bernard with the rebellion in Bactria of Greek and Macedonian colonists eager to return to their fatherland after the death of Alexander. Peithon, the satrap of Media was sent out against them by Perdiccas with substantial troops. The rebellion was crushed easily and the Macedonians were massacred to a man (against the will of Peithon who wanted to attach them to own his troops). Obviously, the immediate crushing of this rebellion was considered an urgency as the troops departed in full winter from Babylon. The ‘Babylonocentricity’ of the Diaries is reflected in the fact that rather than the outcome of the battle the departure of the troops from Babylon is recorded.

**Year 322/1 BC = Philip Arrhidaeus year 2**

**AD -321:** Month V
Museum number: BM 34093 (= Sp. 192+544)+ 35758 (= Sp.III 281)
Copies: LBAT 212+213
Previous editions: ADART I, 220-229 and plates 37-38; Del Monte 1997, 13-17

**Description of the tablet:**

Diary for the first half of the second year of Philipp III Arrhidaeus, the first and last two months of which are extant in different states of preservation. Hence, more than a third of the tablet is broken off. The remains still have a length of up to 17 cm and a height of 12.5 cm maximum. The thickness amounts to almost 3 cm at the upper edge and to almost 4 cm at the broken lower edge. The lines which contain historical information have suffered some damage in their left half and are therefore incomplete. Also the last part of these lines are broken off, but the as two fully extant lines on the reverse (r23 and r24) contain about 12 signs more (including three completed by Hunger in each line), we have a good indication as to how many signs are lacking in the historical notice.

**Date:** P.A. 2, V = 31 July – 29 August 322 BC

**Text:**

r13: ITU BI TA 6 EN 20 I[LLU] ½ KÜŠ š-[DA] x g[i]-š-ri šá bit-qu šá DA
É.GIS.HUR.AN.KI GIN TA [15? [... ... ... ... ... ...]]
r14: š-[DA] É.GIS.HUR [...]-šir SAHAR š-[DA] É.SAG.GIL a<-na> BAL.RI
"UTU.SU id-de-ku-ú [... ... ... ... ... ... ]

**Translation:**

545 See CAD I (1960) s.v. *itti* (302), according to which the writing with TA occurs “rarely, due to confusion with *išš*”.


r13: That month, from the 6th to the 20th, the river level rose by ½ cubit [at/near] the bridge next to the sluice of the Elišhuranki. From the 15th [ ... ... ... ... ]

r14: next to the temple Elišhuran[ki ... ].. The debris of the Esangila was removed to the west bank [ ... ... ... ... ]

Commentary:

r13: The Elišhuranki, the temple of Bēlet-Ninua, the Lady of Nineveh, can unfortunately not be located precisely within the city. It is known from written records that it was situated somewhere in the quarter of Bāb-Lugalīrā in the north-western corner of the city, and hence on the west bank of the Euphrates. This temple appears once more in the Diaries as bit Bēlet- Ninua in AD -170H (cf. the commentary). From the context of the Diary under discussion it seems to emerge that the temple was situated directly at the river, and was equipped with a sluice. It is tempting to assume that it was also equipped with some kind of measuring device, as the present notice is inserted into the section dealing with the river level. Unfortunately, the lacunae on this tablet do not allow deeper insights.

r14: The historical note of this diary is but an extended record of the river level containing a brief remark on the renovation work. As there are no traces after the last sign ǔ, we assume that not all available space was made use of in this line. The removing of the debris is a frequently recurring theme in the ADs, in particular during the last quarter of the 4th century BC and refers to renovation works in the temple precinct carried out at the order of the king. These restoration works have already been alluded to in the discussion of AD -330, r4-5. They are also mentioned by Arrian (Anab. III 16.4) and confirmed by a different kind of cuneiform documentation. Administrative documents, tithe receipts such as CT 49 5 and 6 specify that it were the Babylonians themselves who by means of tithe payments had to come up for these restorations. They thus cannot be interpreted as cases of euergetia or similar. An important observation concerning the economic importance of these payments was made by van der Spek 2006 (the so far most exhaustive account of the renovation works of Alexander and later Seleucid kings) who showed that these tithe payments amounting to 55 shekels of silver on average were substantial enough to maintain 15 workers for one month, even in this period of high prices.

We already mentioned that these works were initiated by Alexander (both CT 49 5 and 6 date from his 8th year) and, as is shown by this passage, continued by his successors. An interesting group of texts mentioning temple renovation works but also other cultic matters date from the reign of Antiochus I and especially the period when he resided as co-regent of the eastern provinces invested with the royal title in the city of Babylon. Among the texts, BCHP 6 mentioning the use of elephants and wagons for the clearing works stands out. For a comprehensive list of pertinent documents confirming the continuity of such renovation works, with most of them alluding to the removal of debris, we refer to Del Monte 1997, 16-17 and 160-161. The last attestations date to the early first century BC.

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548 See George 1992, 223, 324-325 and the map Fig. 4 (24), George 1993, 95 (number 409), and Boiy 2004, 91.
549 Note the differing account of Arrian (Anab.) in III 16.5. However, in VII 17.4 he himself gives a slightly different picture of the restoration works as source of disaffection on part of the priests.
550 Van der Spek 2006, 266-275, especially 271.
551 Also the only surviving royal inscription of the Seleucid period from Babylonia dates to the reign of Antiochus I, more precisely 268 BC. The chronicle BCHP 6 was preliminary published in van der Spek 2006 (294-296), the same article contains more information on the activities of Antiochus I. BCHP 4 also shows Antiochus acting as crown prince, performing sacrifices to the moon-god Sin (van der Spek 2006, 290-294).
552 Among the documents are administrative and accounting documents as well as chronicles and other Astronomical Diaries. CT 49, 5 and 6 are published with translation in Del Monte 1997, 14-16. See also Boiy 2004, 110-112 and van der Spek 2006, 269-272. On the history of Etemenanki see also George 2005/06, especially 91-92, who interprets the passages on the removing of the debris as gradual ablating of the dilapidating temple tower rather than actual renovation works.
The river level in the diaries, from at least -294 onwards was measured in a very standardized manner according to the na-gauge. However, the level of the Euphrates had been of interest to the compilers of the diaries already before that date but was usually recorded without a fixed starting point. AD-384 (r4) reads e.g. ‘[.. .. .. .. until the end of the month, the river level rose 20 fingers’. The sluice of the Egišhuranki might have been one of the points where the level was measured. What is surprising in this passage is that the river rose contrary to all expectations in high summer (August). The astrological section does not report of any rainfalls in that month, and one might hypothesize that this rise was caused by the blocking of the Pallukkat– canal or similar mechanisms to regulate the flow of the Euphrates.

Also extant on this tablet is a colophon in the last lines of the reverse, the scribe’s name was Bēl-apla-iddina, son of Mušallim-Bēl, descendant of Mušēzib, who wrote the tablet “for his good health” (ana TIN ZI-šu). The importance of the Mušēzib-family was already explained above (AD -324A). Bēl-apla-iddina was tentatively identified by van der Spek (2003, 333) with the astronomer Belephantes mentioned in Diodorus (XVII 112). In his account, Belephantes was the leader of a group of Chaldeans who tried to urge Alexander the Great not to enter Babylon as this would have dire consequences – the king’s death, according to their interpretation of the stellar constellations.

Year 310/09 BC = Alexander IV year 7, Seleucus being general

AD-309: Month V
Museum number: BM 40591 (= 81-4-28,136)
Copy: Listed as LBAT *215
Previous editions: ADART I, 228-233 and plate 39; Del Monte 1997, 17-21

Description of the tablet:
This severely damaged tablet is 8.5 cm high, and its length varies between 5.5 and 6 cm. Its thickness measures 2.5 cm at the upper edge and 3.4 cm at the broken lower edge. As the upper part of the diary is completely preserved, we can be sure it started with month V. The only month extant on the reverse is VIII, so again we deal with a diary for four months (V-VIII). To complete the date formula in line 1 (taking the wording of the completely extant date formula in the following diary AD -308 as guide) we have to account for more than 20 signs to the left. This number is feasible considering the curvature of the tablet, as the thickness at the centre of the broken left edge exceeds 3 cm, pointing to substantial loss. How much is broken off to the right is difficult to ascertain. As the tablet is considerably thicker on the broken left edge, we assume that less is broken off at the right side. This tablet has quite a particular price section (see below), which is not apt to be used for the purpose of estimating the lacuna. The date formula on the upper edge is almost completely extant in its right hand part.

Date: Alexander IV 7, V (Seleucus being general) = 17 August – 15 September 310 BC

Text and translation:
9:   ... : hat-tu₄ ina K[U][R GA]R-an. ...
9:   ... : Panic occurred in the land. ...
12:  [..... .......... .....] ina piš-ki TI-qi ka-si 1 G]UR sah-[l][e₁₀ ................. .....
12:  [..... .......... ..... ] he took illegally; kasû: 1 kurru; cre[ss ................. .....
14:  [..... .......... .....] the troops of Antigonus [made] battle in the to[wn of .. .. .. .. .. .. ..

Commentary:
9: As the text continues with the night of the 25th, the panic mentioned in the text occurred probably on 24 Abu (which is the afternoon of 9 September 310 BC). It was caused most likely the military operations of the troops of Antigonus Monophthalmus mentioned below in line 14. The occurrence of panic in the land during bellicose events appears quite frequently in the Diaries, e.g. the abovementioned (AD -330 r14) panic among the Persian troops before the battle of Gaugamela, or also in AD -144 r22 in connection with an invasion of the Elamite king Kamnaskires. The present observation, unlike its parallels, is inserted into the astronomical section.

12: This enigmatic notice is part of the price section. Note that barley and dates are combined in the preceding line 11: še-im u ZÚ [... ... ...]. Before that entry, the price of a commodity, or possibly of both dates and barley, is extant. We maybe can expect a note of these products of being ‘cut off’ from the market at a certain point in the present month. The formulation ‘he took illegally’ points to requisitions at the order of Seleucus, geared at the sustenance of his army (and the inhabitants of the city) in a period when Antigonus was trying to re-conquer the satrapy. Considering the date of these events (September), it is not unlikely that the fighting mentioned did great harm to the date harvest about to be brought in.

14: Although his supporters were driven out of the city of Babylon by Seleucus in spring 311 BC, Antigonus did not give up his claims to the city. In the present instance, he is operating in a town probably somewhere in Babylonia, the name of which is unfortunately broken. It is known that throughout the period of his wars against Seleucus, Antiochus disposed of stronger support in southern Babylonia. In cities such as Uruk and Larsa, his name appears in the date formulae employed in contemporary legal documents continuously in the period between 317/6 and 22 August 309 BC.554

The date formula shows clearly that Seleucus was in 310 accepted as ruler in Babylon, he is designated as LÚGAL.ERÍNMEŠ (rab uqāni), the Babylonian rendering of the Greek stratēgos, of the city.555 The two notes in lines 11 and 14 of this tablet refer to events that are part of the continuous warfare in the early Hellenistic period. As their chronology has been highly disputed in the past, we shall give a brief outline of the events here.556 Seleucus’ return to Babylon after Antigonus had been defeated in the battle of Gaza (autumn 312 BC) is to be dated to spring 311 BC, he is attested in cuneiform documents from May 311 onwards.557 At that time, soldiers loyal to Antigonus were still offering resistance to Seleucus and occupied the citadel of the town for an unknown period. Seleucus subsequently enjoyed military success and defeated Nicanor, the satrap of Media, who was an ally of Antigonus, and even annexed this satrap’s territory. Seleucus was however excluded from the so-called ‘Peace of the Satraps’ in autumn 311 BC which divided the remnants of Alexander’s territory among the leading generals Ptolemy, Lysimachus, Antigonus and Cassander. The ensuing war between Antigonus and his son Demetrius against Seleucus for the mastery of Asia lasted at least until summer 309 BC. In spite of some initial successes – Demetrius was able to capture the deserted city of Babylon except for the citadel (Diodorus XIX 100.5-7) – Seleucus ultimately had the better ending for himself.

553 The economic impact of the war of the successors is discussed e.g. in chapters 3.3 and 5.2; see also van der Spek 2000, 299-305.
554 Joannès 2006, 107 and 132. The dating according to Antigonus does not necessarily reflect a recognition of his power but could have come about in ‘absence d’informations fiables sur l’autorité légitime du pays’ (107) in these troubled years.
555 For the equation rab uqāni= stratēgos see already Oelsner 1974, 130(5). On the value of these date formulae in attempts to establish a chronology of this period see Oelsner 1974 as well as Boiy 2000, 2001, 2002 and 2007. See also the thoughts of Del Monte 1997, 17-21 on this subject.
556 The following is based on Boiy 2004, 125-134, with a refined chronology in Boiy 2007.
557 BM 22022, quoted after Boiy 2004, 126.
About the exact circumstances of Seleucus’ final victory we hardly possess any information. Diodorus (XIX 100.7) has Demetrius appointing one of his officials, Archelaus, as *stratēgos epi tēs poliorkias* before returning to the Mediterranean with the siege of Babylon still going on. The ‘Chronicle of the Successors’ BCHP 3 (=ABC 10) records as last event a battle between Antigonus and Seleucus on 10 August 10 309 BC before it breaks off. The information given on this chronicle especially on its reverse is very much in line with the Diary presently discussed. Although fragmentary, numerous references are made to military operations and battles between Antigonus and Seleucus. Line 37 (dealing with year 309 BC) also speaks of ‘weeping and mourning (*bikīt u sipdu*) in the country’. Even more striking, this chronicle also reports on r14-15 battles in the same month V of year 7 Alexander IV to which the historical section of AD -309 dates.

**Year 309/08 BC = Alexander IV year 8, Seleucus being general**

**AD -308:** Month VI  
Museum number: BM 40078 (= 81-2-1.42)+ 40105 (= 81-2-1.70)  
Copy: Listed as LBAT *216  
Previous publications: ADART I, 232-239 and plate 40; Del Monte 1997, 22

**Description of the tablet:**  
Diary for the first six months of year 8 of Alexander IV, months III and IV are completely broken off. The historical information on this tablet is scarce, we only hear about an invasion of locusts. The tablet measures in height up to more than 12.5 cm in the joined section and around 9 cm on BM 40078. Its length is about 11 cm (slightly more on the reverse) and its thickness at the centre of the lower edge 2.7 cm and 1 cm more at the broken upper edge.

**Date:** Alexander IV 8, VI = 4 September – 3 October 309 BC

**Text and translation:**

r11: ... 16 BURU₅ TUR ZI-a ...  
... Day 16, small locusts attacked. ...

**Commentary:**  
On locust invasions see the commentary to AD -381B (equally mentioning small locusts) and Pirngruber *Locusts*. This invasion took place in high summer and will thus have had hardly any repercussions in the barley price which is at any rate broken off as the year’s harvest was already safe in the storage facilities. Typically for this period, the extant equivalents (and in particular those of dates) are very low.

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558 This chronicle has received ample treatment in the past. See e.g. Del Monte 1997, 183-194, and Glassner 2004, as well as the online edition as BCHP 3 on http://www.livius.org/babylonia.html. The most recent discussion is van der Spek, Seleucus.
ADART I: 3. Diaries of the Seleucid period 1

Years 303-301 BC = SE 9 and 10

AD -302/1: Months VIII and XI (year SE 9)
Museum number: BM 34616 (= Sp.II 95)+ 45901 (= SH. 81-7-6,334)
Copy: LBAT 220 (BM 45901).
Previous editions: ADART I, 246-252 and plates 42 and 42a\(^{559}\); Del Monte 1997, 22

**Description of the tablet:**
The format of this tablet is pretty exceptional as it contains excerpts of two years. On the obverse, months I (only few traces) to VII of year SE 9 are recorded, on the reverse the remainder of SE 9 (months VIII-XII) and months I-III of year SE 10 are found. The join measures 15.5 cm maximum in height and it is quite thick: 3 cm in the centre of the preserved left edge, and almost 4.5 cm at the broken right edge. The maximum length of a line on the better preserved reverse is 7.3 cm. A substantial part of the right-hand side of the obverse is broken off, but the tablet according to ADART I, 246 was originally a multi-column tablet, and the first column is ideally completely extant. Its lines contained ca. 15-17 signs.

**Date:** SE 9,VIII = 28 October – 26 November 303 BC

**Text:**
\[r5: \text{1}\ ME 13 GUN KÚ.BABBAR 2 GUN KÚ.GI šá d\text{AG šá ina IGI x }[\text{.. TA/a(-)na}]
\]
\[r6: \text{É um-na-nu u SILA MEŠ šá bar-sip} kl[i]t-tar-ru-ú x-[.. .. ..]
\]

**Translation:**
\[r5: \text{113 talents of silver, 2 talents of gold of Nabû, which in front (or: at the disposal?) of} \]
\[\text{[.. ..]}
\]
\[r6: \text{they brought [from/to] the house of the craftsmen and the streets of Borsippa [.. .. ..]}
\]

**Commentary:**
\[r5-6: \text{Enormous amounts of silver and gold are mentioned in this tablet. According to the} \]
\[\text{calculation of van der Spek 2000 (302), even when reckoning with extremely high prices} \]
\[\text{of the years 309 and 308 BC, an army of 18,620 persons could be paid at the rate of one} \]
\[\text{litre of barley per day with the silver and gold mentioned in line r5 for a whole year. One} \]
\[\text{has to consider additionally that the barley price was substantially lower in the period in} \]
\[\text{303 BC already, allowing for an army almost four times that size. It is also unusual that} \]
\[\text{events in the city of Borsippa are recorded. This city normally appears in the Diaries only} \]
\[\text{when visited by the king (see e.g. AD -187A) but is otherwise hardly ever mentioned.}^{560}\]
\[\text{The god Nabû had his main temple Ezida in Borsippa, his appearance on the tablet is thus} \]
\[\text{hardly surprising. The ummânû-craftsmen consisted according to Bongenaar mostly of} \]
\[\text{jewellers and goldsmiths,}^{561}\]
\[\text{which suits the present context perfectly well.}
\]

559 The latter is a reproduction Pinches’ copy of BM 34616.
560 AD -567 r21 records for Borsippa the ominous event of a wolf entering into the city (and killing two
dogs).
561 See Bongenaar 1997, 367-369, on the ummânû of the Neo-Babylonian Ebabbar-temple.
562 ADART I, 259 and Del Monte 1997, 22 both translate “from the bīt ummânî” with questionmark.
shekels and hardly ever more than three minas. A translation ‘from the house of the craftsmen and the streets’ could indicate a levy of gold and silver. Such an interpretation is by far less problematic and could tentatively be connected to the known financial problems of Seleucus I after the period of constant warfare in last quarter or so of the 4th century BC. Also a connection to the battle of Ipsus which was to be fought in summer 301 BC cannot be excluded, in which case the levy may have been destined to pay for the recruitment of troops for the royal army. In both interpretations, the following ‘streets of Borsippa’ are difficult to explain.

**Date:** SE 9, XI = 25 January – 22 February 302 BC

**Text and translation:**

r15: ITU BI KÙ.GI bu-[... ...]

That month, gold x-[... ...]

**Commentary:**

r15: Only the beginning of this line is extant, the reference to gold makes it probable that the events recorded in lines r5-6 are continued here.

**Year 301/00 BC = SE 11**

**AD -300:** Month VII

Museum number: BM 40079 (= 81-2-1,43)

Previous editions: ADART I, 252-257 and plate 43; Del Monte 1997, 23

**Description of the tablet:**

Another badly broken fragment, especially the reverse is severely damaged and eroded. Probably it contained originally the information for the second half of year SE 11, more than half of which is now lost. Its maximum height is 14 cm, its maximum length (measured on the reverse) 12.5 cm. The fragment is thicker at the broken right edge (3.7 cm) than on the left one (below 3 cm) and generally thicker in the upper part. It has the overall shape of a deltoid. How many signs are missing in line 25 containing the historical information can roughly be established by means of the gap between lines 22 and 23, which must have contained almost all price information, a minimum of 30 signs. That amount of signs is confirmed by the gap between lines 23 and 24, where the planetary constellations for Mercury, Saturn and Mars and the beginning of the indication of the river level are missing. According to the curvature of the tablet, the greater portion is missing at the right-hand side, which is confirmed by line 11 in which the section for the following month starts, with the first extant indications still referring to day 1. A ratio of 10:20 signs missing on the right and left respectively should not be too far off the mark.

**Date:** SE 11, VII = 5 October – 3 November 301 BC

**Text and translation:**

10: 6 IZI.SUB ina KI A.HA GÁL

Day 6, there was a fall of fire in district of A.HA

**Commentary:**

10: A.HA is a quarter in the western part of Babylon, it can be read as both Kumar and Tuba. This note is written down at the end of the month’s section and not fitted into the day-to-day observations. The ‘fall of fire’ happened on 10 October 301 BC. As the part of

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563 See Beaulieu 2003, 142-151 for the textual material.
564 See e.g. van der Spek 1986, 117-118 and 202-211 for a cuneiform document, a judicial record, about what seems to have been an attempt at requisition of temple land; see also the commentary above to AD -309 and Joannès 2006, 112-115.
565 Boiy 2004, 81.
the astronomical section of this month is lost in the lacuna at the beginning of the tablet, we have no meteorological information for that day.

**Date:** SE 11, VIII = 4 November – 3 December 301 BC

**Text and translation:**

25: 

\[\text{(...)}\] \text{ina} \text{ E\textsuperscript{Kl} ina ga-ši-šú a-l-\text{[i-il ...]} ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... 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somewhat surprising to see that the wall was still named after him. This indication is also a further proof that river cannot have flown between the temple and the palace, as this wall of Nabonidus is located alongside the western front of the Esangila complex.570 Interestingly enough, this same wall is also mentioned in fragment 10a of Berossus, who by the way lived during the period recorded in this Diary, preserved in Josephus, Contra Apionem 1.149: ‘Under his (=Nabonidus’) rule, the walls of Babylon along the river were reinforced with baked brick and bitumen’ (translation C. Verbrugghe). Also the Dynastic Prophecy571 in the section concerned with Nabonidus alludes to the same structure (column II, 15): BÀD ina E571 (erasure).

The importance of this tablet resides less in the historical information it gives but in the fact that here for the first time the river level is measured by means of the NA-gauge (line r12).572 This gauge measured the river level from the peak level which means that the greater the value of NA, the lower the level of the river. As for the units employed, we know that a change of one cubit in the river level corresponds to six NA, and that four fingers were equal to one NA.

Year 290/89 BC = SE 22

AD -289: Month II
Museum number: BM 32320+32370+32387+32568 (= S+ 76-11-17,2051+2102+2120+2311)
Previous editions: ADART I, 274-281 and plate 47; Del Monte 1997, 24

Description of the tablet:
The tablet is a join with a maximum length of 15.8 cm, the combined height of the fragments measuring 13.8 cm. On the lower edge the thickness amounts to 3 cm, on the broken upper edge almost 5 cm. The signs in the two lines containing historical information are quite eroded, especially on the right hand side. It is stated on the left edge that this tablet originally contained a diary for months I to VI of the year SE 22, a fundamental part of which – months I and VI completely, as well as a large amount of months II and V – is broken off. As line r23 begins with the word še-im, barley, and line r24 with Jupiter, it is clear that almost the whole price section and the beginning of the planetary summary (i-nu-šu) are to be placed in one single line (line 23) which therefore must have contained at least 35 signs. The left edge is completely preserved at the place of the historical information on the obverse, but the reading of the lines themselves is further hampered by gaps between the joined parts.

Date: SE 22 II = 10 May – 8 June 290 BC

Text:
12:   ... ITU BI U₄ 6 [... ... ...]
13:   SIK-ku-ú AN.BAR u SIK-ku-ú 'x x x'-da-a-a iš-bir ITU BI 7 [... ... T]UR’ DAN? ...
    MU (x x x x) [... ... ...]
14:   an-ti-ku-us-su TA [... ...] GIN. ...

Translation:
12:   ... . That month, day 6 [... ... ...]
13:   a ... of iron and a... of x x x x x x broke. That month, day 7 [... ... x x x x x x x x x ...]
14:   Antiochus went from GN [... ...]. ...

570 See also the discussion in the commentary to AD -187A r12 (and footnote).
571 Published with copy in Grayson 1975a, 24-37; cf. also van der Spek 2003, 311-324.
572 The sign is actually not extant but was convincingly completed by H. Hunger in ADART I, 262. The first extant attestation of NA is found in the subsequent AD -291A, line 6. On the NA-gauge see Brown 2002, especially 40-41.
Commentary:
13: A possible reading for the traces after the second SIK-ku-ú is URUDU, copper. The word SIK-ku-ú remains enigmatic, sikkû, ‘mongoose’, does not make too much sense. sikkûru, bolt or bar, would be an appropriate candidate, especially in the light of the adjective iron but is difficult to reconcile with the writing.

14: Immediately after the verb GIN of the historical note follows the description of the river level. The day Antiochus departed from an unknown place was probably still 7 ayyaru and thus 16 May 290 BC. Antiochus, crown prince and heir apparent, was in 290 BC recognized officially as co-regent with the royal title of his father Seleucus, already since 294 BC he appears together with his father in the date formulae of cuneiform documents. As his area of authority was Asia, one is not surprised to find quite some references to his person in the extant documentation, most famously in the chronicle ABC 11 (=BCHP 5) where amongst other things he is described as performing various religious duties such as providing offerings in various temples in the city of Babylon. It is assumed that before the completion of Seleucia-on-the-Tigris, his residence was in Babylon.

Year 285/84 BC = SE 27

AD -284: Months VII and XII
Museum number: BM 45927 (=SH. 81-7-6,362+384)+ 46260
Copy: Listed as LBAT *229
Previous editions: ADART I, 294-303 and plates 51-52; Del Monte 1997, 24-25

Description of the tablet:
This is a very large fragment but unfortunately the tablet is much eroded, especially on the reverse side. In total, this piece measures more than 20 cm in height and it has a similar maximum length (more than 19.5 cm). Its thickness amounts to 3.5 cm in the lower part of the broken right edge and to about 2.5 cm in the upper right corner. The join contains a Diary of the second half of the year in question, month IX probably continued on the first lines of the reverse. There is not much historical information recorded: only a ‘fall of fire’, an ominous event and an attack of locusts are mentioned in the section of the day-to-day observations.

Date: SE 27, VII = 9 October – 6 November 285 BC

Text and translation:
4:     ... . IZI.ŠUB ina ku-tal <BÁD> šá İDAG.I ina la si-mat ŠÚ U [... ] ina GÚ İD
        GÁL-ši, ... 
4:     ... . There was a ‘fall of fire’ at the rear side of <the wall of> Nabonidus where it was
        not fitting? [... ...] on the bank of the river. ...

Commentary:
4: The sign BÁD for wall was omitted by the scribe in this case, but the parallel passage in
AD -293, r1 leaves no doubt about how to complete this notice. The exact date of the
miqitti išāti was the night of the 12th, which is the night of 19/20 October 285 BC. Del
Monte (1997, 24) tentatively connects ŠÚ with the preceding signs to si-mat-šū. There is a
similar formulation found in ADs -168A (r15: la si-mat) and -149A (r2: ina la si-ma-ti-šū),
but in both instances the word occurs in a cultic context.

Date: SE 27, VII = 9 October – 6 November 285 BC

Text and translation:

573 See Boiy 2004, 138-139 for the cuneiform material and Will 1979, 88 for Greek sources concerning the
co-regency.
Commentary:
5: After the first UR.KU is a considerable gap of at least two signs, we insert here in analogy with the earlier diary a-na (in syllabic writing). Of the MUNUS-sign, only a horizontal wedge is extant.

This short note recording a šumma ālu-related incident is inserted into the daily observations under day 13 (21 October 285 BC). It is very interesting to note that also AD -373A r9 speaks of dogs devouring each other. For this event, the respective omen could be found (see chapter 2.1.3), portending famine for the city. It is unclear why this unfavourable omen was recorded in a period which was a quite successful one for the Seleucids: Seleucus himself was much engaged in the west of the empire. In Northern Syria he had managed to capture Demetrius, a constant factor of unrest, only the year before, in 286 BC. In Asia Minor he campaigned a few years later against the neighbouring king Lysimachus which he managed to defeat decisively in 281 in the battle of Kouropedion.

A look at the equivalents reveals that they were considerably higher than in the particularly difficult last quarter of the 4th century and also higher than they were at the time of Artaxerxes II abortive campaign against Egypt, which was the context of the second attestation of the same ominous incident. Still, it has to be noted that the equivalents of the early 280s BC were lower by more than a third when compared to the late 290s BC. The reasons for this pattern are unclear. Both political factors such as financial demands of the king for his incessant campaigning as well as simply a series of bad harvests are possible.

Date: SE 27, XII = 6 March – 4 April 284 BC

Text and translation:
r36: ... . ina KIN.SIG BURU₃ MAH ZI-a. ...
    ... . In the afternoon, many locusts attacked.

r39: ... . ina KIN.SIG BURU₃ ZI-a. ...
    ... . In the afternoon, locusts attacked. ...

Commentary:
r36+39: Two attacks of locusts are mentioned (on days 6 and 12, thus 11 and 17 March 284 BC) in the astronomical section. Unfortunately, there are no price observations extant which could tell us something about a possible detrimental influence on commodity prices of these invasions.

The following diary AD -281A gives in the colophon on its left edge the name of the scribe or his ancestor, Bēl-uballīṭ, but contains otherwise no historical information.

Year 282/81 BC = SE 30

AD -281: Month
Museum number: BM 41660 (= 81-6-25,277)
Copies:

Description of the tablet:
The left edge of this small fragment is preserved and inscribed with a colophon. The thickness of the left edge is 2.2 cm at the bottom and 2.6 on top. The height is 7.3 cm,

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574 For the events of these years see Will 1979², 94-103. Note that Seleucus seems to have been well received by the cities of Asia Minor (102).
and the width 2.8 cm. No historical information is preserved. The interest of the tablet is in the colophon with the name of the scribe or his ancestor, "Bel"-uballiti, or similar. The surface of the tablet after this name is effaced.

**Year 278/77 BC = SE 34**

**AD -277A: Month I**  
Museum number: BM 41579 (= 81-6-25,193); 34099 (= Sp.198)+ 41925 (= 81-6-25,546)+ 42003 (=81-6-25,625)
Copies: LBAT 236 (BM 41579), 237 (BM 34099), 917 (41925), 944 (BM 42003)
Previous editions: ADART I, 318-333 (combined translation of A-C) and plates 56-59; Del Monte 1997, 25

**Description of the tablets:**  
BM 41579 and 34099 have been recognized by H. Hunger to have been parts of the same tablet, however, they do not join. BM 41579 is the left hand part of the original tablet, BM 34099+ the far right part. On both fragments, the edges are well preserved. The fragments contain on the reverse information on months I-IV, the reverse starts with the price section for month IV and continues up to and including month VII. The summary on the left edge confirms that this tablet was a diary for months I to VII. Historical information on this tablet is scarce: there is just a minor remark concerning a panic seizing the land among the astronomical observations for month I on the join BM 34099+, which measures 18 cm in height (both upper and lower edge are extant) and up to 8.5 cm in length (maximum at the upper part of the reverse). The line with the historical information measures only 3.8 cm in length.

**Date:** SE 34, I = 29 March – 26 April 278 BC

**Text and translation:**
6: ... [2]7 hat-tu u gi_lit ⸢ina⸣ KUR GAR-an. ...
   ... [Day 2]7, (= 24 April 278) panic and fear occurred in the land. ...

**Commentary:**
6: The occurrence of *hattu*, ‘fear’ in the land is already known from ADs -330 and -309. In the present instance it might be alluding to the problems Antiochus I had to face immediately after his succession. We do not know anything of rebellions in Babylonia but we know of a revolt in the Syrian province of Seleucis and that furthermore Ptolemy II exploited these troubles to extend his sphere of influence in Asia Minor, especially in Caria. The chronology of these events is uncertain, but peace between Ptolemy II and Antiochus seems to have been established already in 279 BC. If not referring directly to these events (the tablet dates only from spring 279 BC), we cannot exclude troubles also in Babylonia in the aftermath of this veritable crisis.

**AD -277C: Months VII and IX**  
Museum number: Rm. 800+ 837+BM 34220 (= Sp.326); BM 132279 (1958-4-12,13)
Copy: LBAT 239 (BM 34220)
Previous editions: ADART I, 318-333 (combined translation of A-C) and plates 56-59; Del Monte 1997, 25-26; Joannès 2000, 200-201

**Description of the tablet:**  
Fragment C continues more or less where A ended; it starts and overlaps with A in month VII. The last attested month on the tablet is *tebētu* (X). The largely broken off reverse of BM 132279 contains a statement that the tablet originally yielded information

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575 See the remark on 318 for differences in the counting of the lines.  
576 Will 1979², 139-142 (and 279-282).
for months VII to XII2 of year SE 34. BM 132279 is a fragment of triangular shape, with a height of 6.5 cm and a maximum length of line of 7.8 cm. At the broken lower edge its thickness measures 4.1 cm. Line C3 stems from BM 34220, lines C14 and 15 are on the same join on the fragments Rm. 800 and 837. The whole reverse of this join is broken off, the fragments do not exceed 1 cm in thickness. The maximum length of the join is 9 cm, the maximum height is 7.8 cm. Considering that in the preceding line C13 part of the price information of the same month is still visible (until cress) we should expect in the gap between the end of line 13 and the beginning of line 14 not only the completion of this price section but also the planetary summary, easily amounting to a total of 45 signs or more. As the reverse is completely broken off and we hence do not know anything about the curvature of the tablet, we have no information concerning the distribution of missing signs to either side.

**Date:** SE 34, VIII = 22 October – 20 November 278 BC

**Text and translation:**

3:     [(many signs) .. Šar-ra-qu² šá ina sar]-tu₄ a-na GIŠKIRI₆ /ŠIM/LI KU₄- ų u₁ [.. (many signs)]

[(many signs) .. thieves who secretly entered the juniper garden [..(many signs)]

**Commentary:**

3: The Juniper Garden appears quite frequently in the Diaries, it was located in the central district of Eridu and a storehouse of some importance was located in this garden. This fragment yields no additional information, for further information see the commentary to AD -328, r24.

The completion of the gap preceding the extant signs was suggested by Joannès 2000a on basis of an exact parallel – the only one known so far – provided by the Judicial Chronicle BCHP 17, 1-5. In the light of the information provided by this text, he also proposed a reading for the following line four, which starts with an ū and continues with the planetary summary: [.. .. .. isšu-ū ina IZI qa-lu]-ū. Burning at the stake is an unusually severe punishment for theft, which is not attested in legal documents of the Neo-Babylonian period, where the regular penalty is a thirty-fold payback. 577 F. Joannès (2000a, 206-211) explains this severity of the penalty in this as well as in the other instances reported in the diaries (AD -254, Lo.E.1 and AD -168A, r18, in both the wording is ina IZI qalû) with the sacrilegious nature of the crime, constituted by the trespassing into sacred spaces such as the bīt bušē in the juniper garden.

**Date:** SE 34, IX = 21 November – 19 December 278 BC

**Text:**

14:   [. .] ITU BI LÜ²E KI MES SAL[, x x ?] rE KI šá AGA šá dEN dPA [.. (many signs)]

15:   [(many signs) ..] iš-šu-ū ina IZI ina KI TIN.TIR Kl qa-lu-ū x x x x [.. (many signs)]

**Translation:**

14:   [..] That month, the Babylonians and the Babylonian? women?, concerning the tiara of Bêl and Nabû [.. (many signs)]

15:   [(many signs) ..] had carried off, were burnt in the district of Šuanna x x x x [.. (many signs)]

**Commentary:**

14: ITU BI is the standard incipit of the historical notes in the Diaries. It is thus not certain whether in the lacuna before this note additional historical information is lost. On agû-crowns see the commentary to AD -324B r23.

15: The district of Šuanna is located in the south of the city, between the quarter of Eridu with the Esangila in the North and the city-walls and the Uraš-gate in the South. It borders

577 Joannès 2000a, 208.
to the west on the river Euphrates. The quarter occurs several times in our corpus, most of the instances concern a ‘fall of fire’.578 As has been said above, death by burning is a severe but by no means uncommon punishment for thieves of temple property in the ADs. In the present case, the crime gains an additional sacrilegious nature as over and above the trespassing it despoiled the gods of their power insignia. It shall also not go unmentioned that the diary AD-187, r12 confirms that among other objects also paraphernalia of the gods were stored in the bit bűšē in the juniper garden, mentioned expressis verbis in this latter text are a golden crown and a golden box of Bēltiya.

Both instances recorded in this diary are fragmentary, but give enough information to ascertain the sacrilegious nature of the crimes committed. Considering the notable involvement of women, which also occur in BCHP 17, 2, Joannès (2000, 201) also considered the possibility of a conflation of the events recorded in this diary in the (later) chronicle, an option which should not be dismissed lightly.

**Year 274/73 BC = SE 38**

**AD-273B:** VII and XII

Museum number: BM 36710 (80-6-17,442)+ 92688 (82-7-4,137)+ 92689 (=88-4-19,17)

Copies: ZA 6, 234-236 (BM 92688 and 92689); BHT plate 18


Commentary: van der Spek 1990, 97-99

**Description of the tablet:**

The tablet is a diary of the second half of the year in question. It is almost complete, only the lower right quarter of the original tablet is lost. As many lines in the upper half are completely preserved, estimations regarding the amount of missing signs in the broken parts are quite easily possible. Historical sections are given for months VII and XII (partly on the upper edge) which means that they are located in the more or less undamaged part of the tablet. The length of the join measures 18.3 cm, but in the lower part (BM 36710) the extant length amounts to only between 5 and 6.8 cm. The maximum height of the tablet amounts to almost 18 cm. The thickness in the centre the upper edge is 3 cm and 3.8 on the lower broken edge of BM 92689. The script is very clear and well legible but there are some scribal errors in the text.

**Date:** SE 38, VII = 7 October – 4 November 274 BC

**Text:**

11: ITU BI LU GAL ú-qu 2-ú šá LUGAL ina KUR URIKUK ú-man-nu-ú a-na E KU 21

12: [ù ...] UDU NITA a-na 1 gi-nu-ú šá dEN a-na LU GĪR LĀ MES šá É SAG ĪL SUM-in u a-na dEN DŪ-u’

**Translation:**

11: That month, another general whom the king had appointed over/in Babylonia entered Babylon. Day 21, the general, one bull

12: [and ..] sheep for the regular offering of Bēl he gave to the butchers of the Esangila, and they were sacrificed to Bēl.

**Commentary:**

11: rab uqu šanù was translated in ADART I (339) as ‘vice-general’ and equated by Bernard (1990, 534) with the title of a hypostratēgos. As the same line subsequently drops the addition šanù and speaks only of a rab uqu performing offerings, van der Spek suggested to read šanù simply as adjective (in the meaning ‘other’, hence ‘new’) rather

578 See the map Fig. 6 in George 1992 (86) and Boiy 2004, 58-59.
than as part of the title, assuming that the rab uqu šanû and the rab uqu in this line are the same person. As a rab uqu šanû is otherwise not attested we will follow his interpretation here.

12: This line contains the first attestation of offerings performed in the Esangila in the ADs. Such references, but then to niqû-offerings, became increasingly frequent towards the end of the 3rd and beginning of the 2nd century BC. These sacrifices were later offered to the gods ‘for the life of PN’ (often a king) and were at the basis of the discussion of a Seleucid ruler cult. The ginû-sacrifice recorded in this text is generally translated as ‘regular offering’. It consisted of various foodstuffs such as barley and dates and also of (mainly ovine) meat. The butchers (tābiḥu) of the temple were commissioned with the preparation of these bloody offerings. As this profession was traditionally a prebendary one, this passage can be regarded as one of the few pieces of indirect evidence pointing towards the continuation of the prebendary systems in Hellenistic Babylon.

Date: SE 38, XII = 3 March – 1 April 273 BC

Text:

r29: MU BI LUGAL UDšú DAM-su u NUN SIG-ú ina KUR šú sa-par-du aš-šú d[ur-un]-nun EN NUN ú-maš-šir a-na e-ber İD ana UGU ERIN mi-šir
r30: sá ina e-ber İD SUB-ú GIN-ik-am-ma ERIN mi-šir ina IGI-šú BAL-ú ŞE U₄ 24,K[AM L]₄ mu-ma-‘i-ir KUR URI Kl KÜ.BABBAR TUG mu-šip-tu₄ NİG.ŞU ü iš-‘na-ma-šú
r31: MAH TA EKI u URU se-lu-ku-‘a-a URU LUGAL-tú ü 20 AM.SI šá L₄ [mu-ma]-‘i-ir URU ba-ah-tar ana LUGAL iš-šil qa a e-ber İD
r32: ana muh-hi LUGAL E ŠE ITU BI L[,]GAL u-qa ERIN LUGAL šá ina KUR URI Kl TA SAG-šú EN T(IL)-şú u-pa-hir-ma ana Á.DAH LUGAL-ma ina L₄ BAR a-na e-ber İD GIN-ik
r33: MU BI KLLAM ina EKI u URU šá URU LUGAL-tú ü 20 AM.SI šá L₄ [mu-ma]-‘i-ir URU MAH

Translation:

r29: That year, the king left behind his troops, his wife and a notable official in the land Sardis to strengthen the guard. (r30) He went to Ehir Nāri against the troops of Egypt which were encamped in Ehir Nāri, and the Egyptian troops withdrew before him.

Month XII, day 24, the satrap of Babylonia, much silver, clothing, goods and equipment?

r31: from Babylon and Seleucia, the royal city and 20 elephants, which the satrap of Bactria had sent to the king, to Ehir Nāri

r32: to king he sent. That month, the general, gathered the royal troops which were in Babylonia from their beginning to their end (= all of them), and he went to Ehir Nāri to the aid of the king in month I.

r33: That year, purchases in Babylonia and the (other) cities, were made with copper coins from the land Ionia. That year, the ekketu-disease proliferated in the land.

Commentary:

579 Van der Spek 1993, 9722. Also Del Monte 1997, 27 gives the same interpretation (‘il generale nuovo’).
580 Pirngruber 2010, see also the commentary to the relevant attestations ADs -204C, 187A, -178C and -144.
581 Linssen 2005, 166-167; see also MacGinnis 1995, 153-154, and Da Riva 2002, 267 (for the early Neo-Babylonian Ebabbar).
582 Contra McEwan 1981. This is unfortunately no direct evidence for prebendary offices in the city of Babylon during the Hellenistic period, but they are amply attested in Uruk until well into the 2nd century BC, cf. Corò 2005. Bongenaar 1997 notes (294) that the evidence for the tābiḥu-prebend is generally meagre in the two large temple-archives of the first millennium, the Eanna and the Ebabbar. We thus assume that this lack of evidence is caused by the very nature of the extant archives.
r29: That the UD in the text is in all probability erroneous for ÉRIN has already been established by Hunger/Sachs in ADART I. As we have seen in the earlier AD - 381C, the designation of cities as ‘lands’ (KUR) is nothing unusual in the diaries. Sardis was at the period in question the Seleucid capital in Asia Minor. A possible but speculative identification of the famous official might be Antiochus’ stratēgos Patrocles who had been charged by the king early in the 270s BC with the affairs of Asia Minor. A rationale for defensive measures in Sardes is provided by the continuous troubles in Asia Minor in that period, which included the strife for independence of various Greek cities and local dynasts, most notably the Bithynians, as well as a major invasion of the Galatians. The conflict was the latter was particularly tenacious, and it seems that a major victory against them was only achieved in 275 BC shortly before the First Syrian War erupted.

r30: It is interesting to note that Transpotamia (Syria) was still known as Ebir Nāri as in the Achaemenid period, which points to a certain administrative continuity between the Achaemenid and the Seleucid empires. SUB, in military context ‘to encamp’, has been discussed in the commentary to AD -330, 15. The date on which the satrap of Babylonia sent ample supplies from his province to the king in Syria was 26 March 373 BC. The tablet gives in these lines also valuable information about the competences of the satrap and the stratēgos. The latter appears in military function leading the army (r32), the satrap, as can be seen in this line, is responsible for administrative matters such as the requisitions made for the war. For the identification of rab uq u with the Greek title of stratēgos see van der Spek 1993 and Boiy 2004, 281.

r31: Seleucia-on-the-Tigris is here mentioned for the first time in our corpus, the city seems to have been already populated as it provided supplies for the army together with Babylon. The date of its foundation cannot be decided exactly, but it is commonly assumed to have taken place in the last decade of the 4th century BC. L. Capdetrey convincingly argues now for a date after Seleucus’ acceptance of the royal title. T. Boiy (2004, 136) points to economic logics as important motive for its foundation on the banks of the Tigris, that river having superseded the Euphrates as ‘economic driving force’ in the course of the first millennium BC. As is clear from later Diaries, Seleucia was located at the confluence of Tigris and the King’s canal (or royal canal, nār šarri) connecting the two rivers, which also facilitated trade to the west and contributed to an increased regional market integration within Babylonia economy and additionally allowed for increased irrigation in the Tigris-zone.

r32: The mustering of troops in Babylon is a recurrent theme in the ADs already since the Achaemenid period, the first attested instance being AD -369 (r8). It could be shown that demand hocks caused by such convocations had a significant economic impact, in the present case especially on the prices of barley and cress. It is unusual that also the first month of the following year (nisannu SE 39 = 2 April – 1 May 273) – which saw the departure of the army from Babylon in this instance – is referred to in a Diary.

583 It is already translated as ‘troops’ in their edition. For an older view of Sidney Smith, who read UD as kinē, the philoi, see van der Spek 1986, 214.
584 See Grainger 1997, 111 for a concise collection of references to this official. It is however, unclear whether he was still alive in the year in question.
585 Will 1979, 142-144 and van der Spek 1993b, 68. Grainger 2010, 80-81 prefers 272 BC and hence a date during the First Syrian War but after Ptolemy II had retreated into Egypt.
586 See already van der Spek 1993, 97.
587 Grainger 1997, 142-144 and van der Spek 1993b, 68. Grainger 2010, 80-81 prefers 272 BC and hence a date during the First Syrian War but after Ptolemy II had retreated into Egypt.
588 See already van der Spek 1993, 97.
589 Capdetrey 2007, 52-59. His account centres on appropriation of the territory by the Seleucids, the foundation of Seleucia-on-the-Tigris is explained (57) as ‘affirmation éclatante d’un pouvoir gréco-macédonien’. Earlier accounts put forward also 311 BC, the year of Seleucus’ return to Babylonia after his exile with Ptolemy as possible foundation date, see Capdetrey 2007, 53 for an overview. Cf. also Boiy 2004, 135.
589 Boiy 2004, 136. On the King’s canal, the digging of which was begun during the reign of Nebuchadnezzar II see Jursa 2010, 326-328, see also Fig. 4 (323) for a map.
590 See in particular chapter 3, see also van der Spek 2000, 305-307.
r33: The statement that purchases in this year were made with Ionian copper coins is repeated on the upper edge, also there in together with the mention of the *ekketu*-disease and an additional statement about famine and poverty in the country. These unfavourable economic circumstances are likely to be caused by the large amount provisions gathered for the royal army in Syria, which are *realiter* best interpreted as requisitions, and the simultaneous mustering of the army. That copper, or rather bronze, coins were if not introduced then at least produced in substantial amounts only from under the early Seleucids onwards has been convincingly shown for the cities of Uruk in Southern Mesopotamia but also for Seleucia-Tigris. We can confidently assume the same for Babylon itself. We are thus confronted with a phenomenon that is genuinely Hellenistic and one of the major innovations of this period.

The value of this tablet has long been recognized as it is the only major source on the First Syrian war between Antiochus I and his ally Magas of Cyrene against the Ptolemy II of Egypt. The war began with an invasion of the Egyptian army into Syria while Antiochus still was in Sardes. Ptolemy’s invasion of Syria is commonly interpreted as pre-emptive strike against a planned Seleucid campaign into Coele-Syria. According to our tablet, the Ptolemaic soldiers retreated without offering battle at the arrival of the Seleucid royal army. The ensuing years of the conflict are not documented, but a peace treaty, which was basically a confirmation of the status quo, was concluded only in 271/0 BC. Bernard connects a passage in Polyaeus (Stratagems IV 15) to a possible conquest of the city of Damascus by Antiochus in the course of the war but this hypothesis has not met with much approval.

Because there are also exchange values extant on this tablet, the First Syrian war has already been repeatedly studied for its possible economic repercussions. According to G. Del Monte 1997 (27-33), the attested high prices were simply caused by a bad harvest, there was no discernible effect of the war preparations. His main argument was that the barley prices did not show the expected seasonal fluctuation but were essentially stable. As for the silver scarcity mentioned, he adduces three contracts from Uruk from the same year which explicitly mention payments in silver. However, the evidentiary value of these documents is dubious as they date from before events described in AD -273B, two of them even by one year and more. Also his idea that the observable stability of the very high prices can only have been caused by harvest failure is not convincing – a sustained increase in the demand, e.g. in form of a military conscription would have the same effect on prices.

More thoughtful is the analysis of van der Spek of the same facts, especially his observation that a drain of silver should have had a deflationary effect and thus have caused low prices is worthy of mention. He explains this contradictory pattern by the confiscation of land alluded to in the following passage. The harvest of the land

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590 This passage is discussed more amply in chapter 4.2 (see the literature there), cf. also Joannès 2006, 108-110.
591 For the war see Will 1979, Hölbl 1994, Grainger 2010, especially 84-87. It is universally agreed upon that the particularly pompous festivties of the Ptolemaia of the year 271/0 BC point towards the fact that the outcome of the war was considered as a success in Egypt. AD -270B establishes March 270 as *terminus post quem* for the conclusion of a peace treaty, see below.
592 Grainger 2010, 86 suggests to date the capture of Damascus rather to the reign of Antiochus III. In the early 250s BC, Damascus was in any case under the sway of the Ptolemaic king, cf. Will 1979, 148.
593 Del Monte 1997, 31: ‘Il dato dell’orzo insomma, e in particolare la fissa si nei mesi del suo prezzo, indica senz’altro una estrema scarsità del raccolto di quell’anno (...) ma questa è da ricer care con più verisimiglianza in cause interne e non nelle ricadute delle esigenze della guerra in Siria’.
594 The stability of prices is puzzling in both cases, as one would expect the price to rise even further in the period between late autumn and early spring. Either the earlier price is inflated as Babylonian merchants attempted to profit excessively from the increased demand, or the later price is already indicative of a recovery of the markets as the new barley harvest was forthcoming.
confiscated went to the army gathered in Babylon which led to a shortage in barley for the inhabitants of Babylon. According to him, the requisitions also started already early that year SE 38, roughly March 274 BC, and extended over a few months. Recovery could only set in after the army left for Syria, from April 273 BC onwards. This issue has been discussed more amply and with an alternative interpretation in chapter 4.2

Date: SE 38, XII = 3 March – 1 April 273 BC

Text:

r34: Year 37, Seleucus and Antiochus, month XII, day 9, the satrap of Babylonia and the 'appointees' of the king, who in year 36 had gone the land Sardis to the king, r35: returned to Seleucia, the royal city, which is on the Tigris. Their message – a parchment – went to the Babylonians. Day 12, r36: the Babylonians went up to Seleucia. That month, the satrap of Babylonia (r38) made the fields which (r37) had been given in year 32 at the command of the king for sustenance of the Babylonians, r37: Borsippaeans and Cuthaeans; (as well as) bulls, sheep and everything else of the cities and the religious centres at the command of the king from the citizens of [Babylon .. taxable? for the] royal treasury?. That year, numerous bricks for the (re)construction of the Esan[gila ..] above and below Babylonia were molded .. ..
r38: [.. .. ..] (blank) in a pile of bricks.

Translation:

r34: Year 37, Seleucus and Antiochus, month XII, day 9, the satrap of Babylonia and the ‘appointees’ of the king, who in year 36 had gone the land Sardis to the king, r35: returned to Seleucia, the royal city, which is on the Tigris. Their message – a parchment – went to the Babylonians. Day 12, r36: the Babylonians went up to Seleucia. That month, the satrap of Babylonia (r38) made the fields which (r37) had been given in year 32 at the command of the king for sustenance of the Babylonians, r37: Borsippaeans and Cuthaeans; (as well as) bulls, sheep and everything else of the cities and the religious centres at the command of the king from the citizens of [Babylon .. taxable? for the] royal treasury?. That year, numerous bricks for the (re)construction of the Esan[gila ..] above and below Babylonia were molded .. ..
r38: [.. .. ..] (blank) in a pile of bricks.

Commentary:

r34: From this line onwards, the diary shows the unique feature of a historical notice relating to the previous year. At the upper edge, the narration probably returns to year SE 38, and confirms and specifies the statements of line r33.596 The reasons why the satrap and other officials were summoned to Sardis in year 36 SE (276/5 BC) are unknown, an official communication concerning the administrative reforms to come (see the commentary to line r37/8) is certainly a tempting albeit speculative suggestion. The delegation returned to Seleucia on 23 March 274 BC. The title of paqdu, literally appointee

596 So also van der Spek 2000, against Del Monte 1997, 33-34.
or trustee, designated probably a representative of the king within the temple organization, the Greek equivalent of the title is very likely prostatēs.597

r35: For šipištu see AD -346 r15. In this instance it is likely that a delegation of Babylonian dignitaries were simply summoned to Seleucia-on-the-Tigris for further instructions. They left Babylon on 26 March 274 BC.

r36: This passage was considered in the older literature as referring to the abandonment of Babylon in favour of the new capital Seleucia-on-the-Tigris. Consequently, it was thought that the possessions of those who were transferred were restored to the chōra basilikē.598 With van der Spek 1993 (98), we consider it very unlikely that such a large-scale transfer of the population could have been organized within a few days only. As stated above, most probably reference is made to a delegation of Babylonian officials convoked to Seleucia where they probably were communicated the royal orders specified in the following lines.

r37/8: Van der Spek’s interpretation that the fields and other possessions mentioned in these lines were made taxable for (or even confiscated by) the royal property as a kind of war tax is generally accepted.599 What emerges from these lines is that a grant of a tract of land given to the Babylonians only a few years before in SE 32 (280/79 BC) is revoked.600 In his reconstruction, taxes are imposed on this land and its harvest to the benefit the king and his treasury in need of additional income to finance the war on Ptolemy II. The long war preparation derived from such a reading – we are still in year SE 37, one year before the Egyptian invasion mentioned in the preceding lines of this diary – supports the hypothesis of a planned campaign against the Ptolemies and suits the notion of the Egyptian invasion of Syria as a pre-emptive strike.

The measures taken in this diary coincide with similar reforms in Uruk. In this town, no transactions concerning arable land are recorded in cuneiform after 38 SE, which is seen as the result of new taxes on transfers of real estate. The transactions were now to be checked by a royal official with the Greek title of chreophylax and consequently recorded on papyri in Greek. Also, a tax on slave sales (andrapodōn/andrapodikon) was introduced.601

The question remains why these events were recorded in the diary of the following year. As on the upper edge the scribe resumes the topic of famine, van der Spek’s interpretation that the passage is to been seen “as a prelude to the present distress” is indeed appealing.602

r38/9: The reading of a-mar as amaru, ‘brick pile’ (rather than a form from amāru, ‘to see’, as in ADART I, 347) was suggested by Horowitz 1991 and also accepted by Del Monte 1997 (34). Horowitz furthermore connected these lines with the building activities of Antiochus I in Babylon and Borsippa. We know from a royal inscription (5 R 66) that Antiochus himself placed the foundation brick of the renovated Ezida in Borsippa on 20 XII 43 SE, corresponding to 27 March 268 BC. In the lines of this tablet it is maybe possible to see some preparatory work, namely the moulding of bricks for these renovations.603

598 This interpretation is still retained in Bernard 1990, 536-539. It was largely influenced by the judgements of ancient authors according to whom Babylon was reduced to a ‘desert’ only inhabited by priests and astronomers; but cf. already Bernard 1990, 539 for a more balanced view.
599 His interpretation is accepted e.g. in Del Monte 1997, 34 and by Boiy 2004, 141-142.
600 This grant was interpreted by van der Spek 1993a, 68 as an attempt to curry favour with the Babylonians by assigning tax-freedom to certain tracts of land after the difficult period of constant warfare between the diadochi.
601 On this subject see most exhaustive Doty 1977.
602 Van der Spek 1993, 99.
603 Cf. also the Ruin of Esangila chronicle BCHP 6 for what are probably similar preparatory works.
U.E.1+2: Here again, references to famine, diseases and payments in copper are recorded. We assume that these lines resume and continue the account from r33. As noted in the commentary to AD -382, diseases occur in the ADs mostly during times of warfare. Their presence in this Diary is thus hardly surprising.

Year 271/70 BC = SE 41

AD -270B: Month XII
Museum number: BM 32490 (= S+ 76-11-17,2227)+ 41848 (= 81-6-25,468)
Copies: Listed as LBAT *245 (32490); 246 (41848)
Previous editions: ADART I, 350-355 and plates 62-63; Del Monte 1997, 35-6

Description of the tablet:
The join is but a small fragment of the diary for the second half of the year SE 41. On the obverse month VII and parts of month VIII are extant, on the reverse, which contains the historical passage, information on month XII is given. The join is up to 13 cm long and 9 cm high. At the upper edge its thickness is 2.7 cm, increasing to almost 3.5 cm at the broken lower edge. Especially BM 41848 is eroded to the point of being illegible on the reverse, which also concerns the first lines (r12-14) of the historical section. As in line 9 the price section ends with the indication for dates and line 10 starts with the price for wool, we can account for about twelve signs in the lacuna at the right-hand edge as a minimum guess. As there were more indications for barley in that month, that gap might be larger, especially when considering the bad state of preservation of BM 41848, the fragment containing the price data. The beginnings of the lines are ideally completely preserved.

Date: SE 41, XII = 1 – 29 March 270 BC

Text:
r12: ... MU BI [...] ITU 'BI EN 24 [...]
   r13: [...] LuMašSMES u LuLAGARMES né-pe-šú šá a-ra-mu šá li-[li-si ...]
   r14: [...] ù-â-lek-qa-an-dar ana LuDUMUMES E Kl ú-x-[...]
   r15: [...] LuMAJSMES u LuLAGARMES šá ESAG.GIL né-pe-šú šá e-nu-m[a ...]
   r16: [...] lib-bu-ú ša-t-ri ina pa-ni-šú DÛ-u ITU BI U4 13 [...]
   r17: ina KUR MAH MU BI LUGAL ina e-ber ID ŠUB MU B[ [...] [...]
   r18: MU BI MUŠENHIMA MAH SUMŠAR 4 qa a-na 1 G[ÎN KU.BABBAR [...] [...]

Translation:
r12: That year [...] That month, 'until day 24 [...
   r13: [The con]jurers and lamentation priests [performed'] the ritual of covering the kettledrum [...]
   r14: [...] and Alexander to the citizens of Babylon [...] [...]
   r15: [...] the juniper garden they covered. That month, day 10 [...] [...]
   r16: [The con]jurers and the lamentation priests performed the ritual 'When [...
   r17: as written in front of it. That month, day 13 [...] [...]
   r18: was strong in the land. That year, the king encamped in Ebir Nāri. That year [...
   r19: That year, there were many birds; garlic, 4 qa for 1 sh[ekel of silver [...]

Commentary:
r13: On the ritual of the covering of the kettle-drum see Linssen 2005, 92-99. This festival was performed only when a repair of this important cultic instrument was needed rather than on fixed days. The āšipu, though being the most important cultic official in the late...
period appears only in this text with the kettledrum ritual, but we know from the ritual texts that the kalû-priest indeed played an important part in this ritual.604

r14: The meaning of this line is elusive. Certainly, some procedures related to cult are described, the lines before and after clearly talk about rituals (and may even about the same ritual) taking place. It is uncertain who the Alexander mentioned in this line actually was, but most probably it was indeed Alexander the Great who showed a certain interest in Babylonian religious matters as attested e.g. in the references to temple renovations which started under his reign. This line is somewhat reminiscent of the reverse of AD -330A+B (and cf. also BCHP 4, the Alexander and Arses chronicle), and seems to refer to some statement (privelege, grant, …) by Alexander to the Babylonians.

r15: Probably the text is still giving an account of the ritual which started in line r13 and unambiguously continues in r16. The verb arâmu, ‘to cover’ also occurring in the Akkadian name of the ritual of covering the kettle-drum points towards such an interpretation. As the Juniper garden was very close to the temple precinct of the Esangila, it is very well possible that part of the ritual action took place there. In combination with AD -226A we may assume that the bît mummi in which part of the ritual took place was located in this juniper garden.605

r16/17: Horowitz 1991 proposed to identify the ritual in broken part of the line as enûma igâr bîti ili īapp, ‘when the wall of a temple buckles’ and establishes a connection to the fabrication of bricks mentioned in AD -273B r38-39 and the temple renovations of Antiochus I. The king, who was still on campaign in Syria at this time, is generally thought to have participated in person at the inauguration of the temples, although this is attested only for the Ezida-temple in Borsippa (see above AD -273B, commentary to r38/39) which took place two years later. It is, however, not necessary to infer from this evidence that Antiochus was necessarily present at all stages of these temple renovations. In this interpretation, also the otherwise enigmatic line 17 could be reasonably well explained as referring to the format the pertinent tablet BE 13987, on which the ritual instructions are ‘in front of’ (thus above) the text passage with the actual incantation.606

r18: 271/0 BC saw the conclusion of a peace treaty between Antiochus I and Ptolemy II terminating the First Syrian War, the notice that the king still was encamping in Syria in is thus not very surprising.607 As information on the later period of the First Syrian War is scarce, it is impossible to establish a connection between this brief notice and a specific operation in this conflict. ‘To be strong in the country’ refers in most instances to diseases (ADs -382, -273B, -161A?), which occur commonly in periods of warfare in the ADs (cf. the commentary to AD -382). Such a completion is thus also for the present context a likely solution.

r19: This is the only time that the price for another product than the usual six basic commodities is given. Considering the ground tenor of the passage, with the king on campaign and diseases proliferating in the country, the four litres of garlic per shekel should be a very high price. Unfortunately, we do not have other attestations of the price of garlic in our period. Also the ‘many birds’ in the country are a singular event, this latter

604 Lagarru (LÚLAGAB) is a variant for and synonymous to kalû; cf. ADART I 354 (“a learned writing”).
605 TU 44 I 7, and Linssen 2005, 95. He also points to the fact that the juniper garden was the source for many of the aromatics in the rituals (147).
606 Horowitz 1991, 77, accepted by Linssen 2005, 105-106. The expression ša ina pānišu šaptri appears also in CT 49 144, where it was translated as ‘aforementioned’ by G. McEwan 1981 (18-20); in our text, however, there is no ritual beginning with enîma mentioned before this line. Del Monte 1997, 36 cast doubts upon Horowitz’ interpretation as according to him, the mere presence of enîma, which occurs as incipit in a great many incantations, gives no clues as to which ritual might be recorded in this line. Considering the general context, Horowitz’ hypothesis strikes us as fairly convincing proposal for solution.
607 Will 19792, 146-150 and Grainger 2010, 86-88, cf. also Hölbl 1994, who refers on 3725 to this diary.
note seems to be an omen-related event. Birds are treated in the collection šumma ālu on several tablets.\(^{608}\)

**Year 267/66 BC = SE 45**

**AD -266A:** Month II  
*Museum numbers: BM 32614 (= S+ 76-11-17,2359)  
Previous editions: ADART I, 354-359 and plate 63; Del Monte 1997, 36*

**Description of the tablet:**  
Fragment of a diary for the first half of the year. The historical passage is inserted at the end of month II. The maximum length and height are both 8.2 cm as measured at the reverse. The height of the section for month V, which is completely extant, is 6.4 cm, including a blank space of 0.5 cm at the low end. The thickness at the broken right edge measures up to 4 cm, the left edge of the tablet is partly extant. The amount of missing signs is best estimated by means of line r11, the remainder of which must have contained almost the whole price section as r12 begins with SÍK\(^{H1A}\). We have thus to account for around 30+ signs missing to the after the last signs ITU BI KI.L[AM] in r11.

**Date:** SE 45, II = 26 April – 24 May 267 BC

**Text and translation:**

13: [... .. U₄] 5.KAM de-ku-ú šá SAHAR\(^{H1A}\) šá KISAL.BÀN.DA šu-[.. (30+ signs)]  
[... .. Day] 5, removing of debris from the small courtyard [.. (30+ signs)]

**Commentary:**

13: Again temple renovation works describing the removing of debris are recorded in this diary. This brief note dates to the year after the (re-)consecration of the Ezida in Borsippa commemorated by the Antiochus-cylinder V S 66.\(^{609}\) The impression that emerges is that temple renovations were a constant concern to the Babylonians, in particular the reign of Antiochus I provides us with a wealth of pertaining evidence.\(^{610}\)

Note that before the beginning of the planetary summary for month II, i.e. where one would expect the end of the prices section, the signs \(\frac{1}{2}\) ma-na are extant. As the wool equivalent per shekel three months later in month V stood at 3.5 minas of wool (r12), there certainly must have been an additional number preceding this indication. Considering the essential stability of the wool price, 3.5 minas would be the best guess.

**AD-266B:** Months VII and VIII  
*Museum number: BM 45758 (= SH 81-7-6,172)  
Copy: LBAT 247  
Previous editions: ADART I, 358-361 and plate 64; Del Monte 1997, 37*

**Description of the tablet:**  
This tablet is the direct continuation of AD -266 A, concerning the second half of the same year. Again, only a small fragment is extant. The height of the tablet is 7.4 cm, the length of the lines in the upper part with the historical note is only 2.8 cm but exceeds 8 cm in the lower part. The left edge of the tablet is extant, it is more than 3 cm thick. The reverse of the fragment is almost completely broken off.

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\(^{608}\) Tablets 64-79 according to Maul 2003-05, 60.  
\(^{610}\) In addition to the cylinder from Borsippa and the ADs -270 and -266A, there are also several chronicles preliminarily discussed in van der Spek 2006, cf. BCHPs 5 and 6 on http://www.livius.org/babylonia.html.
**Date:** SE 45, VII (20 September – 19 October 267 BC) and VIII (20 October – 18 November 267 BC)

**Text and translation:**

4:  
LÚGIGMEŠ MAH ù [... ... (many signs)]
There were many sick people in the land and [... ... (many signs)]

15:  
ITU BI LÚGIGMEŠ MAH ÜSMEŠ i-šal- [... ... many signs]
That month, many sick people died [... ... (many signs)]

**Commentary:**

4+15: These two notices of diseases were tentatively connected by van der Spek to the earlier attestation in AD -273B and interpreted as one enduring plague. 611 This is possible, however it should not go unmentioned that the unfavourable economic situation caused by the preparations for the First Syrian War as indicated by low equivalents for barley and cress in 274/3 BC had recovered in the meantime. The barley equivalent for example had risen to about 100 litres per shekel in winter 271/0 BC, compared to the mere 36 litres/shekel in 274/3 BC. AD -266B unfortunately does not contain any price data.

It is unclear whether the dire situation described in the present diary should be seen in connection with the prevailing tensions within the royal house. SE 45 is the last year in which Seleucus, son of Antiochus I was crown prince, at a certain point in the following year, probably around September 266 BC, he was executed and replaced by his younger brother, the later king Antiochus II Theos. 612

*i-šal-[*] is elusive. The most obvious completion as *išalli mū*, ‘they recover’, with a translation ‘many sick people died or recovered’ is possible but not very likely, as the present tense would be odd, and the omission of *lu*, ‘or’ (or another similar conjunction) require explanation.

**Year 265/64 BC = SE 47**

**AD -264:** Month VI
Museum numbers: BM 32448+32569+32697 (= S+ 76-11-17,2185+2312+2466)
Previous editions: ADART I, 362-365 and plate 64; Del Monte 1997, 37

**Description of the tablet:**

Fragment of 9.2 cm height and a maximum length of 6 cm. The thickness amounts to 2 cm in the lower left corner, at the partly extant left edge up to 2.5 cm and still slightly more at the broken right edge. As line 8 should have contained the whole price section, we expect a loss of more than 30 signs to the right. Historical information is very limited.

**Date:** SE 47, VI = 29 August – 26 September 265 BC

**Text and translation:**

10:  
al-te-me um-ma LUGAL [... (many signs)]
I heard as follows: the king [... (many signs)]

**Commentary:**

10: See the commentary to AD 328, r26 for *alteme*, which usually introduces events from some other part of the empire. The later years of Antiochus I are badly documented, and the only major event known of the period is the conflict with Eumenes of Pergamum after the death of Philhetairos, which is to be dated to 263 BC only. 613 The execution of his son Seleucus on the other hand had taken place more than a year before, and cuneiform tablets

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611 Van der Spek 1993, 97.
612 Bouché-Leclercq 1913, 72, see also Boiy 2004, 144-145.
613 Will 1979², 150-151.
were dated to Antiochus I and Antiochus his son already from October 266 (VII 46 SE)\textsuperscript{614} onwards.

\textbf{Year 262/61 BC = SE 50}

\textbf{AD -261A: Month V}
Museum number: BM 41690 (= 81-6-25,308)
Copy: LBAT 249
Previous editions: ADART I, 368-371 and plate 66; Del Monte 1997, 37

\textbf{Description of the tablet:}
This tiny fragment contains the remains of a Diary for the first half of year 50 SE. Approximately ten lines are preserved on both obverse and reverse, with the lines containing about seven signs. The total height of the fragment does not exceed 5.5 cm, and the lines on the reverse with the historical note are maximum 3.4 cm long. The left edge is completely preserved. The historical note consisted of only one line; it is separated from the following line, which is the beginning of the astronomical observations of month VI, with a horizontal stroke.

\textbf{Date:} SE 50, V = 29 July – 26 August 262 BC

\textbf{Text and translation:}
r3: \text{ITU BI}^{1}\text{pa-i-ni}^{2}\text{LÚ[.. (many signs)]}
That month, Paini, the [..(many signs)]

\textbf{Commentary:}
r3: Paini\textsuperscript{615} is one of the few officials in the Diaries also mentioned by name. He is clearly of non-Mesopotamian origin, but also a Greek etymology is difficult to establish. Unfortunately, the title of this person is not extant.

\textbf{AD -261B: Month VII}
Museum number: BM 32245+32404 (= S+ 76-11-17,1972+2137)
Copy: ADART I, plate 68
Previous editions: ADART I, 370- 377 and plates 66-67 (joined edition of both AD-261B and C); Del Monte 1997, 38-39
Commentary: Bernard 1990, 540-541

\textbf{Description of the tablet:}
Both AD -261B and C are two-piece joins, identified by H. Hunger as having almost certainly belonged to the same tablet. They represent a diary for the second half of the year 50 SE and are therefore continuations of AD -261A. The upper edge of the original tablet is preserved on piece C, whereas B constitutes a lower part. The gap between both fragments must amount to some centimetres at least as substantial parts of month VIII extant on both pieces are missing. Fragment B, the reverse of which is severely damaged and almost completely broken off (the thickness of the fragment nevertheless amounts to almost 4 cm) contains historical information for month VIII, C for months VII and on the reverse for month XII.2

B is a join of up to 14.5 length and 4.5 to 5 cm height (plus some blank space below the actual text). How many signs are missing can approximately be established with the help of lines 12 and 13: the gap between the lines must have contained the ending of the price section and the beginning of the planetary summary, we have to account for around 25 signs in the lacuna.

\textsuperscript{614} Boiy 2004, 145.
\textsuperscript{615} This official is omitted in the prosopography Grainger 1997.
Date: SE 50, VIII = 25 October – 23 November 262 BC

Text:
1: [... ..........................] MES TA lib-b[i-šu ...] GAZ (....) [... ..........................]
2: [... ..........................] še-lu-ku ŠE.NUMUN ina KUR URI kî DIB-u’ NIGIN MES -nim-m[a ...
3: [... ..........................] EN.NUN šá UGU BÀD MU-a-tì DÙ-uš-u’ [... ..........................] (blank)

Translation:
1: [... ..........................] from within were killed [... ..........................]
2: [... ..........................] of Seleucus the fields in Babylonia they seized, they surrounded and ...
3: [... ..........................] the guard which on this fortress they ‘made’ [... ..........................] (blank)

Commentary:
1 and 3: These lines clearly speak of internal strife in Babylonia the exact nature of which is unknown. These fightings continued for quite some time, lines r9-12 on the following fragment -261C, which date to April 261 BC, give a similar picture. It is tempting to identify the ‘fortress’ mentioned with the ‘citadel’ of Babylon which appears occasionally in Diodorus.616 (But note that it is not clear in which town exactly the events described take place.)

2: It is not clear which Seleucus is meant in this line. As the son of the reigning king Antiochus of this name had already been executed for conspiracy against his father by this date (see above, the commentary to AD -266B), we can exclude him; it is still possible though that some of his partisans were causing unrest. Another solution would be to take this line as referring to fields seized in the time of Seleucus I617 which is very tempting as regards content. In such a reading, DIB-u’ is the final main verb of the clause, and NIGIN, lamû, (which can be interpreted in several ways, the semantic spectrum reaching from ‘to fortify’ or ‘to fence’ to ‘to lay siege’)618 pertains to a following syntagm. Although these details have to remain elusive, in general, line 2 aligns very well the rest of the tablet, giving a picture of internal strife in Babylonia.

AD -261C: Months VII and XII
Museum number: BM 41615+41913 (= 81-6-25,230+533)
Copy: ADART I, plate 68
Previous editions: ADART I, 370- 377 and plates 66-67 (joined edition of both AD-261B and C); Del Monte 1997, 38-39
Commentary: Bernard 1990, 540-541

Description of the tablet:
Fragment C has a total length of approximately 10.5 cm. BM 41615 is up to 6.5 cm high, its left-hand continuation BM 41913 only about 4 cm. It is about 3.8 cm thick at the broken right edge but only 3 cm at the broken left edge. In the gap between line 8 and 9 on this joint, the whole price section from dates onwards is missing, which amounts to 20 to 25 signs. As both barley and dates are only mentioned once a month, a larger gap can be excluded.

Date: SE 50 VII = 26 September – 24 October 262 BC

616 In Diod. XVII 64.4-6, Alexander appoints Agathon of Pydna as commander of the citadel shortly after his entry into Babylon. Diod. XIX 100.3-7, the account of Demetrius’ short campaign into Babylonia in autumn 311 BC, mentions even two citadels for the city, one of which was immediately captured while the other was besieged by Demetrius’ general Diphilus.
617 See the evidence in van der Spek 1993a, 65-67.
618 See CAD L (1973) s.v. lamû, 69-77.
Text:
10: [ITU B]U₄ 25.KAM ina URU se-lu-[k[e- 'a-a URU LUGAL-tú ša ina UGU IDIGNA ...]]
11: [... ... ... ...] ina ga-ši-šú a-liš GE₆ 27 [... ... ... ...]

Translation:
10: [That mon]th, day 25, in Seleu[cia, the royal city which lies on the Tigris ...]
11: [... ... ... ...] was impaled. Night of the 27th [... ... ... ...]

Commentary:
10: The suggested continuation of line 10 is based on the parallel with AD -273B and numerous other attestations.

11: It is unusual that an event during the night is recorded in the historical section. The most likely candidate for the event recorded is a ‘fall of fire’ as in e.g. ADs -330A, 7 and -175B r9. The impalement is probably a reference to a death penalty for a crime committed, for another attestion see the commentary to AD -300.

Date: SE 50 XII₂ = 20 March – 17 April 261 BC

Text:
r9: [...] ... ... ... ... ... GUB-zu šú [e-ru-nu LUGAL UKKIN KUR URTI u LÚ UN MES \(paq-du\) ] ša ina KUR URTI [... ... ... ... ... ... ... ... ... ... ... ...]

r10: [...] ... ... ... ...]TA [ITU AB EN TIL MU AN NA MÍ MES u NITA MES ša LÚ IR MES LUGAL ŠÚ [...] [... ... ... ... ... ... ... ... ... ... ... ...]

r11: [...] ... ... ... ...] E₄ DÚ-ùš-u' MU BI KÚ BABBABA[R K] ÜG TÚGU lu-bu-šú u GADA N[É ... ... ... ... ... ... ... ... ... ... ... ...]

r12: [...] ... ... ... ...] É.GAL LUGAL šú ina E₄ ina ni-[š[i]t₄ la-pàn LÚ KUR ša-kin MU [BI ... ... ... ... ... ... ... ... ... ... ... ...]

Translation:
r9: [...] ... ... ... ... ... provided? which Terunu, satrap of Babylonia and people who were appointees, who were in Babylonia [... ... ... ... ... ... ... ... ... ... ... ...]
r10: [...] ... ... ... ...] from month X to the end of the year, women and men from the king’s servants [... ... ... ... ... ... ... ... ... ... ... ...]
r11: [...] ... ... ... ...] Babylon they made. That year, silver and gold, garments and linen [... ... ... ... ... ... ... ... ... ... ... ...]
r12: [...] ... ... ... ...] was placed in the royal palace in Babylon for protection against the enemy. That year, [... ... ... ... ... ... ... ... ... ... ... ...]

Commentary:
r9: Terunu, or Theron, is one of the very few satraps known by name from Seleucid Babylonia. The title of \(paqdu\), a royal representative in Babylonia, has been discussed in the commentary to AD -273B r34. The verb GUB occurs in the later ADs of the 2nd century BC (e.g. AD -178C, r20) occasionally in the context of offerings to the gods in the meaning ‘to provide sacrificial animals’.

r10: The date concerning the following event (largely in the lacuna) is the period from 23 December 262 BC to 17 April 261 BC. The mentioned ‘servants of the king’ (LUU R MES LUGAL) are according to Del Monte 1997, one of the three major population groups in Hellenistic Babylonia, together with the LUU DUMU MES E₄, the Babylonians, probably members of the temple assembly \(kiništu\), and the pulițe, the Greek citizens.

619 This official is omitted in the prosopography Grainger 1997.
620 Del Monte 1997, 39, 76-77, 86-87, and 96-97; cf. also the commentary to AD -144 36-37. The idea was refined by van der Spek 2000a, 433 who added to these categories the ‘people of the land’ LUU UN MES KUR, to be equated with the Greek \(laoi\), and the temple slaves (\(širkus\)).
idea that the ‘king’s servants’ were headed by the šaknu ša šarri was refuted by van der Spek 2000 who brought this official rather in connection with the ‘people of the land’ (laoi), another category that appears quite frequently in our corpus. The Greek politai on the other hand do not appear in the cuneiform documentation in Babylon before the time of Antiochus IV.

r11/12: These lines attest to the defensive function of the palace, which was used in this instance for the evacuation of valuable goods. As in the preceding fragment -261B (1-3), the city is in turmoil. The enemy mentioned in line 12 is not identified any closer. Whereas Del Monte interprets this diary in terms of internal unrest, Bernard also alludes to the possibility of an invasion of nomads. As the quite frequent nomadic incursions especially by Arab tribes occur mainly in the Parthian period, the former interpretation is more likely, also in the light of the parallel instances in AD -255 and throughout the 230s BC.

The whole diary gives, as already stated, the impression of very troubled times in Babylonia. Additionally, we also know of unrest in Asia Minor with Eumenes of Pergamum after 263 BC which culminated in a defeat of Antiochus near Sardes shortly before his death in June 261 BC. We already mentioned that the last decade of Antiochus’ I is scarcely documented and so the issue has to remain somewhat unclear. What is certain is that this troublesome period coincided with a longer absence of the king who was in Asia Minor.

As to the economic circumstances, the equivalents in October 262 BC are quite high for both barley and dates, and contrary to our expectations. This case is a good reminder that there is no automatic correlation between political history and price increases, although overall, as could be shown in chapter 5.2, repercussions of internal conflicts in the price data are a frequent and statistically significant phenomenon. As this diary contains the only attestations of barley and date prices of the 260s BC, a more profound analysis of the prices of this period is hardly possible.

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621 Van der Spek 2000a, 433-434, who added to Del Monte’s categories the ‘people of the land’ Lgü UNMÈS KUR, to be equated with the Greek laoi, and the temple slaves (širkus).
622 Maybe the Greeks are already to be restored in AD -187A, r9-10, see the commentary to these lines; cf. already Boiy 2004, 208. See also the commentary to AD -168A, 15.
623 For this interpretation see Boiy 2004, 93, with an enumeration of other Hellenistic attestations of the palace.
624 Del Monte 1997, 38 and Bernard 1990, 540 respectively.
Year 258/7 BC = SE 54

AD -257B: Month IV
Museum number: Rm 787
Previous editions: ADART II, 10-13 and plate 71; Del Monte 1997, 39

Description of the tablet:
The reverse of this tablet is completely broken off, its thickness varies between 2.2 and 1.6 cm. The tablet is of irregular shape, the length of the line of the historical note amounts to 3.8 cm, not counting some eroded space. Its height exceeds by little 6 cm. In the gap between lines 3 and 4 the constellations of Jupiter, Venus, and Mercury are lacking (and maybe the silver had an attribute ép-šû). We have to account for about 20+ signs (if only one of the planets changed from one zodiacal sign into another) to complete the summary of planetary constellations. As there is no date formula extant – and without any clue as regards the curvature of the tablet – their distribution among beginning of line 4 and end of line 3 remains unknown.

Date: SE 54, IV = 14 July – 11 August 258 BC

Text and translation:
5: [. . . . . . . . . . . U₄/GE₆ x IZI.ŠU]B ina KI-ti TE.EKI GÁL²-ši? [...] [.. (many signs)]
[. . . . . . . . . . . Day/night of the nᵗ, a fall of fire] in the district of TE.E 'occurred?1 [...] (many signs)]

Commentary:
5: The first visible sign, ina is preceded by the traces of a vertical wedge, in our interpretation the final one of the sign ŠUB. The completion of this notice is based on the fact that almost every mention of a city district is in reference to such a 'fall of fire'.626 The reading ibašši after the district-name has an identical parallel in the following diary -256 (r17). The traces are ambiguous but allow for such a reading.

The district of TE.E – the reading of this logogram is not known – was the south-eastern corner of the city of Babylon. In this quarter the temple Emurur of the goddess Nanāya was located,627 which is a possible place for the exact spot of the lighting stroke, especially when considering T. Boiy’s observation that private houses were hardly ever the focus of attention of the ADs.628

Year 257/6 BC = SE 55

AD -256: Months II, III and XI
Museum number: BM 45763 + 45960 (= SH 81-7-6,177+ 401); BM 45959 (= SH 81-7-6,400).
Copies: Listed as LBAT *253 (BM 45763) and 254 (BM 45959)
Previous editions : ADART II, 12-17 and plate 71-2; Del Monte 1997, 37

Description of the tablet:
The two parts of the diary belong to the same tablet and can ‘almost be joined’ according to ADART II, 12. The tablet originally constituted a diary for a whole year, the

626 Cf. also Boiy 2004, 80, “the astronomical diaries mention the city quarters in the context of fires”.
627 George 1992, 61:30 and 324; 1993, 126:794. See also the discussion in Boiy 2004, 89.
historical notices are found on piece BM 45763+. This join measures almost 10 cm in height, with a maximum line length of 8.5 cm (measured on the reverse). Its thickness amounts to 2.9 cm on the left, but increases to well 4 cm on the right edge, neither lateral edge is complete. There is no date formula is extant, but according to H. Hunger’s completions three of four signs are missing in the beginning of the lines preserved best on the reverse (hence at the left edge). Due to the worse state of preservation we have to account for six or seven signs missing at the beginning of the historical note. To the right, the loss is even more substantial. At the end of line 11 we expect the constellations for Mercury, Saturn, and Mars to be recorded, and hence a minimum of 15+ signs for the right-hand side. Again it is also possible that not all available space was made use of. It is anyway clear that this summary concluded the section of the respective month as it was separated from the next line by a vertical wedge.

Date: SE 55, II = 5 May – 2 June 257 BC

Text and translation:
3:     ... 2 BURU₅[H]A [ZI-α]
        ... . The 2nd, locusts [attacked]

Commentary:
3: This invasion is inserted into the astronomical section, we thus do not expect any further historical notice following this event. The day of the occurrence was 6 May 257 BC. This is one of the few instances of a locust invasion with the barley crop still standing on the field and it is interesting that the barley equivalent in the year afterwards (price form the same year are unfortunately not extant) was very low. This diary is indeed one of the few cases which might show the economic repercussions of a locust invasion in the prices of an agricultural produce, see also Pirngruber, Locusts.

Date: SE 55, III = 3 June – 2 July 257 BC

Text and translation:
19:   ... .ITU BI GE₆ I [.....]
        ... . That month, night of the first [.....]
20:   [.....] né-pe-šū šá e-nu-ma 𒈗[M ana É.GAL [.....] DŪ-u’ [.....]
        [.....] the ritual of ‘When Adad to the palace [..... they performed .....]
        [.....]

Commentary:
19: As has been mentioned in the commentary to AD -261C, 11, references to events during the night are rather unusual in the historical sections of the diaries. In most cases, simply a lighting stroke (IZI.ŠUB, ‘fall of fire’) is recorded in such instances.

20: A ritual (or an incantation within a ritual) of this title is otherwise not attested. According to D. Schwemer (2001, 693) we may assume that the passage is about a procession during the course of which a statue of Adad was carried to the palace.

Date: SE 55, XI = 25 January – 23 February 256 BC

Text and translation:
r17: [.....] U₄/GE₆ x IZI.ŠUB] ina KI TE.E[K] GÁL-ši (rest eroded)
        [.....] Night/day of the xth, a ‘fall of fire’) occurred in the district of TE.E (rest eroded)

Commentary:
r17: This note is almost identical with that of AD -257B, 5, the commentary to which we refer for further details. It is possible that still another historical note followed as there is quite some space left on the tablet.
Year 256/5 BC = SE 56

AD -255A: Month VI₂
Museum number: BM 41616+41636+41645+41797+42233 (= 81-6-25,231+252+261+416+856)
Copies: LBAT 255+256+885+895+985
Previous edition: ADART II, 16-23 and plates 72-73; Del Monte 1997, 40

Description of the tablet:
This five piece join contained originally a diary for the first half of year 56 SE, which had an intercalary ulti₃u (month VI₂). Less than half of the diary (month I and parts of month II on the obverse and parts of month VI and month VI₂) is preserved. The thickness in the centre of the upper edge measures 2.8 cm and increases to roughly 4 cm in the centre of the broken lower edge. The height of the join amounts to a little more than 11 cm, the maximum length to 16.7 cm. As the lines preceding the small historical section are more or less complete (or completed by H. Hunger) we know that only a small number of signs is missing to both sides. This impression of little loss of signs is confirmed by the almost complete concluding date formula in line r16.

Date: SE 56; VI₂ = 18 September – 17 October 256 BC

Text and translation:
r15: [...] ana E]KI KU₄-ub LÚUNMEŠ KUR ina i-nu-tú ina MÈ ina KI-[i eri-]-du₁₀ ana
tar-ṣu E.SA[G.IL] [...] [.. ... ..] entered[83] Babylon. The people of the land with battle equipment in the
district of Eridu opposite the Esangila [.. ... ..]

Commentary:
r15: H. Hunger completed [TU BI] at the end of line r14 in ADART III, 22 but traces of
an ITU are no longer extant. The reading i-nu-tú is confirmed by collation but remains
somewhat elusive. Van der Spek (2006a, 297) translated ‘with battle equipment’, thus
changing the reading to ú-nu-tú, which is quite a convincing solution in light of the parallel
passage in AD -77B, r16629 (but still difficult to reconcile with the ina preceding the MÈ).
What emerges in any case from this diary is a picture of unrest in Babylon, just as was the
case in AD -261C. This time though, the initiators of the insurgence seem to be identifiable
in the ‘people of the land’, the laoi, and thus the farmers from the countryside around
Babylon. This line is the last of the ‘running text’ of the diary and followed only by a
colophon. This account of local unrest seems to have been concise indeed. See the Diaries
of the 230s BC and the late 160s BC for further and more informative reports of local
unrest.

Van der Spek (2006a, 297) tentatively brought this line as well as the preceding
notice in AD -261C in connection with taxation measures incumbent on the farmers.
Additionally, the continuous absence of the king who was fighting the Second Syrian War
in Asia Minor – which in the end turned out to be a very successful one for the Seleucids –
might have played a role. As a matter of fact, the equivalents of both barley and dates were
very low in SE 56 and also the following one. Negative effects of the tax reforms of
Antiochus I at the end of the 270s BC as attested from Uruk are a tempting explanation,
but against this interpretation the high equivalents of the years around 260 BC can be
adduced. The low equivalents could simply be caused by the constant local revolts, which
in turn might have been triggered by tax pressure. Another possible factor in explaining the
low equivalents in this diary could have been the impact of the locust invasion recorded in
the preceding diary -256, which took place during the harvest period (and on which see
Pirngruber Locusts).

629 The line in question reads LÚ pu-li-te-e ú-nu-ut MÈ GIŠ-ù, the Greek citizens brought battle equipment.
See also CAD T (2006) s.v. tāhazu c1-2.
Year 255/4 BC = SE 57

AD -254: Month IX
Museum number: BM 34728+35418 (= Sp.II 218+1005)
Copies: LBAT 596+258
Previous editions: ADART II, 24-30 and plates 74-75; Del Monte 1997, 40; Joannès 2000, 201

Description of the tablet:
This fragment, the obverse of which is badly damaged, constitutes the bottom part of a diary. As the reverse begins with month X, it is very probable that the original tablet contained the information for the second half of the year in question. Thanks to the join, the last lines of the obverse containing the historical section are more or less completely extant, although illegible on the left side due to the bad state of preservation of BM 34728. The portion of the text on the lower edge is complete. The tablet is maximum 9.2 cm high (but not even 5 cm at 34728, the left hand side part of the join), with a total length of approximately 15 cm. It is 2.5 cm thick in the centre of the lower edge but almost 3.5 cm at the broken upper edge.

Date: SE 57, IX = 5 December 255 BC – 3 January 254 BC

Text:
12: ... ITU BI LU šar-ra-qu
13: [.... .... .... ] IGI-ri-it in-[da/ne/a?] -ši-ma ina NÍG.GA dza-ba-e-ba-š u d nin-lil šá ina

Lo.E 1: it'-bal-lu-' ina EKI ina IZI qa-lu-ú ITU BI TA 12 EN TIL ITU IM.DUGUD

DUGUD

Translation:
12: ... That month, a thief/ thieves
13: [..... .... .... ] in the preceding x x x x and who from the property of Zababa and Ninlil which is in Babylon a theft

Lo.E 1: had committed were burned in Babylon. That month, from the 12th to the end of the month, there was heavy fog.

Commentary:
12-Lo.E.1: Both verbal forms (tabālu and qalū) in line Lo.E.1 concluding the phrase are in the plural, but šarrāgu, the presumed subject of this judicial account, lacks the determinative MEŠ and should consequently be singular. A possible solution to this dilemma would be to assume the presence of an accomplice introduced with, e.g., itti in the lost beginning of line 13. Both Hunger (in ADART II, 27) and Joannès 2000a simply assumed an omission of the sign MEŠ by the scribe and translated ‘thieves’ in the plural.

The beginning of line 13 is fragmentary and difficult to restore, maybe the theft the punishment of which is being recorded had already taken place in the preceding year, hence [MU] IGI-ri-it. It is tempting to hypothesize then a verb starting with in-, and for the following lost sign several possible completions come to mind. An option is to complete a da and interpret the form as a G perfect indaši of mašu, ‘to neglect’. Also a restoration ne and hence an N-stem of ešu, meaning ‘to become confused’ cannot be excluded. The main problem with these readings is that both are singular, whereas the ensuing verbs in Lo.E. 1 are in the plural. Considering the small amount of signs broken off at the beginning of line 13, the subject should be the same for all verbs, hence the thieves.

A third option to be mentioned is to restore na in the gap and hence assume a N-stem form of nasū in the meaning ‘to remove’, ‘to carry off’. This completion innaši,

630 However, in AD -168C (line r16 and r17) which records a similar incidence, the thieves are written with the plural marker, LU šar-ra qa MEŠ.
‘(something) was removed’ would suit the general context—the verb occurs also in AD -277C, a similar record of theft of temple property—but is just like the former suggestions syntactically difficult to reconcile with the remainder of the line. As none of the completions suggested is entirely convincing, the passage remains puzzling.

13: Zababa and Ninlil shared an akītu-temple in the city of Kiš, but for Babylon no temple of either of these two goddesses has been identified so far. We have already mentioned in the commentary to AD -277C, 3 that burning was a common punishment for thieves of temple property in Seleucid Babylon, and that the recording of such judicial measures is not infrequent in the Astronomical Diaries.

Year 254/3 BC = SE 58

AD -253B1: Month VII
Museum number: BM 34105 (= Sp. 205)+41901+42041 (= 81-6-25,521+663)
Copies: LBAT 260 (41901) and 953 (42041); ADART II, plate 76 (34105)
Previous editions: ADART II, 30-37 and plates 75-76; Del Monte 1997, 40-42

Description of the tablet:
This diary probably contained information on the second half of the year in question. There is a duplicate to this join which partly contains the same lines as quoted here, but as it gives no further historical information, it will not receive separate treatment. The reverse of the fragment under discussion is completely eroded, the thickness of the tablet is partly only 0.7 cm. It is of longitudinal form, measuring up to 13 cm in length, and it is maximum 8.7 cm high. By comparison with the parallel tablets, we know that not too many lines are missing at the beginning of fragment B1, its first line is roughly parallel to line A1,6, the beginning of which is complete. The historical note at the end of line 6 of B1 is in any case complete.

Date: SE 58, VII = 27 September – 25 October 254 BC

Text and translation:
4: ... . ZÚ ina kar-ri EKI TAR-is. ...
... . Dates were ‘cut off’ from the market place. ...

Commentary:
4: The content of this line is paralleled on fragment A1, lines 8-9. On TAR-is in the price section indicating a shortage in supply (rather than a deliberate market shutdown by the government) see already the commentary to AD -324B, 13. The explanation for the temporal disappearance of dates from the market in this instance is to be sought in the date of the notice. Month VII was the regular harvest month so this shortage was in all likelihood caused by exhausted stocks before the new harvest brought alleviation. The barley prices of the same year exhibit a remarkable pattern running contrary to seasonal fluctuation, and overall, prices in the second half of the 250s were rather favourable

631 George 1993, 171:1435; see also Joannès 2000a, 201 who assumes that the paraphernalia of the temples in Kiš were stored in the city of Babylon. However, as is clear from the fact that one of the eight city gates of Babylon was named after Zababa, the goddess enjoyed a certain prominence in that city as well. It is thus possible that the two goddesses shared a shrine in a temple complex in Babylon as well. The joint property (makkūru) of these two goddesses in Babylon is still attested in the Rahim-Ešu archive from the early first century BC, see van der Spek 1998a (texts 14 and 18) and 2006, 265.

632 Cf. also the commentary to AD -300, 25 for another form of capital punishment ina gaššu alālu, ‘to impale upon the stake’.

633 The tablets in question are AD -253A1: BM 45840+45945 (= SH 81-7-6,264+382) and A2: BM 33445 (= RM III 122), of which fragment 45840 was copied as LBAT 261. B1, the tablet discussed here is continued by B2: BM 42015 (= 81-6-25,637) which also contains no additional historical information.
compared to the prices prevailing earlier in that decade. A more detailed interpretation of the prices in 254 BC is given in chapter 3.4.

**Text and translation:**

6: ... ITU BI ina Eₚ it-téš-ₚ-mu-fₚ-uₚ³ u[m-maₚₜ]-ta-rat-ni-qé GAŠAN inaₚ URU sa-par-duₚ šim-tuₚₜ ub-tiₚₜ-šuₚ

... That month it was heard in Babylon as follows: fate carried off queen Stratonice in Sardis.

**Commentary:**

6: This line is paralleled by lines A₁10 and A₂3. As it is followed by a stretch of blank space only, it is certain that no other notice referring to the same month ensued. The only difference in version A₂ is replacement of the epithet GAŠAN by M[I.LUGAL] in the restoration of H. Hunger (ADART II, 32). For this line, also a reading NIN, bēltu, is possible in the light of the extant traces. This option is maybe preferable when considering the similar notice concerning the death of Laodice, sister and wife of king Seleucus IV, who is designated as NIN in AD-181, 12.

Stratonice, the daughter of Demetrius Poliorcetes was first married to Seleucus I, the founder of the dynasty who ceded her to his son Antiochus. She was thus the mother of the reigning king Antiochus II (Theos). The quoted line is in so far of historical interest as the date of her death is otherwise not attested. Del Monte interpreted the sign GAŠAN tentatively as allusion to a cult for her person already during her lifetime in Babylon. However, for such a cult there are no attestations whatsoever, and the variant NIN in AD - 253A₂ 3 shows that the scribes attached little importance as to how to render bēltu. Also more generally, there are no convincing arguments to postulate an official cult for the royal family under the Seleucids in Babylon.636 Del Monte’s (1997, 41-42) explanation for the unusual rendering of Stratonice in Akkadian, fₚ-as-ta-rat-ni-qé, and fₚ-as-ta-rat-ni-qé-e in version A, for which he assumes a popular etymology combining the DN Astart with the Babylonian word for sacrifice, niqû, is more convincing.

Van der Spek (1993a, 71) tentatively assumes that the death of this influential woman was an important precondition for the marriage of Antiochus with Berenice and the rapprochement of the Seleucids with Egypt. In this regard, it is noteworthy that the marriage of Antiochus II with the Ptolemaic princess Berenice came about already within a year of Stratonice’s death.

**Year 252/1 BC = SE 60**

**AD-251:** Month XII

Museum number: Rm 718+723+BM 32840 (= 77-2-22.2)+34130 (= Sp.232)

Copies: LBAT 262 (Rm 718), 263 (Rm 723), 264 (34230)

Previous editions: ADART II, 36-43 and plate 77; Del Monte 1997, 42

**Description of the tablet:**

The tablet contains the remnants of a diary for the second half of the year SE 60. It is 12.8 cm long and a little less than 8 cm high. Its thickness measures 2.2 cm in the centre of the upper edge but 3.4 cm at the broken lower edge. The historical text is found on the upper edge, the beginning of the line is broken off. The completions in ADART III based on the introductory date formula in line 1 and on the summary of planetary positions in line 634 See in general Macurdy 1932, 78-32 on her live. The story of Seleucus marrying his own wife to his son is reported in Plut. Dem. 38 and App. XI (Syr.) 59-61 (culminating in the famous statement ‘what the king holds as right is right’).

635 Del Monte 1997, 41, according to whom GAŠAN is in the Late Babylonian period ‘di norma titolo divino’.

636 Pirngruber 2010, for a different stance see Linssen 2005, 124-128.

637 As proofs of the importance of this woman he adduces e.g. her inclusion – contrary to Babylonian usage – in the foundation inscription of her husband Antiochus I, cf. van der Spek 1993a, 71-72.
U.E.1 show that roughly 8 or 9 signs that are missing to the left. The report on the river level finishes already in line U.E. 2 with the indication of the na-gauge level. Consequently, it is probable that another short historical notice in the lacuna preceded the brief historical note in line U.E.3. The is another historical note inserted into the day-to-day observations of month XII, which is also completely preserved.

**Date:** SE 60, XII = 1 – 29 March 251 BC

**Text and translation:**

r11: ... 19 ina AN.BAR; KI-tì i-nu-uš. ... ... . Day 19, at noon, the earth quaked. ...

**Commentary:**

r11: This reference to an earthquake on 19 March 251 BC is singular in the corpus of the ADs. Omens concerning earthquakes are found in the series *Enûma Anu Enlil*, we thus deal again with what we termed ‘omen-related’ event. It is interesting to note that all predictions following an earthquake are negative ones, they were considered a ‘persönliche, sehr ernste Verwarnung der Götter an den König’. 638

**Text and translation:**

U.E.3: [.....] x-du ITU BI l' an-ti- 'u-uk-su LUGAL TA URU se-lu-ke-'a-a È-ṣa
[.....] That month, king Antiochus went out from Seleucia.

**Commentary:**

U.E.3: Such laconic comments recording the movement of the king (or a high official) from one town to another are not infrequent in the ADs. We do not know which Seleucia is meant in this passage; considering the Antiochus II has spent almost all of the 250s BC in Asia Minor waging the Second Syrian War (until 253 BC) and was soon to re-appear in this region (see the following diary), we cannot exclude that the Seleucia of this diary was Seleucia-in-Pieria in Syria. Seleucia-on-the-Tigris, especially in the Seleucid period, is hardly ever attested without the appositions šá ana muh-hi IDIDIGNA and/or URU LUGAL-ù-tu. 639 In spite of their distance, Syrian towns were regularly mentioned in the Diaries, see e.g. already the following example AD -249A.

**Year 250/49 BC = SE 62**

**AD -249A:** Month IV
Museum number: BM 55514 (= 82-7-4,93)
Copy: Listed as LBAT *265
Previous editions: ADART II, 42-45 and plate 78; Del Monte 1997, 42

**Description of the tablet:**

Of this fragment, no obverse is extant and consequently the thickness varies between 1 and 1.5 cm only. The tablet is maximum 6.5 cm high, the line length at the historical note measures 5.8 cm. The whole summary of planetary positions for month IV must have been in the lacuna between the end of line 4 and the beginning of line 5, so loss was quite substantial. Considering that at the beginning of the section of month V in line 7 the entry of the first day of the month is still extant we assume tentatively that the loss to the left was less grave than it was to the right, but the total amount of broken off sings is elusive.

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638 Maul 1994, 21. For an overview over the cuneiform documentation on earthquakes see also Fadhil 1993.

639 The only instance is AD -273B, r36. However, in the same diary (in the immediately preceding line r35), Seleucia appears also twice with the appositions URU LUGAL-tù šá ina UGU IDIDIGNA. Van der Spek 1993a, 74 assumes that the diary at issue speaks of Seleucia-on-the-Tigris and thus constitutes the first proof that Antiochus II was also active in the Eastern part of his empire.
Date: SE 62, IV = 15 July – 13 August 250 BC

Text and translation:

r6: [(many signs) .. \( \text{ÉRIN}^{\text{MEŠ}} \)-šú \( \text{u} \) \( \text{GIGIR}^{\text{MEŠ}} \)-šú id-ke-ma \( \text{TA} \) an-tu-\( \text{[e .. (many signs)]} \)]
[(many signs) ..] mustered his [troops?] and his chariots and from Antioch [(.. (many signs)]

Commentary:
r6: Little is known of the precise course of events in the last years of the reign of Antiochus II, what is clear, however, is that he conducted military operations in Asia Minor and even in Thrace. The major challenge to Seleucid supremacy in Asia Minor in that period was the kingdom of Bithynia, ever eager to grow under king Nicomedes I, but also operations against Byzantium are reported. The mustering of troops in Antioch-on-the-Orontes mentioned in our diary is best interpreted with regards to these affairs.

AD -249B: Months X and XI
Museum number: BM 46030 (= SH 81-7-6,476+495)
Copy: Listed as LBAT *266
Previous editions: ADART II, 44-51 and plate 78; Del Monte 1997, 42-43

Description of the tablet:
This diary probably contained information for the period between month VIII? and month XII of the year 62 SE. The fragment is actually a two-piece join, and there is more text extant on the reverse as the lower part of the obverse is substantially eroded. The information for month X is divided between obverse and reverse, indicating a rather small amount of lost lines in the upper part of the reverse. As the section for month XII is partly extant we do not expect a too large lacuna at the lower edge. The total height of the fragment amounts to more than 13 cm as measured on the better preserved reverse. The line length on the obverse measures a little more than 11 cm, the fragmentary price section and summary of planetary positions point towards greater loss towards left and right edge.

Date: SE 62, X = 9 January – 7 February 249 BC

Text and translation:

r3: [(unknown amount of signs) .. \( \text{ana} \) \( \text{dEN} \) \( \text{u} \) \( \text{dGAŠAN} \)-iá ina \( \text{É.SAG.GÍL} \) \( \text{D[U]} \)]
[(unknown amount of signs) ..] he o[ffered] to Bēl and Bēltiya in Esangila

Commentary:
r3: As the following line is the first of the section of month XI, it is possible that the historical section already ended with DŪ. Sacrifices to the gods are a recurring subject in this corpus, especially from the last quarter of the 3rd century onwards. It is not clear who performed what kind of sacrifices (\( \text{ginû} \) as in AD -273B or \( \text{niqû} \) as in several later instances, e.g. AD -187A) in the present instance.

Date: SE 62, XI = 8 February – 7 March 249 BC

Text:

r14: [(unknown amount of signs) ITU] BI \( \text{ŠÈG}^{\text{MEŠ}} \) \( \text{TAR-u'} \) [(unknown amount of signs)]
r15: [(unknown amount of signs) \( \text{ana} \) \( \text{muh-hi} \) \( \text{ŠÀ.TAM} \) \( \text{u} \) \( \text{E}^{\text{KI} \text{MEŠ}} \) \( \text{tat-tal'}-\text{ku} \) \( \text{um-ma} \) \( \text{ŠÈ.NUMUN} \) .. (unknown amount of signs)]
r16: [(unknown amount of signs) \( \text{TA} \) \( \text{U}_4 \) \( \text{n} \).KAM EN \( \text{in-ga-a} \) \( \text{gab-bi} \) .. .. .. (unknown amount of signs)]

Translation:

640 Will 1979², 246-248.
r14: That [month], rain failed to occur.

r15: (a message) came to the šatammu and to the Babylonians as follows: the field

r16: [from day n] until now, all [.. .. .]

**Commentary:**

r14: This meteorological detail was recorded between the section on the river level and the historical section. Whether it was written down as climatic abnormality or for its ominous meaning (or also for both reasons) is unclear. The period recorded, February/March, ranges with a mean precipitation of more than 25 mm among the more humid months, the absence of any rain would consequently indeed be a noteworthy event.

r15: This reference as well as the following one (AD -247B) were brought by Del Monte in connection with the so-called ‘Lehmann’-text. This important document, unfortunately still not adequately published, records a land (ŠE.NUMUN) grant by Antiochus II in favour of his wife Laodice and their sons Seleucus and Antiochus. Until recently, it has been hypothesized that this grant was bestowed upon Laodice on the occasion of the divorce from her husband Antiochus, who subsequently married the Ptolemaic princess Berenice as part of the peace treaty concluding the Second Syrian War in 254/3 BC. This same year was consequently considered the most likely candidate for the date of the donation.

As L. Martinez-Sève (2003) has now argued there is no reason to postulate neither repudiation of Laodice nor a formal divorce. Her interpretation also receives further confirmation by the following diary AD -247B, which designates Laodice explicitly as ‘wife’ (DAM, aššatu). However, Martinez-Sève keeps the traditional date of the donations interpreting them as attempts ‘(de) consolider le rang de Laodice, voire à en rehausser le prestige’ (699) in the light of the second marriage of her husband.

The extant copy of the ‘Lehmann-text’ dates from the reign of Antiochus IV, but refers to an earlier document from 75 SE (236 BC) and contains a statement of the šatammu and the assembly of the Esangila which recorded that the land granted to Laodice and her sons was to be put at the disposal of the Babylonian, Borsippaeans and Cuthaeans, who would not only receive a tithe of the harvest but also full power of

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641 For rain in omen literature see CAD Z (1961) s.v. zunnu Ac, see also CAD P (2005) s.v. parāsu 11 a 4'.

642 Source: [http://www.stadtklima.de/cities/asia/iaq/bagdad/bagdad.htm](http://www.stadtklima.de/cities/asia/iaq/bagdad/bagdad.htm) (last accessed 6 September 2011). In the modern period, 25 mm is the mean precipitation for February, in March that value amounts to even 28 mm – the highest value of the whole year. To compare, between May and October the monthly precipitation ranges around 2 or 3mm monthly.

643 Del Monte 1997, 43, a similar interpretation is given by van der Spek 2006a.

644 The document received its name from an article by Lehmann-Haupt 1907, in which it was partly published. Since that, and in spite of its unsatisfactory state of publication, it has received ample treatment, most notably by Sarkisian 1969, van der Spek 1986, especially 241-248, and also 1993a, 69-70. A commented edition is currently being prepared by I. Spar and R. Wallenfels in the CTMMA-series.

645 E.g., by van der Spek 1993a, 71 and Del Monte 1997, 44-45.

646 This late copy is commonly explained with the installation of a Greek colony in Babylon under Antiochus IV and a hypothetical or suspected re-confiscation of the land, see van der Spek 1993a, 74 et passim. However, the colophon of the extant tablet states clearly that the tablet was prepared by an apprentice scribe in the course of his scribal education, see the commentary in the forthcoming edition of Spar/Wallenfels The reason to establish a copy in 236 BC is less clear, Del Monte (1997, 44-45) suspected that quite some time elapsed between the original donation of Antiochus II to Laodice, and the second donation of Laodice to the Babylonians. In the light of a new fragment (briefly mentioned by van der Spek 2006a, 309), its content is incorporated in the running text of the article on 298) it rather seems that under Seleucus II (part of) the land was given to the sons of a garrison commander, an act which was successfully contested by the Babylonians.

647 A certain bond between Babylon, Borsippa and Cutha is attested at least as early as Shalmaneser III (858-824 BC), who after a victorious campaign visited the three cities. In a similar context, Samsi-Addu V (823-811 BC) received the leftovers of the meals of the gods from Babylon, Borsippa and Cutha, see Brinkman 1968, 212 and 217. AD -77A, 29-30 shows that the same situation still prevailed in the first century BC during the Parthian period. It is furthermore interesting that the principal divinities of these three centres – Bēl, Nabû and Nergal – appear more frequently than other gods as demons in Mandaean incantations (cf.
disposition of the land. In the documents RC 18-20\textsuperscript{648} from Asia Minor recording similar grants to Laodice, the donated estates had to be attached to the land of a city. By assuming a similar mechanism for Babylonia, van der Spek interpreted this donation as deliberate policy providing the Babylonians with additional income from these estates.\textsuperscript{649} If his hypothesis is true (and the commodity prices of the ADs a reliable indicator), this measure brought indeed some success as the equivalents after 254 BC are considerably higher than before and remain favourable throughout the 240s BC.

**Year 249/48 BC = SE 63**

**AD -248:** Month VII  
Museum number: BM 45723 (=SH 81-7-6,130)  
Copy: LBAT 267  
Previous editions: ADART II, 50-53 and plate 79; Del Monte 1997, 43

**Description of the tablet:**  
This small fragment measuring 7.7 by 4 cm on the obverse is all that remained of a tablet that originally contained a diary for months I to VIII of year 63 SE. The reverse with the historical note is badly broken, the inscribed surface measures only about 5 by 2.8 cm maximum. The piece is more than 3.5 cm thick. As it contains information on month I on the obverse and VIII on the reverse, we suppose that it was located somewhere in the upper part of the original tablet. The amount of missing signs is unclear but can be assumed to be substantial.

**Date:** SE 63, VII = 30 September – 29 October 249 BC

**Text and translation:**

r4: \[ITU\] BI MPES\textsuperscript{4} MEŠ\textsuperscript{4} ina Ü.TU ÚS\textsuperscript{4} MEŠ -m[a] .. .. ..
\[ .. .. .. \]

... . That [month], pregnant women died in childbirth, and .. .. ..

**Commentary:**

r4: Similar references concerning an elevated mortality rate among pregnant women are known from omen apodoses, such as *Enūma Anu Enlil*, tablet 16 (fragment H, iv 18):\textsuperscript{650} “pregnant women will miscarry their unborn”.\textsuperscript{651}

**Year 248/47 BC = SE 64**

**AD-247B:** Month VII  
Museum number: BM 46006 (=SH 81-7-6,450)  
Copy: LBAT 269  
Previous editions: ADART II, 52-59 and plates 79-80; Del Monte 1997, 43-45

**Description of the tablet:**  
Fragments AD -247A to C are probably from the same tablet but do not join. According to the colophon on the upper edge of C, the diary contained information for the

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\textsuperscript{648} A convenient edition with translation is found in Aperghis 2004, 315-318 (‘Document 3. The Laodice dossier’), cf. also his comments on 102-103 and 144-145. The absence of the title ‘queen’ for Laodice is explained by Martinez-Sève 2003, 699 with the fact that these are essentially private documents rather than public acts.

\textsuperscript{649} Van der Spek 2006a, 297-298.

\textsuperscript{650} Rochberg-Halton 1988, 107.

\textsuperscript{651} Additionally, there are also a few omen protases regarding pregnant women found in the ‘Diagnostic Handbook’ (šakikkû). See Stol 2000, 193-204 for a partial edition of the pertinent tablets.
second half of year 64 SE. The fragment in question is very thick (about 4 cm), however, there is not much text extant. The height on the obverse measures 4.2 cm, the line length at the historical note adds up to 5.7 cm. The loss of signs in this passage is sizeable, the completely preserved lines of fragment C show about 35 signs each.

**Date:** SE 64, VII = 20 September – 19 October 248 BC

**Text and translation:**
4: [(unknown amount of signs) it]-tu-ru-u’ um-ma [tu-de-ke-e DAM [(unknown amount of signs)]
[(unknown amount of signs) re]turned²[pl] (and proclaimed) as follows: Laodice, the wife of [(unknown amount of signs)]

**Commentary:**
4: An alternative reading of this line [iš]-ṭú-ru-u’, ‘they wrote as follows’ has been suggested by van der Spek (2000a, 435), but the reading ṭú of the sign TU is not attested in the Late-Babylonian corpus. This line is divided from the next by means of a horizontal line. With Del Monte we assume that the Laodice mentioned in the text is the wife of king Antiochus II. The context of this mention is unclear, a connection to the Lehmann text was tentatively envisaged by Del Monte 1997, 44-45.

**Date:** SE 64, XII = 15 February – 16 March 247 BC

**Text and translation:**
r8: [(unknown amount of signs)] tI.ZI.ŠUB ina KI-ti ki-da-nu [ša kin] Luša-LUGAL?
[(unknown amount of signs)] a ṭ fall of fire³ in an outside district; the [royal?] governor [(unknown amount of signs)]

**Commentary:**
r8: The historical note continued in line r9, of which but illegible traces are extant. The exact location of this lightning stroke is elusive but probably a district outside the inner city wall Imgur-Enlil-šumma. The title of šaknu is only scarcely attested in the Hellenistic period but he is commonly assumed to have been the governor of Babylon. Due to this paucity of attestations, his exact functions are impossible to determine.

**Year 247/46 BC = SE 65**

**AD -246:** Month II
Museum number: BM 32889 (= 77-11-14,18+19)+ 32967 (= 78-5-31,56)+ 41614+41618 (= 81-6-25,229+233)
Copies: LBAT 271+*272 (BM 32889), 273 (BM 41614)
Previous editions: ADART II, 58-65 and plates 81-82; Del Monte 1997, 45

**Description of the tablet:**
The four-piece join contains the remnants of a diary of the first half of year 65 SE, a little less than half of the original is still preserved. The thickness at the centre of the upper edge measures 2.6 cm but almost 4 cm at the broken lower edge. The first lines,
which are completely preserved, have a length of 17 cm, and the height of the tablet as measured in its centre amounts to 10 cm.

**Date:** SE 65, II = 15 May – 12 June 247 BC

**Text:**
17: ... LŪ'UNMES KUR SAHAR^HLA^ SA₅ ŠŪ-u’.
18: ... IM.GU KUR is-húp [...] SA₅ SILA^MES^ u LŪ'UNMES KUR su-up-pu-hu-u’
          AN.BAR₇ hap-rat šamaš GIM šá sin [IGI] ...

**Translation:**
17: ... The people of the land were covered with red dust.
18: Mud covered the land, red [...] were spread over the streets and the people of the land. Around noon, the disk of the sun looked like that of the moon. ...

**Commentary:**
17-18: Both notices are inserted into the astronomical section of month II. The exact date of the event in r17 was day 19 which corresponds to 2 June 247 BC; r18 probably dates to the following day. The phenomena seem to describe a sand storm or similar, due to their position among the day-to-day observations it is quite probable that we deal with a meteorological observation. However, one cannot exclude that both events were noted down due to their ominous significance.

In fact, from the collections *Enūma Anu Enlil* and *iqqur īpuš* an omen protasis šumma IM.GU KUR is-húp is known, with a very remarkable apodosis for the occurrence of this event in month II: MU 10.KAM KUR di-bi-ri IGI-mar: ‘for 10 years, the country will see calamities’. The times to come were indeed full of hardship for the Babylonians. After the death of Antiochus II in the following year, the Seleucid empire was invaded by Ptolemy III who tried in vain to support the claim of his sister’s son to the throne. That he came as far as Babylon itself is now attested by chronicle BCHP 11 which reports of the entrance of Ptolemaic troops into the city and quite an enduring siege of the palace. It was only due to an insurrection in Egypt that Ptolemy was forced to withdraw before causing further damage. This so-called Third Syrian War lasted until 241 BC; unfortunately, no price data is extant from the year of Ptolemy’s invasion. The equivalents of the basic commodities barley and dates remained quite favourable throughout the rest of the 240s BC, it is only from ca. 241/0 BC onwards equivalents remained low for about a decade. As we have shown in chapter 3.4, this is best ascribed to causes other than the Ptolemaic invasion.

**Year 246/45 BC = SE 66**

**AD -245A:** Months I and V
Museum number: BM 132276 (=1958-4-12,10)+ MNB 1884
Copy: TBER 83 (MNB 1884)
Previous editions: ADART II, 66-73 and plates 82-83; Del Monte 1997, 46-49; van der Spek, www.livius.org (BCHP 11: Related Texts)

**Description of the tablet:**

656 *Enūma Anu Enlil* tablet 22 II § 4 (Rochberg-Halton 1988, 264), and Labat 1965 §102. On the somewhat unclear word dibiru see CAD D (1959), s.v. dibiru, 134-135. The other occurrences recorded in the lines of this Diary are, however, not known from omen series.

657 For this conflict see Will 1979, 248-254, Hölzl 1994, 46-50, and now Grainger 2010, 117-136; none of these accounts, however, could draw on the Ptolemy III chronicle BCHP 11 for which see the online publication at www.livius.org/babylonia.

658 Similarly, van der Spek 2006, 300-301 points out that this invasion had obviously no longer lasting effect on the prices. Cf. the commentary to ADs -237, -234, -230.
The tablets contain a diary of the first half of the year in question, less than half of which is preserved. Fragment B was in all probability a part of the same tablet and contains the lower edge. As this latter fragment is in parts almost completely preserved, we can estimate the amount of signs per line at about 45 (see below). This number seems also plausible in the light of the gap between lines 10 and 11 which should have contained the summary of planetary constellations. As the left edge of fragment MNB 1884 is extant, we can even be certain as to the distribution of the missing signs to the left and to the right. BM 132276 is in the centre 7.7 cm high and has a line length of up to 9 cm. The thickness adds up to 3.6 cm at the broken left edge (and a little more at the broken right edge), a pattern which perfectly fits our estimations.

**Date:** SE 66, I = 4 April – 3 May 246 BC

**Text:**

11:   ... ITU BI U₄ 6.KAM BÂD É.SAG.Í [I ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... 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One of the aspects of the New Year’s festival was the confirmation and renewal of the cosmic but also the terrestrial order.\(^\text{663}\) The extant ritual tablets show that the reigning king played an important role in it. We know that Antiochus III at least once, in April 205 BC attended this festival in person (see the commentary to AD -204C). He is the only Seleucid king whose participation is explicitly attested. There is no role assigned to the sons of the king in this festival according to the ritual tablets, and it is not entirely clear why they are mentioned in this context. That also Antiochus II himself, whose name is definitely to be restored in the lacuna as shows the term DUMU\(^{\text{MES}}\)-šü, was in Babylon at this time is generally doubted as he died not even four months later in Ephesus.\(^\text{664}\)

In analogy with chronicle BCHP 12 (= ABC 13b) and other texts, van der Spek (1993a, 72) tentatively interpreted the passage in terms of sacrifices being performed for (the life of?) the king and his sons. This is a possible solution and surely more plausible than a participation of the sons of the king in the rituals of the New Year’s festival, but also presents some difficulties. For example, in all later instances the tablets speak only generically of the DUMU\(^{\text{MES}}\)-ša LUGAL, ‘the son(s) of the king’ as recipients of offerings without ever mentioning their names, on the contrary, not even the name of the king is ever stated. Moreover, the addition ‘in Esangila’ is also never found in this specific context of sacrifices ‘for the life of’ the king (and eventual sons).

Maybe the simplest explanation is the best one in this case. After a longer period of absence, (parts of) the royal family arrived in Babylon and paid tribute to the local gods in their temple, which event the scribes of the diaries deemed worthy of mention.\(^\text{665}\)

**Date:** SE 66, V = 1 – 30 August 246 BC

**Text:**

r5: ...-sag-gíl GÂL-ši ITU BI U\(_4\) 20,KAM ina E\(\text{K}^1\) it-ti-šem-m[...]...

r6: ... ... (traces) u pu-luh-tu\(_4\) ina KUR GAL-ši

**Translation:**

r5: ... ... was in the Esangila. That month, day 20, in Babylon it was heard ... ...

r6: ... ... and fear was in the land.

**Commentary:**

r5: As van der Spek has shown convincingly, this passage is best considered as referring to the death of Antiochus II in Ephesus which became known in Babylon on 20 August 20246 BC. His hypothesis is based upon the identical wording ‘ina E\(\text{K}^1\) it-ti-šem-mu’ (it was heard in Babylon) in the Babylonian king list.\(^\text{666}\) The date formula of the following fragment AD -245B is particularly interesting as it reads (in the translation of ADART III, 69) ‘Diary from month I to month VI, king Antiochus, from month V to month VI, king Seleucus, his son.’ This lends further credence to van der Spek’s interpretation that the historical note of month V under discussion refers to the death of Antiochus II.

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\(^{663}\) On the political aspects of the akītu-festival see Kuhrt 1987 and Zgoll 2006, 60-63.

\(^{664}\) So unanimously van der Spek 1993a, 72, Del Monte 1997, 47 and Boiy 2004, 147-148, for a more optimistic stance see Linssen 2005, 85.

\(^{665}\) See also É. Will’s observation (1979\(^^2\), 246) that Antiochus II is only attested in the western part of the empire, mainly in Asia Minor. Of course, arguments e silentio are no strong arguments (as is also admitted by Will himself), but as the Seleucia in AD -251 (U.E. 3) possibly does not refer to Seleucia-on-the-Tigris and the Lehmann-text contains no reference to the actual presence of the king, there is no hard evidence that Antiochus ever was present in Babylonia. We even do not know if he participated in person in the campaign to repel Ptolemy’s invasion at his accession, which is very doubtful considering the wording of BCHP 11.

\(^{666}\) Van der Spek 1993a, 73. The document was published by Sachs/Wiseman 1954.
r6: The note in this line is complete. ‘Fear in the land’ often accompanies bellicose events and was in this instance probably caused by precarious political situation following the death of Antiochus, namely the 3rd Syrian War (246-241 BC) and the Ptolemaic invasion of the Seleucid empire as far as Babylonia. The most prominent victim of this war were certainly Ptolemy’s sister Berenice and her son, who were murdered upon the instigation of Laodice shortly after Antiochus’ death in their residence in Antioch. 667

AD -245B: Month III
Museum number: Rm 767+ 818+ BM 41633 (= 81-6-25,249)+ 77244 (= 83-6-30,24)
Copy: LBAT 274 (BM 41633)
Previous editions: ADART II, 66, 68-71 and plate 83; Del Monte 1997, 47-48

Description of the tablet:

The fragment was the lower part of a diary which according to the date formula on the extant lower edge contained information for the first half of the year in question. The obverse preserves some historical information for month III. According to Hunger’s completion of the reverse, only four or five signs are missing in the beginning, the right edge is ideographically preserved. As stated above, it is quite certain that the fragment is a part of the same tablet as AD -245A rather than a parallel. B measures maximum 14.5 cm in length, but does at no point exceed 3 cm in height. The thickness in the centre of the broken upper edge amounts to 3.1 cm.

Date: SE 66, III = 2 June – 1 July 246 BC

Text:

3:  [.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 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both occur regularly in the Diaries. The second important piece of information contained in this diary is syllabic writing of the assembly which confirms that the logogram UKKIN in Hellenistic times is to be read *kiništu* rather than *puhru*, as was the case in earlier periods.\(^{669}\)

5: We think it is correct to separate the last sign before the gap (a) from the PN Laodice as has been proposed by Del Monte.\(^{670}\) The traces allow for a reading *na* at the beginning of the gap. It is of course very tempting to identify the ‘house’ with the land grant that is the subject of the ‘Lehmann-text’ (for which see the commentary to AD -249B, r15). Speculatively, one may assume that the following festivities are due to the donation of the land to the Babylonians, Borsippaeans and Cuthaeans, which in this line of interpretation occurred some years after the original donation to Laodice.\(^{671}\)

The phrase ‘they ate bread in it’ reappears in AD -132C (r27) -161A r12 in similar festive occasion, probably it refers to the consumption of sacrificial offerings.\(^{672}\) *Nigûtu šakānu* (or *epēšu*) appears quite frequently in diaries from the early 2\(^{nd}\) century BC, it means generally ‘to hold a festival’. This expression also has a musical connotation as it is derived from *nagû*, ‘to sing joyously’.

**Year 242/41 BC = SE 70**

**AD -241:** Month II  
Museum number: Rm 712  
Copy: LBAT 276  
Previous editions: ADART II, 76-77 and plate 84; Del Monte 1997, 49  
Commentary: van der Spek 2000

**Description of the tablet:**
On this very small fragment, only information of the second month of the year SE 70 is extant. The reverse is completely broken off, the thickness still adds up to 2.8 cm maximum. The inscribed space is roughly a square, with height and length measuring about 4.5 cm. In the gap between lines 7 and 8, at least the equivalents of dates, *kasû*, cress and wool as well as the introduction of the summary of planetary positions need to be accounted for.

**Date:** SE 70, II = 19 May – 17 June 242 BC

**Text and translation:**
9: \[unknown amount of signs\] \(\text{KUS} \ sî-piš-tu4 \ ana \ UGU \ LÚEKI \ [M\[EŠ\]]\] \[unknown amount of signs\]  
\[unknown amount of signs\] a message on parchment to the Babylonians \[unknown amount of signs\]
10: \[unknown amount of signs lost\] \(\text{a-lik} \ \text{A}^3 \ sîp^{-}\-ri\^2 \ LUGAL\^2 \ DÛ^{-}\-us\^3\] \[unknown amount of signs\]  
\[unknown amount of signs\] Alexander, the royal messenger, he made \[unknown amount of signs\]

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\(^{669}\) See already van der Spek 1993, 101. For the reading ‘the Babylonians, the assembly of the Esangila’, rather than ‘the Babylonians and the assembly of the Esangila’ see the discussion in Boiy 2004, 195.

\(^{670}\) Del Monte 1997, 47. For another interpretation see van der Spek 1993a, 73 (‘the house which belonged to Laodice’), his translation is retained (with some critical distance) in Boiy 2004, 148\(^{109}\).

\(^{671}\) Similarly Del Monte 1997, 45, who dates the ‘second’ donation (of Laodice to the Babylonians, Borsippaeans and Cuthaeans) to 236 BC only, hence the year in which the Lehmann-text was drafted.

\(^{672}\) The expression appears also in chronicles BCHP 6 and 11 from the Seleucid period, according to van der Spek (commentary to BCHP 6, 9 on http://www.livius.org/babylonia.html), it was considered a Greek phenomenon by the Babylonian scribes. In Babylonia, the sacrificial leftovers were traditionally distributed among the prebendaries, cf. (for Hellenistic Uruk) Corò 2005, 125-134.
Commentary:
9-10: Line 10 is badly eroded and very difficult to read. Van der Spek proposed to read ʻa-li-k šip-ri LUGAL and suggested to identify this Alexander as the brother of the queen-mother Laodice, who acted as governor in Sardis and was hence the most powerful royal official in Asia Minor. This is a tempting hypothesis although it has to be noted that officials, and especially those of faraway regions, are hardly ever mentioned by name. As a parallel one might adduce AD -273B r29 which denominates an official to which was assigned the task of defending Sardis in a troublesome period simply as NUN SIG-ū, ‘a famous official’.

The content of the message in line 9 is broken off. As regards the historical circumstances of this Diary, the Third Syrian War was still in full swing in 242 BC. A peace contract was concluded only the year after. About this conflict, very little is known, its most important outcome was the consolidation of a Ptolemaic enclave in Syria (including Seleucia-Pieria), which remained in the hands of the dynasty until the time of Antiochus III as well as an extension of Ptolemaic naval bases on the South coast of Asia Minor as far as Thrace.

Year 241/40 BC = SE 71

AD -240: Month VIII
Museum number: Rm 720+ 732+BM 41522 (= 81-6-25,135)
Copies: LBAT 883 (BM 41522); listed as LBAT *278 (Rm 720) and *277
Previous editions: ADART II, 78-83 and plate 85; Del Monte 1997, 49

Description of the tablet:
The join as preserved contains information about four months of the second half of year 71 SE. Month IX extends over both obverse and reverse. The lower and right edges are partly extant. The join measures 9.8 cm in height; its total length (measured on the reverse) exceeds 12 cm. At the broken left edge, it is about 4.2 cm thick but only a little more than 2.5 cm on the right edge. The amount of missing sings can roughly be estimated with the help of the gap between the lines r9 and 10, which must have contained the price indication for wool as well as the beginning of the summary of planetary positions. As a minimum estimate, 20-25 signs need to be completed. Two additional historical sections on the reverse (lines r1 dating to month IX and line r10 to month X) are now with the exception of the introductory ITU BI completely lost.

Date: SE 71, VIII = 1 – 29 November 241 BC

Text:
5:     ... . ITU BI [... ... ... ]
6:     [ (~ 20 signs)] tuš ša INNIN TIN.TIR KI ina šur-qa [...] ana E KI KU x [... ... ]
7:     [ (~ 20 signs) ana] GIB.KIR6 SIMLI KU4 -u` ki` ë-(šá-lu)-uš uk` tin-nu'[uš ... ... ]
8:     [ (~ 20 signs) ] É gu-ra-a šu-ṣu ... [ ... ... ... ... ... ] x x be-e x di-i-ku

Translation:
5:     ... . That month, ... ...
6:     [ (~ 20 signs)] the ... of Ištar of Babylon in a theft [...] to Babylon [... ...]
7:     [ (~ 20 signs)] the juniper garden they entered. When they interrogated and convicted him [...] ... ...
8:     [ (~ 20 signs) ] to` Bīt gurā brought up? [...] x x x x x were killed

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673 Van der Spek 2000a, 435 (discussing Del Monte 1997, 49).
Commentary:

6/7: The cultic importance of Ištar of Babylon in Hellenistic Babylon is confirmed by AD - 204C, r18, which reports of sacrifices offered to her alongside the city-gods Bēl and Bēltiya (for the life of the king). No other god is ever attested in this position. Her temple was the Eturkalamma, which was located inside the Esangila complex. As we have seen in the commentary to AD -328, r24, also the juniper garden was in all probability part of the same complex. The completion KU.NU (gerēbu, ‘to approach’) is hypothetical, but the sign KU is visible rather clearly, and a verb following ana EKI the most logical solution.675

7/8: In spite of the fragmentary state of preservation of the diary, it clearly emerges that the events recorded were of a judicial nature. Capital punishment (by burning to death) for the theft of –probably also in this instance – temple property is also attested in other instances. For further details on this subject see the commentary to AD -277C, r3.

8: A GN Bīt gurā appears another time in the Seleucid period, in the chronicle BCHP 5. In that instance (line 13) it was written É gu-ra-’, and tentatively identified as bīt gira’ in the vicinity of Nippur known from the Murašû-archive.676

Year 238/37 BC = SE 74

AD -237: Month III

Museum number: BM 41464+41465+41524+41834+41837 (=81-6-25,75+76+137+453+456)+ 132277 (=1958-4-12,11).
Copies: LBAT 279 (41834), 280 (41837), 855 (41464+41465), 822 (41524)
Previous editions: ADART II, 86-93 and plate 87; Del Monte 1997, 49-50
Commentary: Van der Spek 2006, 299-301

Description of the tablet:
The join contains information on months III to VI of year 74 SE. The first two lines of the historical section are almost completely extant, only the edges are slightly eroded. The line length amounts to 18.2 cm, and the height of the join measures 9 cm maximum. The tablet is 2.2 cm thick in the lower left corner, but 3.7 cm in the centre of the broken upper edge.

Date: SE 74, III = 4 June – 3 July 238 BC

Text:

12: .... ITU BI ÚŠMEŠ MAH ina É 2 lu 3 ÚŠMEŠ
13: [ITU] BI ᵀal-tu₄ KI É.GAL šá ina EKI ... [IT]U BI 29 30 LÚÉRINMEŠ TA É.GAL ki ᵊᵣ₄ KI LÚÉRINMEŠ LUGAL ša EN.NUNMEŠ
14: [⾛₄-du₄ ] ITU BI TA? .. .. .. .. .. .. .. BURU₅ HLA sa-dir

Translation:

12: This month, there was a heavy epidemic: in a house, two or three died.
13: This month, fighting in the district of the palace in Babylon [ .. .. Th]at month, days 29 and 30 (= 2 and 3 July 238 BC), when the troops came out from the palace, with the troops of the king from the citadel
14: [they did battle] That month, from’ ... ... ... ... ... locusts kept attacking.

Commentary:

675 Usually, ana EKI is followed by KU₄ (erēbu, to enter), but the traces do not allow such a reading in the present instance.
676 Stolper 1985, 273 (text 98, r18). The identification of Bīt gurā/gura’ with bīt gira’ was suggested by van der Spek (http://www.livius.org/babylonia.html) in the commentary to line 13 of BCHP 5 (Sin and Antiochus Chronicle).
12: The possibility that the elevated mortality rate was connected to the internal strife in Babylon recorded in the following lines should not be discarded too easily, as armed conflict was often accompanied by epidemic diseases in the accounts of the ADs (e.g., prominently so in AD -273B). In the present Diary, no reason for the mass mortality is given by the scribe, and it can also not be excluded that simply the fighting in the city took its toll.

13: It is curious that in both the preceding Diary (AD -240, 7) as well as in the line under discussion the subjunction kī is written without long vowel (thus ki-i), which is by far the more common writing. It is tempting to speculate that they were written by the same scribe.

14: The proposed completion of the beginning of the line is based on the following diary -234 which narrates similar events and similarly combines KI with šaltu. Still in AD -229, we find the city of Babylon still in turmoil. We are thus at the beginning of a decade of constant unrest in Babylonia. It is tempting to consider a connection of this diary to the newly found fragment of the ‘Lehmann’-text and the rab kašîr Mār-bīti-Nanāya mentioned in it. The sign TA is identifiable with sufficient certainty, and a construction combining the TA with EN (thus ‘from x until y’) is the most probable solution. However, there appears to be space for more signs in the gap.

Line 14 begins with the note of a skirmish in the heart of the city and later on identifies the two groups at conflict in the beginning of July 238 BC. It is not clear why Del Monte (1997, 50) assumes that the first group is to be identified as Greeks; there is no evidence for such a hypothesis. As they were fighting the ‘royal troops of the garrison’, it is more probable that they were some kind of rebels. It has been suggested that this line is best interpreted in connection with the rebellion of Antiochus Hierax against his brother and reigning king Seleucuṣ II, and that partisans of the former captured the palace and fought the royal guard. The chronology of this conflict is due to the scarcity of information very dubious. According to the opinio communis, immediately after the Third Syrian War Antiochus Hierax, probably upon instigation of his mother Laodice, refused to acknowledge the sovereignty of his brother and strove for independence and rule over Asia Minor. The first phase of the conflict ended probably before 236 BC and brought with it a retreat of Seleucus II from Asia Minor after a crushing defeat at Ancyra in 240 or 239 BC. The end of the 230s BC, all Asia Minor was under control of Antiochus’ Hierax former ally Attalus of Pergamum, and Antiochus was compelled to take flight and again challenged his brother. He was defeated in 228 or 227 BC in Mesopotamia and finally expelled from the Seleucid realm.

From what has been said so far it is unlikely that the present fragment is to be connected to the war between the two brothers. Hierax’ invasion of Mesopotamia dates from only a decade afterwards, the first part of the war was confined to Asia Minor. It is more probable that the absence of the king and the trouble in which the empire found itself immediately after the invasion of Ptolemy III in the course of the Third Syrian War triggered discontent and gave rise to secession movements. It is important to note that

677 On the subjunction kī (“primäres kī”) see Hackl 2007, 102-105.
678 See van der Spek 2006, 298 for a concise summary of the events of the years 240 to 230 BC.
679 Van der Spek 1993a, 73-74.
680 For this ‘guerre fratricide’ see Will 19792, 294-301.
681 We assume with Will 19797, 298 that Attalus took on the royal title after having defeated Antiochus in 238 or 237 BC, but in any case before 236 BC, which was established as terminus ante quem of Attalus’ proclamation as king by Bickerman 1944, 76-78. Seleucus’ II retreat must have taken place before that date, though the peace contract confirming the division of the empire may have been concluded afterwards. Boiy’s objections against the use of the Lehmann-text to establish 236 BC as date for the end of the war (2004, 151) are certainly correct.
around the same time of this Diary, the Eastern provinces defected from the empire: and
the Parthian as well as the Graeco-Bactrian kingdom came into being.

The high prices of the 230s BC can be very well explained by the continuous
skirmishes in Babylon and the troubles compromising the empire in general such as the
loss of Asia Minor as well as the Eastern provinces within a relatively short amount of
time. This situation may have even been aggravated by unfavourable weather conditions in
Babylonia. 682

Year 235/34 BC = SE 77

AD -234A: Month VII and XII2
Museum number: Rm 694+ BM 41641+41930+41963+41997 (=81-6-
,25,257+551+585+619)  
Copies: Listed as LBAT *281 (Rm 694); LBAT 282+923+930+935
Previous editions: ADART II, 92-102 and plates 88-89 ; Del Monte 1997, 50

Description of the tablet:
According to the colophon on the upper edge, this join contains a diary of the
second half of the year SE 77. The first lines on the obverse measure 17.7 cm in length and
are almost completely extant. It is thus not too difficult to estimate the amount of signs
broken off at the end of the historical note on the obverse. The join is maximum 11 cm
high and 3.2 cm thick at the upper edge, but 4.1 cm at the broken lower edge, which points
to a substantial loss of at least half of the tablet. Fragment -234B continues -234A, the two
pieces were according to ADART II, 92 'almost certainly part of the same tablet'.

Date: SE 77, VII = 27 September – 25 October 235 BC

Text:
12:   ... , ITU BI U₄ 17.KAM IZI.ŠUB GAL-ū ina [x-(ti) ku-]t]³mar³ DA É.NAM.TI.LA
   GÁL-ši ITU BI (traces) .. ..
13:   LÚGAL GIŠ?KAK? LÚ qa MAH₄ ana šal-tu₄ KI 1 GAL TA ki-šir [.. ..] ina²
   É.GAL šá a-na 'se-lu-ku LUGAL ik-kir ... ..

Translation:
12:   That month, day 17, a great ‘fall of fire’ occurred in [the district of Kumar] next to
   Enamtila. That month .. ..
13:   the chief [guardian?], many troops for fighting with the one chief? from the unit [.. ..]
   in the palace which had turned hostile towards king Seleucus .. ..

Commentary:
12: That a lightning stroke appears in the vicinity of a temple is not surprising at all (cf.
   AD -257B), this time it occurred near the Enamtila, the temple of Enlil. This temple is
   situated in the quarter of Kumar in the western half of Babylon. 683 The completion of the
   gap in this line was suggested by A. George 1997. However, collation by R. van der Spek
   showed that a reading KI in the beginning of the lacuna in line 12 is hardly possible, as
   there is no vertical wedge at the beginning of the sign.

13: Kišru is a very general word for a military unit and appears only this one time in our
   corpus. The reading LÚ sik-kat is very doubtful, but what emerges in any case from this line
   is again a picture of unrest in Babylon. An interesting contextualization of this passage was
   put forward by van der Spek, 684 who read this text in conjunction with the events recorded
   in the duplicate of the Lehmann-text in the British museum. According to his
   interpretation, Seleucus II partly revoked his father’s grant and assigned the land given to

682 This decade is discussed at length in chapter 3.4.
683 Boiy 2004, 80 and 90.
684 Van der Spek 2006a, 298-301.
the Babylonians, Borsippaeans and Cuthaeans to the sons of the commander of the garrison. After a contestation of the Babylonians, Seleucus II again reversed his decision, and the land remained property of the community. The rebellious garrison commander was thus incited to revolt from the king, which is the event recorded in this diary.

It is tempting to connect his interpretation with the preceding diary AD -237 and consider this grant as a kind of reward for loyalty of the 'royal troops of the garrison' (ÉRINMEŠ LUGAL šá EN.NUNMEŠ) which had put down the rebellion recorded in this text. On the other hand, it can neither be excluded that both diaries speak of one and the same enduring rebellion.

Date: SE 77, XII = 22 March – 20 April 234 BC

Text and translation:
r37: ... . MU BI ŠÈGMEŠ ma-diš TARMEŠ. ...
That year, rains very much failed to occur. ...

Commentary:
r37: It has already been alluded to above (commentary to AD -237) that the unfavourable climatic circumstances – a drought in the present instance – might have contributed to the low equivalents of the 230s BC, especially in conjunction with the precarious political situation that prevailed.

Year 233/32 BC = SE 79

AD -232: Months VIII and IX
Museum number: BM 33837 (=Rm 4,397)
Copy: Listed as LBAT **284; copied by Strassmaier in ZA 6, 236-241
Previous editions: ADART II, 102-117 and plates 89-91; Del Monte 1997, 51

Description of the tablet:
This tablet is one of the better preserved examples and contains a diary of the second half of the year in question, but the historical information contained is limited. The tablet is 15.7 cm high and up to 17 cm long, in the centre of the lower edge its thickness arrives at almost 3 cm. As the left right edge is partly preserved, the amount of missing signs is quite easily estimated.

Date: SE 79, VIII = 2 November – 1 December 233 BC

Text and translation:
24:   ... . ITU BI IZIŠUB.BA in[na KI-ti ... . GÁL-ši?]
That month, a fall of fire [occurred?] in [the district of ...]

Commentary:
24: Another of the numerous references to lightning strokes in the Diaries, this time its location is broken off. No exact date is given for this event, but in general, the meteorological information recorded among the astronomical day-to-day observations reports the occurrence of several rain showers and tempests in this month. For more information on miqitti išati see the commentary to ADs -381A, 8 and -257B, 5.

Date: SE 79, IX = 2 – 31 December 233 BC

Text and translation:
38:   ... . ITU BI ILLU GAL-ú G[IN]
That month, a great flood ca[me]

Commentary:
38: This notice of a very abundant flood is preceded by shorter notes inserted into the daily observations concerning a rise of the river level in this and the preceding month. Some of these rises are described as having been substantial, the formulation ma-diš GIN (‘rose very much’) occurs repeatedly.

The barley equivalents indicated in this diary are still very low, ranging around 35 litres per shekel of silver, as a consequence of the constant unrest in Babylon (see the preceding diaries -237 and -234 as well as the following AD -329). At least the drought of 234 BC seem to have been overcome, but the climate did not actually change for the better: a high water is reported about three months before the expected annual spring flood, negative consequences of this flood on the barley harvest still maturing on the fields are quite possible.

Date: SE 79, IX = 2 – 31 December 233 BC

Text and translation:
Lo.E.1: .. .. .. .. 1-en NAM.LÚ.U18[LU .. ..] ⸣ ..3 ina GÍR AN.BAR hi ri [... ...] ..
 .. .. .. a certain somebody’ […] […] with an iron dagger […]
Lo.E.2.: [ITU BI] ⸣[IŽI].ŠUB ina URU már-d[a .. .. ..]
That month, a ‘fall of fire’ in the city of Marad […]

Commentary:
1: As has been shown by Del Monte, an iron dagger is sometimes explicitly mentioned as weapon of aggressors in legal documents from the Neo-Babylonian period, he thus suggested a judicial context of the present passage. However, the content of this passage is unfortunately lost (but note that all other instances recording legal procedures in the Diaries monotonously record theft of temple property with the capital punishment of burning for the thieves). For a translation of amēlūtu as ‘someone’ see CAD A II, 60.

2: The name of the city is partly in a lacuna (only the lower half of the már is extant), and we hence adopt the identification in ADART II, 109. The historical notice concerns again a lightning stroke, this time in Marad. This city is located halfway between Babylon and Isin and thus about 50 km to the south of Babylon. It is not clear why this not very important city is mentioned, but references to the smaller towns occasionally occur in the ADs, e.g., in the earlier diary AD -373A the destruction of houses in the city of Pallukkat (due to an unknown cause) is mentioned. We can only guess that also events in the (not immediate) surroundings of Babylon were sometimes considered important, be it in an ominous or in a more worldly sense.

Year 231/30 BC = SE 81

AD -230A+B: Month I and VI
Museum number: A: BM 41647+41853 (=81-6-25,263+473); B: BM 34285 (=Sp. 394)
Copies: A: LBAT 285+286; B: LBAT 550
Previous editions: ADART II, 116-121 and plates 91-92; Del Monte 1997, 52

Description of the tablet:
Both fragments are part of the same tablet. The tablet originally contained a diary for the first half of year SE 81. In fragment B containing a historical note in line 16, a part of the left edge is preserved. Its reverse is completely broken, and the tablet is less than 2 cm thick and hardly 5 cm high. The maximal line length (at the bottom part of the tablet) amounts to 5.5 cm. Fragment -230A is substantially bigger than B. Its total height adds up

685 AD -232, 21 (month VIII) and 33-34 (month IX). The days in question are the 27 November and the preceding night in line 21, and the nights before 20 and 22 December 233 BC in lines 33 and 34 respectively.
687 On Marad in general see Edzard 1987-90; Neo- and Late Babylonian references are found in RGTC 8 s.v. Mar(a)da (220).
to almost 10 cm, the maximum line length on the reverse measures more than 7.5 cm. The piece is 4.1 cm thick on the broken lower edge, and a part of the upper edge is preserved. The number of missing signs between fragment A and the left edge is clear thanks to the completion by H. Hunger of line 13 which bridges the gap between A and B. The lacuna between lines 9 and 10 must have contained the whole price section.

Both historical notes are very fragmentary, and nothing much can be made of them. However, the reference to ‘troops’ in line r11 is hardly a surprise given the numerous attestations of skirmishes and wars in the preceding decade (and equally in the following diary -229).

**Date:** SE 81 I = 18 April – 16 May 231 BC

**Text and translation:**
16: [..] ’... .. ’ LUGAL šá [..] ’x3 [.. (many signs)]
[... ...] king of/who x ’x3 [.. (many signs)]

**Date:** SE 81, VI = 12 September – 11 October 231 BC

**Text and translation:**
r11: ... ITU BI U4 30.KAM ERÍNMEŠ šá ina...
[... .................. .................. ..................]
... That month, day 30, the troops which in [ .................. .................. .................. ]

**Year 230/29 BC = SE 82**

**AD -229A:** Month XI
Museum number: BM 65140 (= 82-9-18, 5121); 65141 (=82-9-18,5122)
Previous editions: ADART II, 124-125 and plate 94; Del Monte 1997, 52

**Description of the tablet:**
The tiny fragment BM 65141 which stems from the lower part of a diary preserves on both obverse and reverse information on month XI of year 82 SE. As the diary measures only 7.4 cm maximum in length (at the upper edge) it is well possible that is was a diary for this month only. The extant height of the fragment amounts to 3 cm, the thickness to 2.1 cm at the broken upper edge and a little less (1.7 cm) at the lower edge.

**Date:** SE 82, XI = 28 January – 25 February 229 BC

**Text and translation:**
r5: ... ITU BI šal-lá-a-tú
[... ] That month, fights
r6: [.. ... ..] ’É. ’GAL ... ] LUGAL šaṭ' -ri ITU BI
[... ... ...] palace? [.. (of)] the king was written. That month

**Commentary:**
r5-6: Again, unrest in the city (near the palace?) is recorded. Version B of this diary reports the presence of the king himself in Babylon in the same month. As both tablets are very fragmentary, no clear reconstruction of the events can be offered. The extent of the fighting recorded here remains unclear, as well as a possible connection to the earlier troubles mentioned in the diaries of the 230s BC.

Šaṭāru can assume the meaning ‘to issue a legal document’, ‘to decree in writing’, and we can thus hypothesize the promulgation of a public document in these lines.

AD -229B: Month XI
Museum number: BM 41871 (=81-6-25,491)
Copy: ADART II, plate 93 (by Pinches)
Previous editions: ADART II, 126-129 and plates 93-94; Del Monte 1997, 52-57

Description of the tablet:
On this fragment, information on months XI on the obverse and month XII on the reverse are extant. The height of the tablet measures about 6 cm, the line length on the reverse about 7cm. The upper left corner is 3.5 cm thick, the lower right corner only 2.6 cm. The amount of missing signs is quite substantial: between the end of line r11 and the first signs in line r12, the price indications for all five commodities can be expected. An absolute minimum of 30 signs in the lacuna is to be assumed. According to the curvature of the tablet, more of this amount should be missing on the left.

Date: SE 82 XI = 28 January – 25 February 229 BC

Text:
5: ... . ITU BI \(L[U^M]U^N^M^E\) šá ana x [.. ..............]
6: [..............]x-ù ITU BI e-nu-ma nè-peš šá DINGIR^MEŠ x [.. .........]
7: [..............] x KU^MEŠ muh-hu-ru un-dah-hi-ru [.. ........
8: .......]
8: [N][BALAG^M] LÜ\(G\)AL MAH^MEŠ 
9: [..............] \(L[U^M]\)GAL ÉRIN^MEŠ šá É 4 \(L[U^M]\)GAL ÉRIN^MEŠ-ú-tu ina
10: [..............] INIM [šá LUGAL' .... .... ...]
11: [..............] \(SE-lu\)-ku LUGAL u A^MEŠ-šú ina 2, 30
12: [..............] GE\(6\) 17 17 e-nu-ma nè-peš ana U[GU .... .... ...
13: [..............] kin [..............]

Translation:
5: ... That month, people who for/to [..............]
6: [..............] That month, when the 'ritual of the gods' [..............
7: [..............] x x, presented muhhu-ro-offerings [..............
8: [..............] The galamāhu [recited] Eršahunga- and Balag-tablets [..............
9: [..............] the general of the 'house of the generalship' at the command [of the king .... .... ....]
10: [..............] Seleu\(c\)us, the king and his sons on the left side of the Eu[phrates .... .... ....]
11: [..............] Night of the 17\(th\) and the 17\(th\), when the ritual to [..............

Commentary:
6: The 'ritual of the gods' is otherwise unknown. It cannot be ascertained whether it constituted a ritual of its own or is rather to be explained as recitation to be performed during a ritual.689

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689 On nè-pešu see Linssen 2005, 20-21 (a short reference to this passage is found on 2176).
7: Muhhuru-offerings consisted of sheep and barley. In Hellenistic times, this kind of offering is most prominently attested during the Uruk building ritual. In our instance, due to the elusive identification of the nēpeš ša ilāni, the context of this offering is unclear. They seem to precede recitations of certain lamentations as are described in the following line.

8: Galamāhu (or kalamahhu) is conventionally translated as ‘chief singer of the dirges’, he was the head of the kalū-priesthood. One of his main tasks – or rather of the kalūs in general, as is clear from Hellenistic ritual texts – was the recitation of lamentations. He also appears e.g. in the ritual of the covering of the kettledrum encountered earlier (AD -270B). Eršahunga and Balag are two different kinds of lamentations. They could also appear together and with additional prayers and sacrifices in one and the same ritual. These rituals were either apotropaic ones to ward off a specific evil, or simply performed in the context of the regular cult of the gods.

9: This line contains the first attestation of the title $^{\text{1LUGAL.ErinMES šâ E 4}} \text{LUGAL.ErinMES-ui-tu}$. The writing šâ E in this instance is exceptional and explained as variant of the more common šâ ana muhhi by Del Monte. Also the possibility of a writing error cannot be ruled out. It is generally agreed that this official constituted the highest military authority of Babylonia, but already the explanations offered for the presence of the number ‘four’ differ substantially. Del Monte, who translates the title for the sake of simplicity as ‘generale comandante di Akkad’, takes the number literally and interprets this official as the senior of the generals of the four most important cities in Babylonia, tentatively identified as Babylon, Seleucia-on-the-Tigris, Cutha and Borsippa. Y. Mitsuma on the other hand hypothesizes a symbolical use of the number to indicate the vastness of the territory as in the traditional royal title šar kibrāt erbetti. This is not a very convincing solution, because the subordinate generals are also attested individually, as $^{\text{1LUGAL ErinMES KUR URIli}}$ and variants, in the Parthian period most frequently $^{\text{LUGAL ū qa}}$ as has been shown by Del Monte. The latter’s own interpretation on the other hand has to face the dilemma (as he admits himself) that all of these commanders seem to reside in Seleucia-on-the-Tigris rather than in the cities which he hypothesized as their area of authority. However, as he also pointed out, it still can be argued that the ‘general of Akkad’ acted as the highest authority in the city of Babylon.

A quartering of the province is attested for Syria, but not for Babylonia. We do know though that also the satrapy of Babylonia was reduced in size and that the Apolloniatis and the ‘Province on the Red Sea’, the later Characene and Mesene, became smaller.

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690 Linssen 2005, 40 and 165.
691 CAD G (1956) s.v. galmāhu. According to McEwan 1981 12 ‘any difference between them (i.e. kalū and galmāhu) seems to have been one of rank rather than function’. On the kalū see also McEwan 1981, 11-13, and Boiy 2004, 267-269.
693 However, it has to be noted that in AD -124 r19 the title occurs in a similar variant $^{\text{1LUGAL ErinMES KUR URIli Šâ E 4}}$ $^{\text{LUGAL ErinMES}}$. The word bītu (E) occurs at least one more time in another military title, the enigmatic ‘general of the troops of the royal house’ in AD -144, 14.
694 Del Monte 1997, 53-57. He is followed by Capdetrey 2007, 289-290, who also identifies these ‘generals of Babylonia’ as regional officials with military as well as civic competencies and who were at the top of regional subdivisions of the satrapy. Also Potts 2007 concurs and points to a similar division of military authority in the Sassanid Empire.
695 Mitsuma 2007, especially 108 on the numeral.
696 Del Monte 1997, 55-56. The example he quotes is AD -144B (r36), which speaks of a census (or maybe rather a mustering) of the population at the order of the $^{\text{1LUGAL ErinMES KUR URIli}}$, ‘the general of Akkad’.
697 Strabo XVI, 2.4 (C 750). He also states erroneously that Mesopotamia kept its unity, but according to the editor, the text is corrupt in this passage (Jones, LCL, 241)
provinces of their own right within the framework of a major administrative reform. The date of this reform is not known, but it is commonly attributed to Antiochus III. Its most important effect was the unification of the empire’s administrative system and the (temporary) disappearance of the title of the satrap, which was replaced by the *stratēgos* as highest provincial authority and who assumed also civic and administrative responsibilities. H. Bengtson’s main argument to date the reform to Antiochus III rather than to one of his predecessors was his assumption that the latter were too busy fighting various wars (the Third Syrian War and the War of the Brothers in the case of Seleucus II, and the abortive attempt to reconquer Asia Minor by Seleucus III) to carry out such an important reform. This is hardly a strong argument and with the same probability one might date the reform to the period around 230 BC, e.g. as a part of the preparations of Seleucus’ abortive campaign against the Parthians (on which see below). Also, Bengtson rather thought in terms of a gradual evolution than one clear-cut reform at a certain moment in time. This first appearance of the ‘general who is above the four generals’ induced Mitsuma (1997, 9) to predate the administrative reform to the reign of Seleucus II. Indeed, it is at least conceivable that this reform commonly dated to Antiochus III, and during the reign of which the bulk of measures was carried out or at least became palpable, had its beginnings already during the reign of one of his predecessors.

Another important issue to consider is the question of an eventual Greek equivalent of the title. Mitsuma interpreted the title tentatively as rendering the Greek *ho epi tôn anō satrapeiōn*, ‘the one who is in charge of the upper satrapies’, which is Bengtson’s ‘Generalstatthalter des Ostens’. This is a very problematic identification, as the title is already attested in 294/3 BC, with the crown-prince and co-regent Antiochus I as holder of this office. Other known persons in this position were Antiochus (the later king Antiochus III) under Seleucus III and Molon under Antiochus III. Interestingly, in the latter’s case Mesopotamia (in the modern sense, thus the ancient provinces Mesopotamia and Babylonia) did not fall under his authority, according to Bengtson these provinces were reserved to the royal house. Also the title itself, which was in its fullest form rendered as **LÚGAL ERINMEŠ KUR URI šá ana muhhi 4** **LÚGAL ERINMEŠ** -ú-tú, indicated that the competences of this ‘generale comandante di Akkad’ were effectively restricted to Babylonia.

Summing up, it is maybe best to simply identify this new title as a reflection of the upvaluation of the position of the *stratēgos* in Babylonia. He was charged with additional civic and administrative duties, but he also had the assistance of four subordinates. These latter generals also constituted a counterweight to the accumulated power with which his position was now invested. As was acknowledged already by

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698 On this reform see Bengtson 1964, 36-38; 148-153, on Mesopotamia specifically also Schmitt 1964, 33-35. Their results are still largely accepted, e.g. in Capdetrey 2007 (most explicitly on 283).
699 Del Monte 1997, 55-56 provides a few examples of the occurrence of the *stratēgos* in a civic context (but note that the census he alluded to might be a mustering and hence a military affair after all). The title of satrap reappears under Demetrius I (AD -158B, r17 and r22), however, already Bengtson (1964, 50) saw that during Antiochus’ III successors the dispositions of this reform came undone. See also Capdetrey 2007, 283(3) for a Greek inscription from Delos referring to a satrap in the later Seleucid period, interestingly also from the reign of Demetrius I.
700 Bengtson 1964, 144, similarly É. Will 1982^2, 112.
701 Already Schmitt 1964, 35 contemplated a date immediately after the Laodicean War.
703 Bengtson 1964, 86. As satrap of Media Molon is of course expected to have resided in Ecbatana, cf. also Capdetrey 2007, 270.
704 Del Monte 1997, 53-55. He also points to a somewhat puzzling lack of standardization in the writing of the title, which was explained by Capdetrey (2007, 289) by the fact that this title had no antecedent in the Babylonian world.
705 Similar Capdetrey 2007, who speaks of “la prise en main administrative de la satrapie par ce stratège” (290). See also the commentary to AD -273B, r30 discussing the system before the reform, with a satrap as highest official of the province and a *stratēgos* (designated as **LÚGAL ū-qa**) in purely military function.
Bengtson,706 a curtailing of the competences of the highest echelons of the provincial administration was not the least of motives of the administrative reform in the light of the recent secessions. The predating of the beginning of the reforms from Antiochus III to Seleucus II proposed here can be interpreted along similar lines. Instead of the secessions of Molon in Media and Achaius in Asia Minor, those of Antiochus Hierax in Asia Minor, Diodotus in Bactria and Andròoras in the Iranian highlands are to be interpreted as those rebellions which triggered the reform. The exact sphere of competence of the four generals cannot be ascertained at the moment, but their identification as highest officials of regional subdivisions of the province is indeed a most tempting explanatory approach. Rather than interpreting the four generals as principals of the four more important cities of Babylonia, one might alternatively hypothesize that the new subdivisions of the province (Apolloniatis, Province on the Red Sea, Babylonia and its surroundings, and a fourth, still unknown sub-province) were each run by one general, with an additional top official (the stratēgos in charge of the four generals) whose authority extended over the whole province above them.707

10: Beside a passage recorded by Agatharchides of Cnidus preserved in Flavius Josephus,708 this line is the only source that testifies to Seleucus’ II presence in (or at least near) Babylon. According to Agatharchides, Seleucus was starting a military campaign from that province. This episode (recording a rebellion of Stratonice, the aunt of Seleucus II) is not dated but as king Demetrius of Macedonia is involved, 239 BC is the terminus post quem. The most likely identification of this campaign is the abortive attempt against the Parthians. This campaign cannot be dated with certainty, but the fragment nicely suits E. Will’s tentative dating to a year between 230 and 227 BC from a chronological point of view.709

11: After two lines of elusive content mentioning the presence of the highest general and of the king and his sons, the diary turns again to cultic matters. The name of the ritual in this line is broken off. It cannot be excluded that the whole passage described one single ritual as the involvement of the king in religious matters is an important subject matter in the Astronomical Diaries (and also the Hellenistic chronicle series), most famously in AD -204 which describes Antiochus’ III participation in the Babylonian New Year’s festival.

**Date:** SE 82 XII = 26 February – 26 March 229 BC

**Text and translation:**

r13: [... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... 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**AD -226A: Months I, II and III**

Museum number: BM 41655+41683+41866 (=81-6-25,271+301+486)
Copy: LBAT 288-289-290
Previous editions: ADART II, 130-135 and plate 95; Del Monte 1997, 57-58

**Description of the tablet:**

This fragment constitutes the lower right corner of a diary probably for the first four months of year SE 85. Its height amounts to 10.5 cm, the line length as measured on the reverse to 7.7 cm. The amount of missing signs to the left can be estimated with help of the gap between lines 18 and 19, which originally must have contained the price indications for cress, sesame and wool as well as the beginning of the planetary summary, at least 25 to 30 signs. The quite elevate amount of signs required fits the curvature of the tablet, as the thickness at the ideally completely preserved right edge measures 2 cm, but increases at the broken left edge to 3.9 cm.

**Date:** SE 85, I = 4 April – 2 May 227 BC

**Text:**

1: [...] [...] [...] [...] [...] LÚŠÀ.T upaten [...]
2: [...] [...] [...] [...] na -tu₄ u ĖRINMES [...]...
3: [...] [...] [...] [...] x x pi-is u₄-mu BI ši-il [...]...
4: [...] [...] [...] [...] x₄-ënMES [...]

**Translation:**

1: [...] [...] [...] [...] the šatammu [...]
2: [...] [...] [...] [...] and the troops [...]
3: [...] [...] [...] [...] x x That day [a message/ritual? [...]
4: [...] [...] [...] [...] x₄-ënMES [...]

**Commentary:**

All that is left of the presumed sign na in line 2 is the final vertical wedge. The traces at the end of line 4 allow for a completion GALA, which suits the context very well. This historical section is very fragmentary, and the loss at the beginning of each line has been shown to be substantial. The only thing that can be ascertained are cultic activities of an unclear nature in line four as was the case in the preceding diary. The term employed (šiptu) is too general to allow closer identification, it is for example regularly found as incipit of Eršahunga and Balag lamentations.

**Date:** SE 85, II = 3 May – 1 June 227 BC

**Text:**

20: [...] [...] ITU BI
21: [...] [...] [...] [...] x₃-ma Ė mu-um-ma la ep-šú
22: [...] [...] [...] [...] x₃ pu-ha-du ik-ta-as-su-ú KUS [...]...
24: (blank) BURU₅ HI.A ZI-₄

**Translation:**

20: [...] That month
21: [...] [...] [...] [...] in the temple workshop were not made
22: [...] [...] [...] [...] they bound a sheep, the kettle-drum
23: [...] [...] [...] [...] recited incantations. That month, day 30, locusts
24: locusts attacked

**Commentary:**
21: The *bīt mummi* was according to CAD the workshop ‘used to make and repair ritual objects’\(^{710}\) and seems thus functionally similar if not identical to the *bīt ummānī* discussed in the commentary to AD -302/1, r6. On its possible location in the Juniper garden see the commentary to AD -270A, r15. It has to be distinguished from the *mummu*, the ‘temple academy’.\(^{711}\)

22: Considering the nouns preserved as well as incantations mentioned in the next line, W. Horowitz\(^{712}\)’s proposition to see in this line another reference to the kettle-drum ritual is very plausible.

23/4: The BURU\(_5\)\(^{HLA}\) for locusts is redundantly written twice, the exact date of the invasion is 1 June 227 BC. On locust invasions and their possible impact on the local economy see Pirngruber *Locusts*. As the invasion described here occurred after the harvest time of barley, it is not surprising that it caused no repercussions in its price.

**Date:** SE 85, III = 2 – 30 June 227 BC

**Text and translation:**

r1: ... 3 BURU\(_5\)\(^{HLA}\) ZI-a
   ... . Day 3, locusts attacked.

r4: ... 2-šū 3-šū IM.GÚ KUR ŠÚ-\(ap\)
   ... . Mud covered the land 2 or 3 times.

**Commentary:**

Both notices are inserted into the section containing the astronomical observations. The mention of locusts on 4 June points in connection with the note in the preceding month to a continuing invasion, unfortunately one not apt to trace economic repercussions of this type of event (see above). On the occurrence of mud in omen collections, specifically in the series *iqqur īpus*, see the commentary to AD -246, 18. The present *protasis* has alas no extant counterpart in the series.

**Text:**

r17: ... . ITU BI 21 \(^{1}\)D/𝐓𝐢-im-gar-te-e
r18: [..] \(uš-k[im-nu]\) GU\(_4\)\(^{HLA}\) [\(u\) SISKUR\(^{MEŠ}\]
r19: [..] \(^{\text{[ana]}}\) \(^{\text{[EN u]}\) \(^{\text{[d\(G\(A\)ŠAN-\(ia\) D\(-uš}\]}}

**Translation:**

r17: ... . That month, day 21, Timokrates’ ... 

r18: [..] prostrated himself. Oxen and *niqû*-sacrifices

r19: [..] for Bēl and Bēltiya he sacrificed.

**Commentary:**

r17: Del Monte (1997, 580 read the passage with reservations as *ana* SILIM IM, ‘per recitare interamente la tavola degli scongiuri’, which is not impossible but quite improbable. Normally, a conjuration would be designated as ÊN or called by name as in the preceding references. It is also unlikely that TE.Ê refers in the present instance to the district in the south-eastern part of the city, it lacks both the determinative KI which usually follows this city-quarter’s name (e.g. AD -257B 5, -256 r17) as well as the normally preceding KI-\(tî\).

It is possible that the whole line actually refers to a Greek personal name \(^{\text{[Di-}}\)im-gar-te-e. Timokrates (maybe also Demokrates or Theokrates) would be a good option.

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\(^{710}\) CAD M (1997) s.v. *mummu* A (198).

\(^{711}\) Rochberg 2004, 225. See also the translation ‘school for scribes’ in CAD M II (1977) s.v. *mummu* A 2. (197).

\(^{712}\) Horowitz 1991a, accepted by Linssen 2005, 95. Cf. also the commentary to AD -270B r13.
in that case. The absence of the final -s does not constitute a big problem, the same phenomenon is also encountered with the name of Seleucus, regularly written ‘se-lu-ku’ (but interestingly never with Antiochus). Interestingly, another text from the same period, BCHP 16 dating to an uncertain year between 75 and 90 SE also give the name of a Greek official – a messenger of an official (whose title is in a lacuna) – that can be interpreted as Timokrates, and it cannot be excluded that we are dealing with the same person.\(^{713}\)

r18/9: Another reference to cultic activities, this time two types of sacrifices are described. The activity described here is frequently encountered in our corpus and quite stereotype in its formulation. Oxen and niqû-sacrifices, thus usually sheep as is clear from the occasional determinative UDU preceding the word (e.g. in -187A, r5 et passim), are offered to Bēl, Bēltiya and normally also the Great Gods, very often, these sacrifices are performed also ‘for the life of the king’ (see below AD -204C, r18).\(^{714}\) An exception is constituted by AD -273B 12 which describes a ginû-sacrifice to Bēl. As opposed to these daily offerings, the niqû-sacrifices described here were probably performed only on occasion, as they are usually mentioned together with ‘oxen’ it seems that they usually consisted of sheep in the Seleucid and Parthian periods.\(^{715}\) For šukênu see also the commentary to AD -187A, r9.

In general, the last quarter of the 3rd century BC saw quite an increase in references to cultic activities in form of sacrifices to gods, and often for the life of the king, in the Astronomical Diaries. These notes mainly date from the reign of Antiochus III and afterwards, but occur (as does the present instance) already under his predecessors. It is striking that also the chronicle BCHP 12 (= ABC 13b) which gave rise to an extensive discussion about an eventual ruler cult in Seleucid Babylonia dates from the very same period.\(^{716}\) This can of course be simply due to accidents of preservation, but it appears that from the reign of Seleucus II, cultic matters became increasingly important to the scribes of the ADs. The reasons for this development are unclear; a connection to the administrative reform discussed above (AD -229B, 9) is not very likely.

AD -226B: Month X
Museum number: BM 41007 (=81-4-28,554)
Previous editions: ADART II, 134-138 and plate 96; Del Monte 1997, 58

Description of the tablet:

The obverse of this fragment is completely broken off, but nevertheless it is almost 4 cm thick. Probably we are dealing with a piece from the centre of a diary for half a year. The reverse contains mostly information on month XI of the year in question, only the first lines – containing the historical note – give information on month X. The line length measures up to 10 cm; the left edge of the fragment is ideally completely preserved. The height is 8.7 cm maximum. The amount of missing signs to the right must have been substantial as is clear from the gap between lines r17 and 18, which originally must have contained the entire price section. We therefore can account for 25-30 signs as minimum estimate.

There seems to have been another historical section following the astronomical observations of month XI, but if this section, all but a date U₄ I.KAM is broken off.

\(^{713}\) Note however that in the chronicle (BCHP 16, r4) the name is written differently, ‘di-mug-ra-te. The same text also has still another Greek PN, ‘te-mi-[l], tentatively interpreted as Theomeles; cf. the ‘Land and Tithes’ chronicle (BCHP 16) at www.livius.org/babylonia. Note that in a text from Uruk (BiMes 24 23), a plot of land is sold to a certain Antiochus, son of Timokrates (‘Tim-gi-ra-te-e, line r2) from the Ahûtu-clan. I owe this reference to R. van der Spek.

\(^{714}\) Occasionally (e.g. AD -204C r18) also Ištar of Babylon is mentioned among the divine recipients.

\(^{715}\) Linssen 2005, 158-159 (niqû) and 162-163 (ginû). Niqû-sacrifices are best attested in early Neo-Babylonian Sippar, see Da Riva 2002, 267 and 274-286, when the niqû seems to have been a generic term of bloody sacrifices.

\(^{716}\) Cf. the contrasting views of Sherwin-White 1983 and Linssen 2005, see most recently Pirngruber 2010.
Date: SE 85, X = 26 December 227 BC – 23 January 226 BC

Text and translation:

r1:   
   
   LÚGALAM[EŠ] 
   
   the cultic singers 

r2:   
   
   -un-ú 
   
   LÚGAL.MAH IM 
   
   er-ša-hun-ga 
   
   MEŠ IM B[ALAG? .. ..] 

   the chief singer of the dirges [recited] the Eršahunga and the Balag-tablets.

Commentary:

r1-2: This entry is only very fragmentarily preserved. Line 2 is verbatim identical to the AD -229B 8, the commentary of which consult for further information.

Year 226/25 BC = SE 86

AD -225: Month III

Museum number: BM 33655 (=Rm IV 211)
Previous publications: ADART II, 138-143 and plate 96; Del Monte 1997, 58-59

Description of the tablet:

Apart from some damage due to erosion on the obverse, this diary for months III and IV of year 86 SE is completely extant. The tablet is roughly a square of 6.6 cm side length, and in the centre of the lateral edges it is circa 1.5 cm thick.

Date: SE 86, III = 21 June – 19 July 226 BC

Text and translation:

15:   
   
   . ITU BI TA 9 EN 26? BURU5 
   
   HI.A 

   ... . That month, days 9 to 26, there were locusts.

Commentary:

15: Also the day-to-day observations mention the locusts in lines 5, 7 (2x), 8, 9 and 10, for days 20, 22, 23, 24, 25 and 26 respectively. This invasion took place after the barley harvest; consequently it is not surprising that no repercussion in its prices can be shown (cf. Pirngruber Locusts).

Year 214/13 BC = SE 98

AD -213: Month VIII

Museum number: Rm 847
Previous editions: ADART II, 158-159 and plate 99; Del Monte 1997, 59

Description of the tablet:

This piece is a tiny fragment of the upper right corner of a diary, and preserves information of one month only. A short historical note, possibly rather a colophon is extant on the upper edge, which measures 5.3 cm in length. The tablet is maximum 2.2 cm high and increases in thickness from 1.5 cm at the right edge to 2.6 cm at the broken left edge.

Date: SE 98, VIII = 3 November – 2 December 214 BC

Text and translation:

U.E.1: [MU 1,3]8.KAM ī an LUGAL ĪB.TAG4 MU 37 u MU7 (traces) 
   [Year 9]8, king Antiochus, the rest of year 37 and year n (traces)

U.E.2: (blank) G[IS] IG GAL-tu4 ..
   the great door ..

Commentary:
No explanation can be offered for this enigmatic note; in particular the ‘great door’ in the second line is elusive. The first visible sign is the KAM following the numeral. A reading ‘eight’ is possible in light of the traces and we are very much inclined to accept the numeral 98, hence a reference to the year of the Seleucid Era in which this Diary was written.

**Year 211/10 BC = SE 101**

**AD-210:**
Museum number: BM 45610 (=SH 81-7-6,3)
Copy: LBAT 297
Previous editions: ADART II, 168-173 and plate 102; Del Monte 1997, 59

**Description of the tablet:**

On this fragment, information for six months of year 101 SE is preserved. We probably deal with a diary for eight months (parts of months II to IV are preserved on the obverse, parts of months V and VI on the reverse). The height of the tablet amounts to 9.5 cm; the length measures 10 cm circa. The tablet is almost 4 cm thick on the broken right edge, but considerably less (less than 3 cm) on the broken left edge, which points to a not negligible loss of signs, particularly to the right. This impression is confirmed by the lacuna between lines 1 and 2, which must have contained almost the whole of the price section as well as the half of the planetary summary. We minimum have to account for a total of about 35 signs per line, and considering the curvature of the tablet, about three quarters of that amount must be missing to the right.

**Date:** SE 101, IV = 5 July – 2 August 211 BC

**Text and translation:**

14: ... ina AN.BAR₇ IZIŠUB [ina KI-tì ... ]
... Day 1, around noon, a ‘fall of fire’ [in the district of GN ... ]

**Commentary:**

14: The brief historical note consists reference to a lightning stroke; its location is lost in the lacuna. In this instance, even the exact time during the day is noted. On the miqitti īšātis see the commentary to AD -381A, 8.

**Year 210/09 BC = SE 102**

**AD -209D:** Months III and V
Museum number: BM 45608+45717
Copies: Listed as LBAT *299+ *300; ADART II plate 104-105 (of BM 45608 by Pinches)
Previous editions: ADART II, 180-189 and plates 103-106; Del Monte 1997, 60

**Description of the tablet:**

The tablet contains a diary for the first half of year 102 SE. The section on month I on the obverse is almost completely broken off, but nevertheless the fragment arrives at a height of more than 14 cm. The maximum line length in the centre of the obverse adds up to 11.8 cm. The tablet is up to 2.5 cm thick at the preserved lower edge but almost 4.5 cm at the broken upper edge. The right edge is ideally completely preserved. The amount of missing signs to the left of the historical note can be estimated by the gap between lines r1 and 2, which must have contained a substantial part of the price indication as well as the beginning of the planetary summary, at least 25 signs (if commodities other than barley had only one entry). Allowing for the longer line length of the tablet at the historical note, at least 10 signs have to be accounted for. Note that the line containing the historical note is heavily eroded especially in its centre.
Date: SE 102 II = 26 April – 24 May 210 BC

Text and translation:
16: [ (~10 signs) NA]M.LÚ šá NIDBA įk-.lu-ú NÍG.ŠA šá ina UGU BÁRA? ina IGI KÁ.MAH TAR šá NIDBA šá “EN u DINGIRMES GALMES ina UGU GĀR-in [...] [ (~10 signs) a man who withheld the nindabû- sacrifices, and cut down’ An incense-burner, which was on a dais in front of the Kamah-gate in which the nindabû-sacrifices for Bēl and the Great Gods were placed [ ... ]

Commentary:
16: Nindabûs are another category of sacrifices. CAD translates the term in first instance as ‘cereal offering’, but there is hard evidence that in the Seleucid period they could also consist of meat. Particularly interesting in the present context is the parallel passage AD -158B (r20), which speaks of ‘nindabû-sacrifices in the entrance of Mandanu and in the entrance of Bēltiya’. This type of sacrifice could thus be (but was not exclusively) offered in the entrance gates of the Esangila, as also in this instance. The Kamah-gate, the ‘Exalted Gate’ was the Western gate of the Esangila, leading into the lower court. On the incense burner (nignakkû) see Linssen 2005, 145. This note reports of an interruption of cultic activities. A similar event is narrated in the very fragmentary diary AD -160C, 6, which reports of sacrifices being ‘cut off’ (TAR). Such cultic interruptions were certainly considered a great misfortune and potentially dangerous situations as they might provoke the anger of the gods. It is thus not surprising that they are also recorded in the Astronomical Diaries.

Date: SE 102 V = 24 July – 21 August 210 BC

Text and translation:
R18 and R21: ... . IZI.SUB ina KI TIN.TIRKI ina GÚ ÍD GÁL-ši ... . A ‘fall of fire’ occurred in the district of Šuanna on the river bank.

Commentary:
The astronomical section reports two lightning strokes, the first of which can be dated to 15 August 210 BC. The date of the second in r21 is broken off. The wording of both lines is identical with the exception of the KI preceding the name of the city-quarter which is omitted in r21. On the district of Šuanna see the commentary to AD -277C, 15. Again, there is no useful meteorological information extant.

Year 208/07 BC = SE 104

AD-207A: Month I
Museum number: BM 34671+35057+35540+35837 (= Sp. II 158+590+ Sp. III 46+367); 35433 (=Sp. II 1021)+ 47821 (= 81-11-3,528)
Copies: LBAT 576+384+747+818; LBAT 739
Previous editions: ADART II, 190-195 and plate 107; Del Monte 1997, 60

Description of the tablet:
The fragment contains information on months I to III of the year SE 104 on the obverse, it is likely that we are dealing with a diary for the first half of SE 104. The reverse

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717 CAD N II (1980) s.v. nindabû. These sacrifices are consequently also not listed in Da Riva 2002 as she is concerned only with ‘blutigen Opfergaben’.
718 Linssen 2005 164(+304)
719 See the map in George 1992, fig. 6 (86); reproduced as Fig. 2 in Boiy 2004 (61).
720 See the commentary to AD -160C, 6 for more details.
721 The two fragments form a touch join, cf. ADART II, 190.
is with the exception of the remains of a colophon on BM 34671 completely broken off. The joins is more than 17 cm high and up to 15.5 cm long. The line containing the historical section is badly eroded and hardly legible. The historical note, a short omen-related event, can be considered complete as it was followed by blank space only and preceded by a remark on the river level. The line is the last information provided for month I, the section of which separated from the following one by a horizontal wedge.

**Date:** SE 104 I = 3 April – 1 May 208 BC

**Text and translation:**
17: [...]LU ŠÚ GIN. ITU BI 5 UR.GI7 MEŠ ana SAL UR TE MEŠ
    […] The peak flood was reached. That month, 5 dogs approached one bitch.

**Commentary:**
Such omen-related notes of the šumma ālu type have become extremely scarce after the middle of the 3rd century BC.722 There is unfortunately no correspondent omen extant, neither in šumma ālu nor in another series. The peak flood was reached at the expected point in time as it normally occurred between March and May.723

Year 205/04 BC = SE 107

**AD-204A:** Month I
Museum number: BM 37188
Copy: Listed as LBAT *302
Previous editions: ADART II, 196-199 and plate 107

**Description of the tablet:**
This tiny fragment, which measures only 4 cm in width and not even 2.5 cm in height, was the upper part of a diary, upper and lateral edges are ideally completely preserved. As it is hardly 1 cm thick with both obverse and reverse being extant we may assume that it contained originally information for a few days of month I only. All that remains of the historical notice is a reference to a message on parchment, possibly from the king (cf. the commentary to AD -346 r15).

**Date:** SE 107 I = 31 March – 29 April 205 BC

**Text and translation:**
U.E.1: [...] KUŠ[ši]-piš-tu4 [...] a message on parchment [...] .

**AD-204C:** Month I
Museum number: BM 35424 (= Sp.II 1011)
Copy: ADADRT II, plate 109 (by Pinches)
Previous editions: ADART II, 200-205 and plates 108-110; Del Monte 1997, 61-63; Pirngruber 2010, 535-536
Discussion: Boiy 2004, 155-156

**Description of the tablet:**
This diary contains information on one month, month I of year 107 SE, only. The amount of missing signs can be estimated very well with help of the price section on the reverse. Although the tablet is almost completely preserved, it is badly eroded and hardly legible.

722 All other omen-related notes of this period (with the exception of ‘falls of fire’; cf. AD -381A, 8) are of the izbu type (AD -133B, r26, -125A r7, -124B r14, -123A, r8, -122, r7, -96C r19 and -77A r30-31), see also chapter 2.1.3 and table 2.2.

723 See the commentary to AD -369, 5; with references to Brown 2002 (and especially his graph 1).
The left edge is much damaged, but it is clear that the historical note continued there. All that is left is a reference to the city of Babylon (L.E.1: u EKI). The length of the tablet amounts to 11 cm where both lateral edges are extant. Its height measures 9.5 cm, and it is about 1.8 cm thick in the centre of the upper edge.

The barley in the price section of this diary is qualified as very good (banītu) barley. There is no price for ‘ordinary’ barley, indicating that the outcome of the harvest of this year was more than satisfying. According to AD -203, 8, also in the following year the barley was of ‘very good’ quality. It is not self-evident that with the royal army standing in Babylon as was the case at least in 205 BC, the prices remain low. The favourable harvest circumstances may have been an important factor in keeping equivalents on a high level during these years.

Date: SE 107, I = 31 March – 29 April 205 BC

Text:

r14: ... [ITU] BI U₄ 8.KAM ḫ an LUGAL u [x x] [x x]

r15: [TA] Ė.GAL Ė-ni a-na KĀ.SIKIL.[LA KĀ GAL šā ḫ]-sag-gîl ha-ru-û šā MU ḫ BI

r16: [TUŠĀ TA]M’ Ė.SAG.GÌL ina IGÌ ḫ-su-û DU-uš N[IDBA?] ḫ ... ḫ [ihan] AMAR.UTU

KAR ḫ ḫ ḫ

r17: ... ḫ x ḫ lî-pî-šu-û GAR-ru-u’ anû Ė₄ U₄ 1.KAM KU₄ [...] [x x x]

r18: [a-na ḫ EN ḫ GAŞAN-iā u ḫ ] XV TIN.TIR ḫ u bu-lṭu šā] an LUGAL ḫ DU’ [...] [x x]

U.E.1: [...] [...] [...] x x[ x x x] a-na ḫ ḫ x ḫ [...] [...] [...] [x x x]

U.E.2: [...] [...] x x [...] [x] TA ḫ ki a-na KUR N[IM.MA ki] [...]

U.E.3: [...] [...] [...] [...] [x x x x] a-na ḫ ḫ [...] [x x x]

Translation:

r14: ... That month, day 8: king Antiochus and [...] [x x x x]

r15: from the palace they went out to the ‘Pure Gate’, the great Gate of the Esangila. The harû-ritual of that year [x x x]

r16: [the šatam]mu of the Esangila before them he performed. Ni[ndabû-offerings] ... Marduk-ēṭir [...] [x x x]

r17: [...] [...] x ḫ their descendants were set; into the ‘Day 1 Temple’ he/they entered [x x x x x x x]

r18: [for Bēl, Bēltiya,] Istar of Babylon and the life of Antiochus, the king he/they made [...] [x x x x x]

r19: [...] [...] x ḫ x ḫ to the house/temple [...] [x x x]

U.E.1: [...] [...] [...] [...] for Bēl and Bēltiya [...] [x x x]

U.E.2: [...] [...] [...] [...] from Babylon to the land of Elam [...] [x x]

U.E.3: [...] [...] [...] [...] against [...] [x x x]

Commentary:

r15: For the ‘Pure Gate’, also known as ‘Outer Gate’ and dudê-gate, see the commentary to AD -330A+B, r8. As is clear from the following line, nindabû-sacrifices took place there, which suits very well with the information given in AD -209A (16) just discussed. The present context is the Babylonian New Year’s festival, during the rites of which also the harû-container (and the act of filling it) played on important role.724

r16: Del Monte (1997, 61116) has reasonable doubts concerning the interpretation given in ADART II (203) where the sings are read with question mark) as ḫ AMAR.UTU-KAR, thus as PN Marduk-ēṭir. Officials, even the highest among them, are hardly ever mentioned by name in the diaries. On the other hand, his interpretation according to which sacrifices to the god Marduk are recorded in this passage is less convincing. Although it suits the context, the god is consistently written as Bēl (ḫ EN) throughout the ADs, and there is not a single parallel for a writing ḫ AMAR.UTU for Marduk.

724 See Kessler 2002 and Zgoll 2006, especially 47 and 58-60.
Although ḫum, 'offspring' can also specifically refer to the descendants of a king, this is not necessarily the case in this instance. The present passage has to be separated from the next line which reports of sacrifices for the life of the king (and from those passages which report of sacrifices for the sons of the king) for several reasons. When referring to sacrifices offered for the well-being of the royal sons, the diaries unanimously speak of A MES-Šū, mārēšu, 'his sons.' The term ḫum appears only in this line. Furthermore, the suffix is in the plural form. It is additionally very unlikely that sacrifices for his sons are mentioned before those for the king himself. The sacrifices to Ištar of Babylon and for the life of the king in the next line belong to a different phrase and are performed after an episode concerning the ‘Day 1 Temple’. This temple is in all probability to be identified with the bit akītu, and located outside of the inner walls, north of the city of Babylon. Its role in the New Year’s festival is attested by numerous references in Hellenistic ritual tablets. It is known that on day 8 of the festival which is mentioned in line r14, a procession on the waterway was organized from the Esangila to the New Year’s house, where the gods were to reside for three days.

On sacrifices to the gods ‘for the life of the king’ see Pirngruber 2010 (with previous literature). The older idea that these references point to a Babylonian version of the ruler cult encountered in the Greek part of the empire can be discarded. They rather show a form of communication between the king and the local elites very common in the Ancient Near East throughout the first millennium BC. Although these two phenomena are quite similar in function, they represent different developments and should not be simply lumped together. Normally, these sacrifices are offered to Bēl, Bēliya and the Great Gods, but occasionally (also in AD -171B, r6), also Ištar of Babylon is included. A similar account recording more sacrifices is also the most probable restoration of the first line on the upper edge in the light of the remains.

Note that Pinches’ copy gives TIN as last sign of this line. He probably assumed the title LUGAL TIN.TIRKI to follow. As this title is never attested in the corpus of the Diaries, we agree with H. Hunger’s proposition to read this last sign as DÙ which perfectly suits the context.

Del Monte’s suggestion to complete this line with N[IM.MAK] is very speculative as even the first sign (the alleged NIM) is severely damaged. Also historically this reading is problematic. It is not clear who should have visited Elam at this point in time. Antiochus III just returned from his successful anabasis into the Upper Satrapies, which had begun in 212 BC already and had brought him as far as India. It is known that after his stay in Babylon Antiochus turned his interest to the West and invaded Coele-Syria in 202 BC. This act stood at the beginning of the Fifth Syrian War, which was concluded only in 195 BC and followed by a campaign even further west, into Asia Minor, Thrace, and Greece.

This diary is interesting for various reasons. First, it is the only direct attestation of the participation of a Seleucid king in the Babylonian New Year’s festival. Similar attempts of Seleucid kings to present themselves as rightful rulers in the Babylonian tradition are known throughout the history of the empire. Of course, it is also probable that Antiochus made use of the cultic procession for his own purposes, ‘per raccogliere i

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725 Cf. CAD L (1973) s.v. ḫum (205)
726 E.g., in ADs -187A r5 and 178C r21.
727 On the identification of the ‘Day-1 temple’ with the bit akītu (which was disputed by G. McEwan) see Boiy 2004, 85-86. Also the present instance provides good evidence that the Ê.U. 1.KAM is best identified as bit akītu. The ritual tablets are edited with translation and commentary in the appendix of Linssen 2005.
728 See most recently Zgoll 2006, 30-39, on day eight of the akītu-festival.
731 We argued above that the participation the king’s sons and daughter in an earlier instance of the New Year’s Festival (recorded in AD -245, especially line 13) is improbable, but see Del Monte (1997, 61) for a more positive view about such an interpretation.
732 Examples are provided in van der Spek 2006 and Pirngruber 2010.
frutti propagandistici della spedizione orientale’. Secondly, this diary confirms the contents of the ritual tablets. The harū-ritual as well as the procession into the ‘Day 1 Temple’, probably the bīt akītu, indeed took place on day 8 of the New Year’s Festival, exactly as expected. And lastly, there is also an interesting chronological detail. As has been shown by Del Monte (1997, 63), Antiochus’ presence in Babylon in early 205 BC is not reconcilable with his visit to Arabia and the city of Gerrha on his return from the Eastern campaigns. Having spent the winter of 206/5 BC in Carmania, there is hardly the time to complete the journey from his winter camp through Persia to Arabia and from there via Seleucia(-on-the-Tigris) to Babylon. His visit to Gerrha thus has to be postponed to an uncertain date, but after April 205 BC.

Year 202/01 BC = SE 110-111

AD-201D: Month I
Museum number: BM 36591 (= 80-6-17,319)
Previous editions: ADART II, 220-223 and plate 113; Del Monte 1997, 63

Description of the tablet: This small diary contains information for only six days. With the exception of a small gap in the lower left corner, it is completely extant. Historical information is confined to a report on the upper edge about a locust invasion on the 23 nisannu. The tablet measures 4.8 cm in height and 4.4 in length; its thickness is less than 1.5 cm.

Date: SE 110 XII2, 28 – SE 111 I, 24 = 13 April – 9 May 201 BC

Text and translation:
U.E.1: ... ITU BI 23 BUR[U5]
U.E.2: [HI.]A ZI-a mim-ma NU TI-qé

U.E.1: ... That month, day 23, locusts
U.E.2: attacked, but they took nothing

Commentary: The passage is interesting in so far as the invasion is specified by the scribes to have had no economic repercussion because the locusts spared the crops. The point in time of this passage is significant as the fragment dates to the period shortly before the barley harvest, with the crop standing on the fields. The scribes were well aware of the potential damage that could be caused by these animals and which occasionally is also reflected in the price patterns.

Year 201/00 BC = SE 111

AD -200A: Month XI
Museum number: BM 36807 (= 80-6-17,546)
Copy: Listed as LBAT *308
Previous editions: ADART II, 222-226 and plate 113; Del Monte 1997, 64

Description of the tablet: This diary for one month only is almost fully preserved. Only the upper right part, and consequently the lower right part of the reverse with the historical note, is damaged. Where complete, the tablet is 8.2 cm high and 6.2 cm long, and at the centre of the left edge, its thickness amounts to about 1.5 cm.

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733 Del Monte 1997, 62-63; quotation from 63.
734 Most notably in AD -346, see Pirngruber Locusts for an analysis of locust invasions as reported in the ADs.
Lines 13 and 14 interrupt the historical note and give information about the level of the Euphrates. It is consequently not clear whether the ensuing lines 15 and 16 are still concerned with events of month X or already record events of the following month XI.

**Date:** SE 111 XI = 4 February – 5 March 200 BC

**Text:**

r10: ITU AB U₄,15 IZI ina KI-ti eri-du₉
r11: ina E S(U)₄ ša₄ na-šir₄ ME₄ ša ALAM ME₄
r12: ana tar-šu KĀ-LAMĀ-ra-bi GĀL-ši

r15: ITU BI [1⁷]₃ sî-x-x [.. .. .]

r16: pa-pa-hu ša₄ EN i-it-[.. .. .]

**Translation:**

r10: Month τēbētu (X), day 15, a fire (r12) occurred in the district of Eridu,
r11: in the storehouse of the guardians of the statues
r12: opposite of the Kalammarabi-gate.

r15: That month, day 3, [.. .. .]
r16: The cella of Bēl [.. .. .]

**Commentary:**

r10: Contrary to expectations, the historical section starts with an event of the preceding month τēbētu (X). On day 15 of that month – corresponding to 20 January 20 200 BC – an outbreak of fire is reported. The terminology "IZI ina KI-ti GN GĀL-ši" of this passage immediately calls the ‘falls of fire’ to mind. An omission IZI.<ŠUB> on part of the scribe cannot be excluded in this passage. As is clear from the subsequent lines, also in this instance damage of a part of the temple complex by fire is recorded.

r11-12: The title ‘guardian of the statues’ is otherwise unknown. The storehouse of this professional group can be located in the northern part of the Esangila thanks to the mention of the Kalammarabi-gate in the next line. This gate was also known under the name of Lamassu-rabi-gate. It was the north gate of the Esangila complex, and as it was in close vicinity to the cella of Marcum’s spouse, the goddess Šarpâniṭu, it was also designated as the gate of Bēltiya.

r16: The main cella of Bēl in the Esangila is called É.UMUŠ.ŠA, the house of command (bīt ṭēmi). On BM 35046, this cella is explicitly called papāhi ša Bēl. Its exact location is unknown but probably to be found behind the west front of the great courtyard.

**Year 200/199 BC = SE 112**

**AD-199A:** Month I
Museum number: BM 40628 (= 81-4-28,173)
Copy: Listed as *LBAT 309
Previous edition: ADART II, 228-231 and plate 114

**Description of the tablet:**

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735 For a lightning stroke in the same city quarter of Eridu see AD -381A, 8 (with extended commentary on miqitti išâtiš).
736 Del Monte 1997, 64 and 88, ADART II, 225, ADART III, 51.
737 George 1992, 392, see also his Fig. 6 (82) for a map; Boiy 2004, 82-83.
738 Line 1, quoted after George 1992, 92(1).
The small fragment constitutes the remains of a diary for the first half of year SE 112. The left edge is preserved, and the thickness of 2.6 cm increases to more than 4 cm at the broken right edge. The fragment is maximum 6.8 cm long. The height of the inscribed section arrives hardly at 4.5 cm. The historical note appears at the end of the section of the first month and is almost completely broken off. The extant signs point to a judicial affair and seem to report the homicide of someone in Babylon. Considering that a diary for half a year usually contained at least 35 signs per line, there is ample space for speculation.

**Date:** SE 112 I = 5 April – 3 May 200 BC

**Text and translation:**
1: [(~ 35 signs)]
2: x-[.. ..]-\textit{nu} GAZ [.. (many signs)]
   killed a(n) .. .. .. .. [.. (many signs)]

**Year 199/8 BC = SE 113**

**AD-198B:** Month IV
Museum number: BM 32597 (= S+ 76-11-17,2341)
Previous editions: ADART II, 232-235 and plate 115; Del Monte 1997, 64

**Description of the tablet:**
This piece is another quite small fragment which is almost completely extant. It contains information on the first half of month IV of year 113 SE. The tablet measures 8.9 cm in height and 6.8 cm in length, and at the centre of the left edge it is 1.7 cm thick. Damage due to erosion occurs exactly at the last lines of the reverse containing the historical note. These lines are separated from the remainder of the tablet by a blank space of the height of circa 4 lines.

**Date:** SE 113 IV = 22 June – 21 July 199 BC

**Text and translation:**
r12: … . IT[U BI IZI.ŠU]\textit{Btu}
   [That] mo[nth, a ‘fall of fire’]
   r13: ina KI-ti TIN.T[II]\textit{Rk} ana tar-\textit{ša} [É]\textit{nin-ur}\textit{ta}
   in the district of Šuanna opposite the temple of Ninurta

**Commentary:**
r12-13: This reading proposed by A. George (1997) differs significantly from the previous editions. The name of Ninurta’s temple was Ehursagtilia, located indeed in the district of Suanna.740 Considering the wording of the line, the most logical completion of line r12 is \textit{IZI.ŠUB}, a lightning stroke (for which type of event see the commentary to AD -381A, 8). However, a phonetic complement to IZI.ŠUB is otherwise not attested in the ADs.

**Year 198/197 BC = SE 114**

**AD-197C:** Month X
Museum number: BM 34938+45701 (= Sp.II 457+ SH 81-7-6,106)
Copies: LBAT 275-315
Previous editions: ADART II, 242-254 and plates 117-118; Del Monte 1997, 65

**Description of the tablet:**
AD -197B and C are partial duplicates of a diary for months VIII to XII of the year 114 SE and consequently presented in ADART in one single transcription and translation.

740 Boiy 2004, 85. For this district see already the commentary to AD -277C, 15.
The historical note is found on fragment C, the left edge of which is completely extant. The amount of missing signs to the right was substantial according to the gap between line r3 and 4, which must have contained almost the whole price section as well as the beginning of the planetary summary. Accordingly, the thickness of the tablet increases from about 1.5 cm at the left edge to 3 cm and more at the broken right edge. The tablet is 12.2 cm high, and the maximum line length amounts to 8.3 cm.

Date: SE 114 X = 4 January – 2 February 197 BC

Text and translation:
r5: ʼITU BI U₄₁ 13 IZI.ŠUB ina KI-ti TIN.TIR₄₁ .. ~35 signs
That month, day¹ 13, a ‘fall of fire’ in the district of Šuanna .. ~35 signs

Commentary:
r5: Again, the historical passage consists of but a brief note on a lightning stroke, which occurred in the present instance on 16 January 197 BC.

Year 194/193 BC = SE 118

AD-193B: Month VIII
Museum number: BM 35331 (= Sp.II 905+1012)
Copy: LBAT 324
Previous editions: ADART II, 276-285 and plates 123-124; Del Monte 1997, 65

Description of the tablet:
This fragment measures in total about 16.5 cm in width and 12 cm in height and was possibly a diary of the second half of the year in question. Only the lower part of the diary is preserved. The obverse contains information on months VII and VIII, the reverse information on months XII and XII₂. The tablet is about 3 cm thick on the broken left edge, and thicker on the broken right edge. Not too many signs are broken off on either side, as the lacuna between lines 12 and 13 contained only the price indications for sesame and wool as well as the beginning of the planetary summary (Jupiter and Mercury), not much more than 15 signs.

Date: SE 118 VIII = 23 October – 20 November 194 BC

Text and translation:
29: [ .. .. .. LÚGAL.ÉRIN² (MES) KU]R UR₄₁ šá ana muh-h[i 4 LÚGAL ÉRIN² .. ana]
E₄₁ KU₄₂-ub U₄₁ 9 ana É.SAG.GÍL K[U₄₁ .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. []

r32: [(many signs) ..] x x SÁ,DUG₄ [(many signs)]
[(many signs).] a šattukku-sacrifice [(many signs)]

Commentary:
29: With Del Monte (1997, 65) we assume that the title of the supreme military authority of Babylonia, the strategos ‘who is in charge of the four generals’ is to be completed in the first part of this line. For more information on this title see the commentary to AD -229B 9. Notices about high officials and especially this ‘Commander in Chief’ entering the city Babylon – often in order to perform sacrifices, hence to fulfil cultic duties – become increasingly frequent in the 2nd century BC (e.g., AD -171B, 1-2). This is also a reflection of the fact that these dignitaries usually resided in the capital of the province Seleucia-on-the-Tigris I rather than in Babylon.
r32: The reading provided by ADART II, 285 is puzzling. Usually, and almost without exception, the sacrifices that occur in the late 3rd and 2nd centuries BC are niqû and nindabû. According to Da Riva 2002 (267), šattuku is synonymous to ginû, this latter type of sacrifice is attested only once in the corpus of the diaries (AD -273B 12) and then written syllabically (gi-nu-û).

Year 188/187 BC = SE 124

AD-187A: Month
Museum number: BM 34711 (= Sp.II 200+ Sp.III 249+ 87-7-4,131)
Copies: Listed as LBAT *329 and ADART II, page 131-132
Previous editions: ADART II, 326-335 and plates 130-133; Del Monte 1997, 66-68; Mitsuma 2008, 96 (lines 10-11)
Discussion: Pirngruber 2010, 538 (including translation and commentary to lines 5-8)

Description of the tablet:
This fragment contains a diary for probably half a year. There is quite some damage but fortunately the extensive historical section is found on the better preserved upper part of the reverse, in the section of month XI. The losses at the edges are not substantial. All that is to be restored between lines 13 and 14 on the obverse is [ŠIK a mana a-na 1 GÎN KÛ.BABBAR é]-pûša, and the text to complete at the end of line 14 runs: PAP x na. Confirmation that not too many signs, approximately four or five, are missing on both sides is also found on the reverse, where between lines r2 and r3, only the position of Saturn is to be restored in the summary of planetary positions. These estimates are very much in accordance with the size and curvature of the tablet. The maximum width of the tablet arrives at almost 18 cm. Also its height, with a maximum of 11 cm, and its thickness (both upper corners measure slightly below 3 cm, but the broken lower edge almost 5 cm) are substantial. Also, note that at the time that Pinches made his copy (opposite of Plate 132) a piece at the upper left side of the reverse was existent which is now missing.

Date: SE 124 XI = 12 February – 12 March 187 BC

Text:

AD-187A: Month
Museum number: BM 34711 (= Sp.II 200+ Sp.III 249+ 87-7-4,131)
Copies: Listed as LBAT *329 and ADART II, page 131-132
Previous editions: ADART II, 326-335 and plates 130-133; Del Monte 1997, 66-68; Mitsuma 2008, 96 (lines 10-11)
Discussion: Pirngruber 2010, 538 (including translation and commentary to lines 5-8)

r14: [...] MES GAL MES šā [...] IM šā ina IGI ma ana [bar-si₄,p] KI GIN MES ní iš-sa-bat [GU₄]₄ u UDU SISKUR MEŠ ina U[GU ... ... ... ]

r15: [...] ri E₄₁-u’ u ḫa Bā-u’-ū-lat ina lib-bi ab-ri ib-bal-kit-ma KI x [... ...]

r16: [...] ri E₁₁ ma LU₄₄ UN MES šā TA GIS tal-lu ina lib-bi [...]-ne-eh-hi-is-su’ [...] ne [...] [... ...]


r18: [...] RI NE E₁₁-u’ u BA-u’-ū-lat ina lib-bi ab-ri such₄, ki₄ [... ... ... ]

Translation:

r3: [... ] That month [... ] day 3² 18 double hours [... ...

r4: [... ] Day 7 to Babylon [... ] the bīt gappi which ḫx x ḫx x³ opposite of [...] [... ...]

r5: [... ] their [... ], whose name? [... ] oxen and niqû-sacrifices [to Bēl, Bēltiya and the Great Gods] for his life and for the life of his wife and his sons [he performed and prostrated himself]

r6: [... ] which were in their hands ḫx x x³ aforesaid mentioned he placed, aforesaid mentioned [... ] 3 times with [...] merry-making and [...] was held

r7: [...] entered. Day 4 (= 15 February), at the Pure Gate, the great gate of the Esangila [...] oxen and niqû-sacrifices for Bēl, [Bēltiya, the Great Gods for his life]

r8: [...] for the life of] his wife and his sons ḫ he made and ḫ prostrated himself. The šatammu of the Esangila and the Babylonians, the assembly of the Esangila [... ...

r9: [...] x x x. A headgear of 1,000 Shekel of gold for king Antiochus they presented. That day, the governor of Babylon [and the politai who are]

r10: [in Babylon ...] presented gold to king Antiochus. That day, he went up on the Esangila and prostrated himself. That day, he entered the ‘Day-1 Temple’ and oxen and niqû-sacrifices [... ...

r11: [... before Ištar of Babylon, a golden crown, a golden box of Bēltiya and a purple garment of king Nebuchadnezzar, which in the treasury house [... ...

r12: [...] this [...] from the treasure house of the god’s came out. He crossed over to the garden of the king which is on the west bank. That day, he entered the palace. Day 5 (= 16 February) [... ...

r13: [...] oxen and] niqû-sacrifices he made in the Ezida-gate³. Day 13 (= 24 February), he entered into Borsippa. Day 14 (= 25 February), to the ziqqurat of the Ezida [... ...

r14: [...] the great [...] of [...] Adad which before had come to Borsippa he took. Oxen and niqû-sacrifices before? [... ...

r15: [...] went up and crossed over to the goddess Ba’ulat which was amidst/in a brushwood pile’ [... ...

r16: [...] went up and the people who from the crossbeam on the inside receded [... ...

r17: [...] day² 2’1’ (= 4 March) the king entered from Borsippa into Babylon, and he went up on³ the Esangila. Oxen and niqû-sacrifices for Bēl, Bēltiya and the Great Gods [he sacrificed and prostrated himself]

r18: [...] That day, in the afternoon, from Babylon he went up [to Seleucia,] which is on the Tigris, the royal city]. That month, [... ... ...]

Commentary:

r3: DANNA (bēru) means ‘double hour’ and designates the twelfth part of a day, consequently, 18 double-hours are period of one and a half days. The term appears quite
frequently in astronomical texts, and we thus expect some additional astronomical information concerning day 3 of šabātu (14 February 14187 BC) after the planetary summary.

r4: The few extant words in the first part of the line can be tentatively interpreted as reference to some official visiting the city of Babylon on day 7 (18 February 187 BC). The terminology resembles for example the preceding diary AD -193B, 29. The content of the line after the gap is equally elusive. The signs point to a reading bīt gappī, ‘house of the wings’, but such a building is unknown in Babylonia.

r5: The meaning of the first part of the line is unclear. The phrase ša PN MU-šu, ‘whose name is PN’ was an integral part of the royal title in the colophons of the Achaemenid period when both civil and royal name of the reigning king were indicated. As the present passage is badly broken, no interpretation can be offered.

The second half of the line on the other hand is clear. The sacrifices recur several times in the present diary, in lines r7/8, r10, r13 and r17. These sacrifices to certain gods – most often, as in the present instance Bēl, Bēltiya and the Great Gods – and their meaning have been discussed elsewhere in greater detail. Suffice it now to say that this diary (lines r5 and r8) and AD -178C r21 are the only instances where the reigning queen is mentioned as beneficiary. This is best interpreted as a reflection of the strong personality of Laodice. After all, this queen was not only worshipped together with her husband Antiochus III as theoi synnaoi in various Greek temples but even had her own eponymous cult. The suffix -šū on various nouns of this diary (buštīšu, aššassu and mārēšu) shows that it was Antiochus himself who performed the sacrifices in this instance and shows his direct involvement in Babylonian cultic matters.

r6: This line is particularly damaged, but the word ‘merry-making’ points to festive cultic events. This is supported by the content of the lines preceding and following this one, which records the performance of sacrifices. For nigûtu (šakānu) see the commentary to AD -245B, 5.

r7: The reading ‘day 4’ (15 February 15187 BC) is certain and casts considerable doubt on the uncertain reading ‘[day] 7’ in line r4 as the Diaries normally proceeded in a strictly chronological manner. AD -204C, r15 showed that sacrifices could take place in the Kasikilla-gate, which the most plausible interpretation of this passage considering the continuation of the line after the gap which speaks indeed of sacrifices to the gods for the life of the royal family.

According to our calculation of the size of the lacuna between the lines, the suggested completion of the second part of this line and the beginning of the following line 8 (which is based on line 5 of the same diary) is too long. It is possible that the Great Gods were omitted as recipients of the sacrifices, but a more likely solution to this dilemma would be to assume that also the now broken right edge was used by the scribe. This would be nothing unusual and can be seen on quite some diaries such as AD -273B.

r8: Just as line r5, the beginning of the line speaks again of sacrifices for the well-being of the royal family performed by Antiochus himself. The verb šukenu, which means “to prostrate oneself” was interpreted by van der Spek (2006, 274) as reference to praying in a Babylonian manner (as Greeks usually stood upright when praying). This line is another instance not only for the participation of Antiochus III in the Babylonian cult after his

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742 CAD B (1965) s.v. bēru A (bēru) s., meaning 2 (208-211).
743 Pirngruber 2010, see also the commentary to AD -204C r18.
744 Sherwin-White/Kuhrt 1993, 202-210, they also provide the most important pertinent documents in translation.
745 The Kasikilla (the ‘Pure Gate’) was further discussed in the commentary to AD -330A+B, r8.
746 See Tropper 1999 on semantic and etymology of that verb.
presence during the New Year’s festival of spring 205 BC (cf. AD -204C) but also for the depiction of the Seleucids as traditional Babylonian rulers in cuneiform sources.\textsuperscript{747}

The assembly (kiništu) of the Esangila presided by the šatammu was the highest local authority not only of the temple but of the whole civic community. Šatammu and kiništu usually occur together in the ADs, and it is not certain whether the šatammu was authorized to act without the approval of the assembly.\textsuperscript{748} Also the exact division of competences between the šatammu and other high dignitaries, especially the pāhātu who stood at the head of the Greek community (the politai) is elusive. With the exception of AD -245B, 4 all references to the šatammu and the kiništu date from the 2\textsuperscript{nd} century BC only. It is unlikely that this is due to mere chance and might reflect an increasing awareness of local identity after a period of major administrative reforms. For example, the institutionalisation of the politai under the pāhātu may have been perceived as a threat to local autonomy and old-established privileges.\textsuperscript{749}

r9: A kilīlu, a headband, is e.g. attested as adornment of the goddesses Ištar and Nanāya in Neo-Babylonian times in Uruk.\textsuperscript{750} In the definition of Waetzold it is a ‘geschlossener oder offener Ring aus Metall oder textilen Materialien.’\textsuperscript{751} The specimen presented to Antiochus by the šatammu and the kiništu in this line weighing more than eight kilograms of gold can without doubt be considered as particularly valuable. The awarding of a crown was quite a common way in the Ancient Near East to show reverence to a king. To give just one example, the citizens of Tyre after the battle at Issos sent a sumptuous crown to Alexander the Great as mark of respect.\textsuperscript{752}

The function of the pāhātu Bābili might have been identical to that of the epistates, the title is commonly translated as ‘governor’.\textsuperscript{753} It is important to note that he normally appears together with the politai ‘who are in Babylon’ and occasionally was even appointed directly by royal order from among them.\textsuperscript{754} According to T. Boiy, they formed one single institution, and as the verb in this phrase is in the plural, he proposed to restore the politai in the lacuna.\textsuperscript{755} The important corollary of this reading is that against the idea of van der Spek\textsuperscript{756} an institutionalized Greek community seems to have existed in Babylon.

\textsuperscript{747} Van der Spek 2006 (mainly quoting chronicles from the reign of Antiochus I), similarly Pirngruber 2010.
\textsuperscript{748} See Boiy 2004, 194-204 with further information on both institutions, for the šatammus in the Hellenistic period see also van der Spek 2000b.
\textsuperscript{749} According to Boiy 2004, 209, the institution of pāhātu and politai was ‘founded in order to form a counterpart to the traditional Babylonian power’. It is fitting that not the least aim of the administrative reforms of Antiochus III and his predecessors (for which see the commentary to AD -229B, 9) was a limitation the competences of the highest echelons of the administration. On the pāhātu see also the commentary to the following line r9.
\textsuperscript{750} Beaulieu 2003, 11. On the kilīlu see also Postgate 1994, 245.
\textsuperscript{751} Waetzold 19800-83, 199.
\textsuperscript{752} Just. XI 10.10. This gesture certainly did not change the city’s fate to the better when its inhabitants denied access to Alexander, cf. Arrian Anab. II 16.
\textsuperscript{753} Van der Spek 1986, 64-65, but see the critical remarks of Boiy 2004, 205.
\textsuperscript{754} AD -129A, r17, probably also AD -77A, r26.
\textsuperscript{755} Boiy 2004, 207-208. The hypothesis that the authority of the pāhātu extended only over the politai is not undisputed, according to K.-H. Kessler the pāhātu, being a Greek, served as contact person to the royal house also of the Babylonians (Kessler 1999 and 2006). His opinion is largely based on the evidence from Neo-Babylonian and early Achaemenid Sippar, where besides the temple administrator (the šangû of the Ebabbar in that case) always a royal representative, the ‘resident’ (qīpu), appears at the highest echelon of the administration. See Bongenaar 1997, 423-427 for a convenient summary. Kessler’s objections are to be taken seriously, but the evidence available is too scanty to give us a clearer picture of the competences of the single administrators of Babylon.
\textsuperscript{756} Van der Spek 1986, 71-78, 2005 \textit{et passim}. There is indeed good circumstantial evidence pointing to the later date (gathered by van der Spek 2005, 400-401 = 2009, 107-108), which cannot be discarded with absolute certainty. However, contrary to the confidence expressed in the commentary on the ‘Greek community’-chronicle (BCHP 14) on \url{http://www.livius.org/babylonia.html}, there is no evidence as to which
already before the reign of Antiochus IV. However, as in the Diaries in the pāhātu and the politai consistently appear together, Boiy’s completion is indeed the most likely solution irrespective of the precise competences of the pāhātu – the pāhātu occurs exclusively together with the politai (but not vice versa).\textsuperscript{757} Considering the administrative reforms that are known to have taken place during the reign of Antiochus III (and which might have begun even earlier, cf. the commentary to AD -229B, 9), such an interpretation of the evidence is by no means improbable. Also the historical circumstances – mainly the loss of Asia Minor and the payment of a high indemnity as a consequence of the lost war against the Romans– favour these later years of the reign of Antiochus III as period of concessions to the Greek inhabitants of the empire in attempts to strengthen local authority.

r10: Again a golden object is presented to the king. It seems most probable that in analogy to the šatammu and the Babylonians in lines 8 and 9, the pāhātu and the politai ‘who are in Babylon’ are the donors in this instance. The king was thus approached by the two largest social groups separately. This confirms the evidence of other Diaries, which generally distinguish both groups firmly from each other.

The second part of the line sees the king again performing cultic duties, praying (cf. line r8 for the meaning of šukênu) and sacrificing. The presence of the Day 1 Temple’ in this line is somewhat surprising as the date (month XI) precludes any connection whatsoever to the New Year’s festival (in which Antiochus had participated in 205 BC). The verb elû (E11), ‘to go up’, makes it very probable that the king actually climbed up the ziqqurat Etemenanki (or better its remains) in this instance.\textsuperscript{758}

r11: TIN.TIR\textsuperscript{K1} is normally to be read as (the city quarter of) Šuanna in the Diaries, the city of Babylon is always written E\textsuperscript{K1}. The only exception is the DN Ištar of Babylon, and the line is completed here in analogy with AD -171B(see also Mitsuma 2008). The divine recipients of the sacrifice – most likely Bēl and Bēltiya – must thus have been in the gap at the end of the preceding line. It is also possible that an object dedicated to Ištar is mentioned in the gap, especially when looking at the continuation of this line: several paraphernalia are enumerated in an unknown context.

Del Monte (1997, 68) interpreted this line as an attempt of Antiochus III “di riaffermare la sua regalità collegandola, attraverso l’uso delle antiche veste di Nabucodonosor, al fondatore del più grande impero autoctono”. However, in spite of the defeat suffered against the Romans and the ensuing loss of the province of Asia Minor, there is no reason to doubt Antiochus’ authority over the centre of his empire, and Del Monte’s interpretation of this passage seems a bit forced. The simpler reading is that of T. Boiy that the Babylonians displayed to king some particularly valuable objects of their culture,\textsuperscript{759} and it can neither be excluded that the king was presented with these objects at the occasion of his visit in an act of reverence. The motive behind such an action could have been e.g. the hope to be receive benefactions – tax exemptions and the like – in return. The treasure house (bīt bušê) lay according to AD -168A, r19 (cf. the commentary) in the juniper garden, which lay within the wider Esangila complex.

r12: The line starts with another reference to the bīt bušê in a broken context, but the garden mentioned afterwards is not to be identified the juniper garden, where the treasury was located. As has just been said, the juniper garden is known to have been located within the Esangila complex, more exactly between the Esangila itself and Eturkalamma on the

\textsuperscript{757} For a list of the instances in which the pāhātu and the politai appear together see Boiy 2004, 208.

\textsuperscript{758} See van der Spek 2006, 266-272 for the history of renovations of the Esangila in the Early Hellenistic and Early Seleucid periods, cf. the commentary to AD -321, r14.

\textsuperscript{759} Boiy 2004, 157.
East bank of the Euphrates.\textsuperscript{760} The ‘royal garden’ mentioned here is on the other hand specifically said to have been located on the West bank and was maybe identical to the place where Alexander was brought to during the illness leading to his death.\textsuperscript{761} This line of the diary is important in so far as it provides further proof of the inaccuracy of Herodotus’ description of Babylon, the verb \textit{nabalkatu} clearly places the events of the preceding lines (and hence the Esangila) in the eastern part of Babylon.\textsuperscript{762}

\textbf{r13:} For the third time in this Diary, and probably on the third consecutive day, sacrifices are recorded. After a gap of several days for which no information is given, the departure of the king to Borsippa on 24 February 187 BC (day 13) and his visit to the ziqqurat of the Nabû-temple Ezida on the following day are mentioned. The most likely restoration of the gap at the end of the line is \textit{E11 uš-kin-nu} in analogy to lines r10 and r17, which saw the king ‘prostrating himself’ (i.e. praying, cf. the commentary to line r8) after ascending the Esangila. Hence, beyond dispute more religious matters are described in this line. The reading Ezida-gate was suggested after collation by R. van der Spek.

\textbf{r14:} With Schwemer (2001, 639\textsuperscript{5158}) we assume that a sanctuary of Adad in Borsippa is referred to here. The second part of the line reports again of oxen and \textit{niqû}-sacrifices being offered just as in the preceding lines r5, r7 and r10.

\textbf{r15-16:} The content of these two lines is very enigmatic. It seems that the first verb in line r15 is in the plural form (\textit{E11-\textit{tu}}), whereas the second one (\textit{ibbalkitma}) as well as the first verbal form of r16 (\textit{E11-\textit{ma}}) are in the singular. The first \textit{E11} is unlikely to be subjunctive as the phrase is coordinated by \textit{u} to the following clause. \textit{Ba’ulātu} appears only this one time in the ADs and was translated as ‘people’ in ADART II, 333.\textsuperscript{763} According to I. Finkel’s collation, the word is preceded by the sign DINGIR rather than \textit{u ana} (as in ADART II, 332), but a goddess of the name \textit{Ba’ulātu} or the like is otherwise not attested. \textit{Abru}, in neither edition translated, might refer to a brushwood pile, which frequently appears in the context of rituals and also in connection with sacrifices.\textsuperscript{764} This reading would not only suit the general context of this diary, which almost exclusively relates cultic matters, but can also help to explain the appearance of a wooden beam (\textit{GIŠ tal-lu}) in the following line r16.

Summing up, there is good reason to assume that also in these two lines cultic events are narrated. After Antiochus offered sacrifices to the gods, (line r14) a ritual the nature of which is unclear but which was centred around a woodpile took place in Borsippa with the king’s participation, or at least in his presence.

\textbf{r17:} Line r17 records the return of the king from Borsippa to Babylon, possibly on 4 March 187 BC. The events that follow are hardly surprising considering the general content of this diary, Antiochus ascends the remains of the temple tower of the Esangila to pray and later offers sacrifices to the gods.

\textbf{r18:} The historical note ends with the return of the king from Babylon to the capital of the province, Seleucia-on-the-Tigris. The second visit to Babylon was thus a very short one, as he left on the same day on which he had returned from Borsippa.

\textsuperscript{760} For the juniper garden see already AD -328, r24 and again AD -168A r19, cf. also van der Spek 2006, 276.
\textsuperscript{761} \textit{Arr. Anab.} VII 25.3-6; \textit{Plut. Alex.} LXXVI 7.
\textsuperscript{762} According to Herodotus, the Euphrates ran between the temple and the palace instead of to the West of both. See van der Spek 1995 (who quotes this diary in support of Rollinger 1993), the evidence is also summarized by Boiy 2004, 78-79.
\textsuperscript{763} A translation as ‘troops’ or ‘soldiers’, which is the second meaning of this word, is improbable in this instance as the regular designation of military personnel in the Diaries is \textit{uqu} (\textit{LÚÉRIN}), cf. CAD B (1965) s.v. \textit{ba’ulātu} (182-184).
\textsuperscript{764} CAD A (1964) s.v. \textit{abru} A (63-64). Also, a prebend sales contract from Hellenistic Uruk (162 SE reign of Alexander Balas) mentions a prebend ‘before the brushwood pile of Anu’ (\textit{ina IGI ab-ri šá} 60), see Jursa 1997, text 38 (119-121).
AD-187B: Month XI
Museum number: BM 35323 (= Sp.II 894)
Copy: LBAT 330
Previous publication: ADART II, 334-337 and plate 134

Description of the tablet:
This diary contains information on only one month (XI). It is up to 9.7 cm long and measures about 5.5 cm maximum in height. The thickness of the tablet arrives at 2.5 cm on the broken upper edge, the lower edge is preserved. The historical note found on the badly eroded and for the bigger part illegible reverse of the diary follows immediately after the price section and is a statement concerning the level of the Euphrates. Our interpretation is that there seems to have been a high water level ‘reaching’ some fixed point at an early date during or maybe preceding the annual spring flood.765

Date: SE 124, XI = 12 February – 12 March 187 BC

Text and translation:
r6: [..] r̄. KUR-ād ..' [.. ..]  
[..] r̄. reached ..' [.. ..]

Year 187/186 BC = SE 125

AD-186A: Month XII
Museum number: BM 35730 (= Sp.III 251)
Copy: LBAT 331
Previous editions: ADART II, 336-339 and plate 134; Del Monte 1997, 68

Description of the tablet:
This tiny fragment constituted the upper right corner of a diary for the second half of the year SE 125, which is the first year of king Seleucus IV.766 It measures 4.1 cm in width at the upper edge and 4.3 cm in height at the left edge. In the upper right corner, the piece is about 2 cm thick, but more than 3 cm at the broken lower left corner. Considering that the line of a diary for half a year normally consisted of about 40 signs, and in the light of this tablet’s curvature, we can safely assume that at least 25-30 signs are missing to the left.

Date: SE 125 XII = 3 – 31 March 186 BC

Text and translation:
r7: [.. (~30 signs)] .. GAR-nu ŠU II an ki za kit tǔ nī-gū-tū ina KUR GAR-āt  
[.. (~30 signs)] (was) set .. .. .. .. .. .. .. merry-making was set up in the land.

Commentary:
r7: The ŠU II given in ADART II (338) is no longer preserved on the tablet’s surface. All that is left of the historical note is a reference to nigūtu, merry-making, ‘being set up in the land’ (for which see the commentary to AD -245B, 5). Seleucus IV seems to have been accepted as king without any problems after the death of his father Antiochus III. His reign is virtually undocumented,767 and it is thus hardly possible to contextualize such fragmentary passages. However, as the nigūtu attested earlier in the diaries AD -245 and -187 were celebrated in presence of the king or at least the heir apparent, and considering the place of death of his father only a few months earlier – Antiochus III was murdered

765 See Brown 2002, and especially his graph 1 (42) on the development of the river level within the year.
766 AD-186C explicitly mentions his name in the introductory formula in line 1.
767 See É. Will 19822, 303-306 for an overview of the few things that can be said about his reign.
when trying to despoil a temple in Elymais in early June 187 BC\textsuperscript{768} – it is likely that Seleucus IV was present in Babylon in March 186 BC. Maybe the ‘merry-making’ was occasioned by the presence of the new king.

Year 184/183 BC = SE 128

AD -183A: Month II
Museum number: BM 35343+41008 (= Sp. II 917+ 81-4-28,555)
Copy: Listed as LBAT *337
Previous editions: ADART II, 356-361 and plate 138; Del Monte 1997, 68-69

Description of the tablet:
This fragment preserves the upper half or so of a diary of the second month of year 128 SE. The upper edge and partially also the right edge are completely preserved. The upper edge is not inscribed and measures in the centre hardly 2 cm in thickness. The total length of fragment adds up to almost 12 cm, its height to 7.5 cm. The amount of missing signs can be established with the help of the first line, which contains the introductory date formula and shows that although the edge is broken off, the tablet is ideally complete also to the left.

Date: SE 128 II = 8 May – 6 June 184 BC

Text:

\begin{verbatim}
r7:   ... . ITU BI 1-en LU la-a-m[an-n]a-a-a
r8:   [... ... ... KU.BABBAR] ša\textsuperscript{769} SAG.DU\textsuperscript{MEŠ} TA ITU BAR ana E\textsuperscript{KI}
r9:   [... ... ... ... ... ri-ig-im-mu il-ta-[ka-nu]?
r10:  [... ... ... ...] f\textsuperscript{770} ša KU.BABBAR ša S[AG.D]U\textsuperscript{MEŠ} 1 e-du LÚ \frac{1}{2} GÍN [...]
r11: [LU ]\text{[...]} gab-bi ut uš dši [... IT]U BI al-te-ma um-ma [...]
r12: [LU\text{GAL}] ERIN\textsuperscript{MEŠ} ša\textsuperscript{771} URU su-ša-an e-[lam]-mu-út LU\textsuperscript{KUR} uk ...
    ... (blank)
r13: [... f\textsuperscript{770}\textsuperscript{772}]-šú ana ta-hu-šú šal-ṭa-niš GIN\textsuperscript{MEŠ} (blank)
\end{verbatim}

Translation:

r7:   ... That month, one Greek man
r8:  [... ... ... silver] of\textsuperscript{773} the heads, from the month of nisannu (I, = April – 7 May 184 BC) to Babylon [...]
    ... raised a claim [...]
    ... of the ‘silver of the heads’; one single (or: high-ranking) man \frac{1}{2} shekel [...]
    ... everything not [... That month, I heard as follows
r12: [... the commander of Susa, the Elamite, the enemy [...]
    ... marched victoriously ... next’ to him.

Commentary:

r7-10: The expression ‘silver of the heads’ (\textit{kaspu ša qaqqadē}) in lines r8 and r10 refers to a head tax as is clear from the so-called ‘Lehmann-text’,\textsuperscript{769} where the silver of the head is listed alongside the ‘silver of the king’ (KU.BABBAR ša LUGAL) and the ilku-obligation. There is also precedence for such a use of the word \textit{qaqqadu} (but without a preceding \textit{kaspu ša}) from the Old-Assyrian period.\textsuperscript{770} Concerning the signs ri-ig-im-mu, no reading was offered in ADART II. An interpretation of this word as derived from the verb \textit{ragāmu} – hence either \textit{rigmu} or \textit{rugimmû} – is most tempting, but the writing is not easily

\textsuperscript{768} Described e.g. in Diod. XXVIII, 3; cf. Will 1982\textsuperscript{2}, 238-240.
\textsuperscript{769} The text will soon appear in an edition by I. Spar and R. Wallenfels in the CTMMA-series. The line in question is line 10 of their version A, tablet MMA 86.11.299.
\textsuperscript{770} CAD Q (1982) s.v. \textit{qaqqadu} 9 (112-113).
reconciled with either variant. However, both words were often construed with šakānu, which is a very likely restoration for il-ta-[x-x].

The line may thus have contained a reference to a legal complaint, with some taxation issue lurking in the background. The reference to month I in line 4 and the half shekel mentioned to in line 10 can be interpreted as referring to arrears in the payment of the head tax. In such a scenario, the Greek mentioned in line 7 was either sent to collect the money or to settle the dispute. Half a shekel is too high an amount for a general monthly head tax, but possibly arrears have accumulated and become a court matter. A reading ‘single (ēdu) man’ is preferable over edû (famous, hence high-ranking or similar) when considering the writing e-du. In this case, one could assume that men without family ties paid a different, lower, amount than persons with wife and children.

Also, the point in time is clearly favourable for such an interpretation. After the lost war against the Romans and the indemnity payment stipulated at Apameia just a few years earlier, the Seleucid Empire was hard-pressed for money (see above chapter 4.4). The intransigence of the rulers in collecting taxes during these years lead to unrest in different provinces, most famously the Maccabean revolt in Judea and the ignominious death of Antiochus III who was killed in 187 BC in the Elymais in an attempt to appropriate a temple treasury.

AD 183C: Months II and IV
Museum number: BM 45870+45904 (= SH 81-7-6,301+337); BM 46017 (= SH 81-7-6,463)
Previous edition: ADART II, 360-365 and plate 139; Del Monte 1997, 69

Description of the tablet:
The two fragments do not join but belonged to the same tablet, probably a diary of the first half of the year in question. Both historical notes are found on piece BM 46017, a fragment belonging to the lower left part of the original tablet. It contains information on months II and III on the obverse and months IV and V on the reverse. Its left edge is ideally completely preserved and it measures about 8 cm in height, with a maximum length of 4.5 cm. The thickness adds up to less than 2.5 cm at the left edge, but to 3 cm at the broken right edge.

Date: SE 128 II = 8 May –6 June 184 BC

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771 Cf. cf. AD -273B, r29 for such a translation of edû.
772 The instances in CAD E s.v. édu (36) inform us that already the Law Code of Lipit-Ištar in the early 2nd millennium BC stipulated varying work obligations for the king’s subjects, depending on family situation. On the Code of Lipit-Ištar see Roth 1997.
773 See most recently Mittag 2006, 225-281; cf. footnote 280 above.
774 The fullest account of this episode is by Diodorus XXVIII 3 and XXIX 15, according to whom the temple was dedicated to Zeus-Bēlos. See Potts 1999, 382 for an overview of tentative identifications of this temple.
775 Schmitt 1964, 46-50; Will 1982, 64-65; 348-350 (and also 1979, 279-281).
**Text and translation:**

4: šá KÙ.BABBAR šá SAG.DU₃MES È ITU B[I ... ....... ... ... ... ...] of the silver of the heads he brought out. That month [... ... ... ... ... ... ... ...]

5: ITU BI al-te-ma um-ma ŠÁ.GAL ÈRI[N ... ... ... ... ... ... ... ...] That month I heard as follows: the straēgos ... ... ... ... ... ... ...

**Commentary:**

These lines parallel the information given in lines 10 and 12 of fragment -183A, the commentary of which see for further information.

**Date:** SE 128 IV = 6 July – 4 August 184 BC

**Text and translation:**

r11: [x ITU] BI 1-en ŠÁ.man-di-di šá ina IGI-m[a ... ...]

[...] That [month], one measurer, who before [...] 

**Commentary:**

r11: The ‘measurer’ (mādidu) was responsible for measuring out the amounts of foodstuffs, mainly barley and dates, for the offerings to the gods. In Neo-Babylonian Sippar, the mādidu was still a prebendary profession, but the profession no longer occurs in prebendary contracts from the Hellenistic Uruk. The finding that the number of prebendary professions in general decreased over time might thus not be readily applicable also to Babylon, too. Unfortunately, the sources are silent on the question of the organisation of the prebendary system in Babylon.

**Year 183/182 BC = SE 129**

**AD -182A:** Month VIII
Museum number: BM 45613 (= SH 81-7-6,6), Rm 693+734
Copy: LBAT 340 (BM 45613), 341 (Rm 693)
Previous editions: ADART II, 368-375 and plates 140-141; Del Monte 1997, 69

**Description of the tablet:**

The two fragments form a touch join. There is actually no historical information on this tablet, but the Esangila temple is mentioned twice, in the sections of month VIII (r20) and of month X (r40) respectively. As both lines are badly damaged, the context of the mention is not clear but probably there was some sort of link to the level of the Euphrates, the measurement of which was recorded in line r20 and can be restored in line r40. In the second instance, the temple was maybe flooded: [...] ŠÁ’ E.SAG.GIL GIM IGI-ú KI.MIN [...] ‘inside the Esangila as before, ditto’. Interestingly, fragment AD -182C (see below) reports of (renovation?) works carried out in various points of the temple.

**AD-182B:** Month VIII
Museum number: BM 34897+ 55575 (= Sp.II 408+ 82-7-4,167)

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778 Corò 2005, 106 and in the conclusion 139-142.
779 McEwan 1981, especially 183-190 went so far as to postulate that in Babylon in the Hellenistic period, the cult of the gods was no longer organized by means of a prebendary system. There are, however, a few glimpses of information in the ADs which can be interpreted as contradicting his argumentation e silentio, cf. the commentary to AD -273B, 12.
780 The corresponding Julian dates are 21 October – 19 November 183 BC for month VIII, and 19 December 183 BC – 16 January 182 BC for month X.
781 See also AD -321 for the mention of a temple (the Egišhurankia) in the context of the measuring of the river level.
Description of the tablet:
This fragment is the remnant of a diary for one month (VIII) only. Its left edge is partly extant and measures 1.6 cm in thickness, the broken right edge is 2.2 cm thick. The maximum width amounts to 8.2 cm, and the piece’s height to 4.6 cm. The historical note consists of a few words only and narrates an event involving some ‘property’ of unknown nature taking place at a gate, the name of which is broken off. A possibility would be again a cultic context as sacrifices (e.g. with the sacrificial animals provided from the property of one or another deity) were occasionally performed in the gates of the Esangila, cf. the commentary to AD -209D, 16. The enigmatic ZUM could alternatively be read mim-ma or NIN.

Date: SE 129, VIII = 21 October – 19 November 183 BC

Text and translation:
r8:   ... . ITU
 ⸢
 ⸣
[.. ..]
... That ...-person ...

r9:   NIG.GA NIN' ina UGU KÁ 4'r.'3 [... ...]
    property of the queen', in the gate r.'3 [... ...]

AD-182C: Month XI
Museum number: BM 45722 (= SH 81-7-6,129)+ 55549 (= 82-7-4,134)+ 78825 (= 88-5-12,12)
Copy: Listed as LBAT *342 (BM 78825)
Previous editions: ADART II, 376-383 and plates 142-143; Del Monte 1997, 70

Description of the tablet:
This piece is almost completely extant and contains information on month XI and the first days of month XII of year 129 SE. It measures 13.6 cm in width, 12.2 cm in height, and it is 2.2 cm thick in the centre of the lower edge.

Date: SE 129, XI = 17 January – 15 February 182 BC

Text and translation:
r11: 'ITU' BI dul-lu šá tam-lu-ú
    That ...-month', work on the terrace,

r12: u e-pe-šú šá x [... ...] Ŭ.SAG.GIL3 i-ne-ep-pu-uš
    and of the ... ...-building of the E'sangila' was done.

Commentary:
r11-12: Renovation works, the recording of which started already with Alexander the Great, but have been carried out throughout the whole Seleucid period (with a peak of the activities under Antiochus I) have been amply discussed in the commentary to AD -321, r14. This instance is interesting in so far as it does exceptionally not speak of clearing the debris but refers to reconstruction works in certain wings of the Esangila. A terrace (tamliû) of the Esangila is otherwise not attested. One might establish a connection of these renovations to the incident involving the Euphrates, tentatively interpreted as a flooding in the preceding diary AD -182A.

Year 182/181 BC = SE 129

AD-181: Month IV
Museum number: BM 40095 (= 81-2-1,60)+ 55572 (= 82-7-4,163)
Description of the tablet:

This join contains the diary for month IV of year SE 129. Its lower and left edges are ideally completely preserved. As is clear from the price section on the reverse, not too many signs can be broken off to the right of the historical section. This is also confirmed by H. Hunger’s restoration of lines r4 and r5 in the astronomical section. The fragment is 7.8 cm high, more than 10 cm long, and its thickness at the lower edge amounts to 2.5 cm maximum.

Date: SE 130, IV = 14 July – 12 August 182 BC

Text:

r7:   ... ITU BI U₄ na-aš-mu šā[f] tu-di-q[ê-e]

r8:   DAM(se-lu-ku LUGAL a-na se-lu-ku LUGAL L[UD][AM-šā ...]

r9:   a-na UR[O] se-lu-ke-‘a šā ana muh-hi ID[DIGNA]

r10:   u ID LUGAL GIN-ku si-ip-du u bi-ki-ru₄ ina ša ná-lib-bi

r11:   il-tak-mu₄-₄ U₄₄ KAM na-aš-mu₄ ina E₈₄ it-[e-eš-me]

r12:   um-ma NIN šim-tu₄ ub-ti₄ L[UNMES KUR (traces)]

r13:   u UKKKIN šā É.SAG.GÍL ša la (traces)

r14:   .................

Translation:

r7: That month, day 7 (= 20 July), a rumour of Laodice

r8: the wife of king Seleucus, to king Seleucus, [her] hus[band ...]

r9: to Seleucia, which is on the Tigris

r10: and on the Royal Canal (it) came. Mourning and lamentation in it (the city)

r11: were held. Day 9 (= 22 July), the rumour was heard in Babylon

r12: as follows: fate carried off the queen and the people of the land [...]

r13: and the assembly of the Esangila, which not [...]

Commentary:

r9/10: The line contains the first reference to the royal canal in our corpus, and henceforth, this geographical apposition appears regularly in addition to šā ana muh-hi ID[DIGNA] (‘which is on the Tigris’) to distinguish Seleucia-on-the-Tigris. The Royal Canal, which branched off the Euphrates near Sippar, was dug during the reign of Nebuchadnezzar II (605-562 BC) and connected the Euphrates with the Tigris. It can thus be considered as one of the most important waterways in Babylonian, fundamental for the integration of the new capital Seleucia-on-the-Tigris into the established network of cities centring on Babylon, including Borsippa, Cutha, and others.

The historical passage reports the arrival of a rumour of the death of Laodice, the wife of Seleucus IV, first in Seleucia-on-the-Tigris, where the king was residing in this period (on 20 July, 182 BC, to be precise) and two days later, on 22 July, in Babylon. The last line of the tablet is unfortunately broken off but might have contained befitting acts undertaken by the kinništu mentioned in line r13 in response to the sad occasion. The reign of Seleucus IV is generally poorly documented and it has been overlooked so far that this passage is this only attestation of his presence in Babylonia. The tablet was considered to be of historical importance in so far as it gave proof that not all three sons of Antiochus III were married to the same woman Laodice. It is commonly assumed that Seleucus IV was married to the widow of his older brother and former crown prince Antiochus, who had

782 Pertinent examples are ADs -178C, r22, -171B, U.E.2, and -162, 17.

783 Jursa 2010, 326-328, see also RGCT 8, 384-385 and Jursa 1995, 204-205. Van der Spek 1992, 237-239, provides a discussion of the Classical sources referring to a royal canal. Note that there were several canals of that same name which have to be kept apart as they were virtually spread all over Babylonia. Apart from the canal discussed here, there were also ‘royal canals’ in the vicinities of Nippur and Uruk.
passed away in summer 193 BC already but according to the information provided by this Diary, the wife of the youngest brother Antiochus IV must have been another Laodice.

There is, however, one major drawback to such an interpretation of the documentation. Seleucus IV and his wife Laodice had at least three children, one daughter Laodice, who was to be married to the Macedonian king Perseus, and two sons. The elder son Demetrius became king himself and succeeded to the Seleucid throne after the death of his cousin Antiochus V Philopator in 162 BC, having served as a hostage in Rome for several years. The second son, whose name was Antiochus is scarcely documented, but by means of numismatic evidence, his fate was reconstructed as follows: After the assassination of his father Seleucus IV by Heliodorus, he ascended – a small child still – to the throne. However, already after a very brief period of not even three months, he was pushed aside by his uncle Antiochus IV, who first adopted him, but only a few years later, in 170 BC, had him put to death. Coins dating from the short reign of the child king Antiochus show on the obverse a parallel portrait of a child (the king) and a woman, interpreted to be his mother, queen Laodice, who acted as regent for the boy. There are indeed other indications that Laodice was still alive after July 182 BC. For example, one of the following Diaries, AD -178C (r21) speaks of sacrifices for the life of the king, his wife and his sons. One can of course not exclude that a new wife is meant in this passage, but in the inscription SEG VII 2 from Susa dating to SE 135 (177/6 BC) the queen is even mentioned by name. This inscription recorded a manumission hyper tēs sōterias of Laodice the mother of Seleucus IV and Laodice, his wife, and both should thus have still been alive at that date.

This diary is thus very much in contradiction to this otherwise coherent interpretation of the evidence suggested by G. Le Rider. Two alternative explanations can be offered. Firstly, one could assume a writing mistake. The scribe erred and the Laodice who died was not the wife, but the mother of the reigning king and widow of Antiochus III. Secondly, and more satisfying than the assumption of a writing error, we want to suggest the possibility that nobody actually died in this instance and that the rumour was unfounded. In fact, the terminology of this diary differs in one detail from other instances recording the arrival of the news of the death of a queen or king in Babylon. The regular formulation runs simply ‘it was heard that queen/king PN went to his fate’ or similar. A good example is AD -253 A1:it-tēš-mu-⸢ú⸣u[maš]-ta-rat-ni-qé GAŠAN ina URU sa-par-du šim-tu4 ub-til-šú, ‘it was heard as follows: fate carried off queen Ṣtronice in Sardis’. Likewise, in the Babylonian King List one reads (12-13): ina EK1 it-te-ēš-ma um-ma, ‘in Babylon it was heard thus’.

In our instance, however, a nešmû – translated by H. Hunger in ADART II, 385 as ‘rumour’ rather than the factual event is heard. False rumours about the death of a king or a queen are indeed not unknown in antiquity (a well-known example is the revolt of the city of Thebes from Macedonian lordship after a rumour of Alexander the Great’s death,

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784 Boiy 2004, 159. For the older view see Will 1982, 304, and similarly Schmitt 1964, 20-21 and 23-24 (with more details on Laodice, the wife of Seleucus IV). This Laodice is known to have been installed as eponymous priestess in the cult for her mother of the same name, cf. Welles 1934, 156-164 and Sherwin-White/Kuhrt 1993, 202-206. See also Le Rider 1986, 415, for epigraphic attestations of the wives of the sons of Antiochus III.

785 Le Rider 1986 (following largely a scheme proposed by O.Mørkholm), also Mittag 2006, 42-48.

786 The contradictory state of the source material was already alluded to in Houghton/Lorber 2008 II/1, 35. They also point to the fact that SEG VII 2, dating from 183 BC (and thus from when the queen was still alive) employed the same terminology as SEG VII, 17. This latter inscription was extensively discussed by L. Robert 1949, 26-29, according to whose convincing completions mother and wife of Seleucus IV are mentioned (and not, as in the original edition mother, wife and daughter). He by the way adduced this inscription as proof that Laodice, the mother of Seleucus IV must still have been alive when her husband Antiochus III married a Greek girl on Euboea in 192/1 BC.

787 Sachs/Wiseman 1954.

788 In CAD N II (1980) nešmû is not attested in this meaning. As the word is in any case a derivation of šemû, Hunger’s proposed translation is most plausible.
see, e.g., Arr. *Anab.* I 7.6), and the interpretation of this passage as such a canard is the best way to reconcile all available evidence.

**Year 180/179 BC = SE 132**

**AD-179B:** Month V  
Museum number: BM 34773A (= Sp.II 265A)  
Copy: LBAT 348  
Previous editions: ADART II, 396-399 and plate 146; Del Monte 1997, 70-71

**Description of the tablet:**  
This tablet is a tiny fragment of a diary for (probably) two months of year 132 SE. Its upper edge is fully preserved and measures about 2 cm in thickness, the lower edge more than 2.5 cm. The length of the lines on the reverse amounts to 4.2 cm maximum, the fragment is about 2 cm high.

**Date:** SE 132, V = 21 July – 18 August 180 BC

**Text and translation:**  
r5: [... ... ... LUGAL na 20 TA x TA 16 [... ...]  
[... ... ...] the king [... ...]

U.E.2: [... ... ...]x x ana URU se-lu-ke[-'+a ... ...]

[... ... ...]x x to Seleucia [... ...]

U.E.3: [... ... ... KU]-ub.

[... ... ... enter]ed

**Commentary:**  
Only a few incoherent signs are extant in these lines. As the first line of the upper edge contains the observation of the river level, the immediately preceding line r5 should be still part of the astronomical section rather than the start of the historical note (also Del Monte 1997, 71). Lines U.E. 2 and 3 seem to record a journey from some official whose identity is broken off to Seleucia-on-the-Tigris, presumably from Babylon, see also the commentary to -193B, 29 on such journeys of officials.

**AD -179E:** Month XI  
Museum number: BM 45846+46062 (= SH 81-7-6,271+509)  
Copy: LBAT 350 (BM 45846)  
Previous editions: ADART II, 402-405 and plate 146; Del Monte 1997, 71

**Description of the tablet:**  
This tiny fragment stems from the centre of a diary that originally contained information for the second half of year 132 SE. The maximum length of line is 3.8 cm, and the height as measured on the reverse is 6.7 cm. At both upper and lower edges the tablet is about 3 cm thick.

**Date:** SE 132, XI = 13 February – 15 March 179 BC

**Text and translation:**  
r14: [(many signs) ..] KU-ub NIDBA ina É.[.. (many signs)]  
[(many signs)..] entered, a nindabû-offering in the temple of [..(many signs)]

**Commentary:**

789 In his edition, this fragment is dated erroneously to month VI2.
r14: Again, the historical information is very limited. For the nindabû-sacrifices see the commentary to AD -209D, 16. As opposed to that earlier instance, the sacrifice in the present passage was not performed in a gate, but in a temple, the name of which is broken off in the lacuna to the right.

Year 179/78 BC = SE 133

AD-178C: Month XII
Museum number: BM 34591 (= Sp.II 64)+ 55532 (= 82-7-4,115+144) 
Copies: Listed as LBAT *353 and *354 
Previous editions: ADART II, 408-415 and plates 147-148; Del Monte 1997, 71-72; Pirngruber 2010

Description of the tablet: 
This diary contains information on the last two months of year 133 SE. The upper edge is partly extant, as are left and right edges. The total length amounts to 16.3 cm, the maximum height to less than 11 cm. The thickness at the broken lower edge measures 3.8 cm.

Date: SE 133, XII = 4 March – 2 April 178 BC

Text:

r14: [...] BURU₅HLAL SIG₇ ZI-a. ...

r18: ... U₄ 5.KAM L₆GAL.ÉRIN KUR.URI₅MEŠ šá ana UGU 4 L₆GAL.UKKINMEŠ ana E₃KI LI₃.ÉRIN.KUR.ŪR₂KI MEŠ

r19: KU₄ ub U₄ 6 ina KÁ du-de-[e šá É.SAG.GÍL] KÁ-SIKIL.LA L₆ŠS₄.TAM É.SAG.ÎL u

r20: GU₄ ü 5 SISKURMEŠ a-na [L₆GAL.ÉRIN.KUR.UR]I₇MEŠ ul-te-zu-ú NIDBA a-na dEN dGAŠAN-ia

r21: DINGIRMEŠ GAL₄MES ü a-na b[ul-šu šá]\₁se-lu-ku LUGAL DAM-šu ú L₄ME₆-šú GAR-an U₄ BI₅ [... ...]

r22: TA E₃KI a-na ĮR₂U se-lu-ke-[a-a šá ľna muhhi ID]IGNA ú ID LUGAL È²-n[i² ... ...]

Translation:
r14: [...] green locusts attacked. ...

r18: ... Day 5, the stratēgos of Babylonia who is in charge of the four ‘satraps’ (r19) entered into Babylon.

r19: Day 6, at the dudê-ga[te of the Esangila], the gate Kasikilla, the šatammu of the Esangila and the Babylonians

r20: one ox and 5 sheep (as nigu-sacrifices) to [the commander of B]abylonia they provided, nindabû- offerings for Bēl and Bēltiya,

r21: the Great Gods and for the life of Seleucus the king, his wife and his sons he performed. That 'day' [...] [... ...]

r22: from Babylon to Seleucia which is on the Tigris and the royal canal he went up ...]

Commentary:
r14: This instance recording a locust invasion is unique in so far as the colour of the animals is specified. Although colours variations play an important role in omen literature, it is plausible that an actual biological feature is described here. The colouration of the desert locust (Schistocerca gregaria), which was identified as the only possible species at stake for the invasions in Babylonia, was in fact oscillating between green and a light,

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790 Radner 2004, 11² notes that the other species attested for the Near East, the Moroccan Locust (Dociostaurus maroccanus) is not native to Southern Mesopotamia.
yellowish brown. As regards the economic impact of such locust invasions see Pirngruber *Locusts*.

r18: The terminology of this line is puzzling. The supreme military commander of Babylonia is usually designated as *ana UGU 4 LUGAL.ERIN*MEŠ, ‘in charge of the four generals’, for this office see the extensive commentary to AD-229B, r9. The ‘four satraps’ mentioned in this instance have no parallel and appear additionally in a period for which the office of the satrap probably did not even exist.\(^{791}\) It is maybe best to simply explain the *LUGAL.UKKIN* as writing error for *LUGAL.ERIN*MEŠ, rather than to see in the present title a reflection of the devaluation of the office of the satrap.\(^{792}\)

r19-22: The content of these lines is well-established. A high royal official is provided by Babylonian dignitaries – the *šatammu* and the assembly of the Esangila – with animals for sacrifices to the gods for the life of the royal family for which see Pirngruber 2010 (the *niqû*-sacrifices were treated briefly in AD -226A r18/19). The *dudê*-gate, which is another name of the Kasikilla (the Pure Gate), the main entrance of the Esangila, has been discussed in the commentary to AD -330A+B, r8, and the roles of *šatammu* and *kiništu* of the Esangila were elucidated in the commentary to AD -187A, r8. For the completion of the gap in the present line see e.g. ADs -161A, 28 and 29, -158, r19, -144, r19 and more.

We have already noted above in the commentary to AD -181 that the wife of king Seleucus IV, hence in all likelihood Laodice, is still mentioned here as recipient of a sacrifice *ana bulṭi*, ‘for the life’ although a report of her death had arrived almost two years earlier in Babylon.\(^{793}\) For this reason (and others), the rumour was interpreted to be unfounded in that instance, and that Laodice was still alive in 178 BC.

Year 177/76 BC = SE 135

**AD -176B:** Month V  
Museum number: BM 35220 (= Sp.II 779)  
Copy: LBAT 356  
Previous editions: ADART II, 422-425 and plate 149; Del Monte 1997, 72

**Description of the tablet:**  
Versions A and B of AD -176 are probably two copies of the same diary. As the historical note of -176B precedes the note of -176A, it is presented here first.  
The reverse of fragment B is completely broken off, and the tablet not thicker than 1 cm maximum. The obverse contains astronomical observations for two months as well as a very fragmentary historical notice referring to the troops of the king. The fragment is 7.1 cm high, and the length of the lines varies between 2.5 and 3.5 cm. A bellicose context is a likely scenario, but nothing further can be ascertained.

**Date:** SE 135, V = 16 August – 13 September 177 BC

**Text and translation:**

5: \[\begin{array}{l}
[(\text{unknown amount of signs}) \text{\textasteriskcentered} LUGAL \text{\textasteriskcentered} ana tar-š[i (unknown amount of signs)}
\end{array}\]

\(^{791}\) Bengston 1964, 143-158. He concedes (158) that the designation satrap is used in some instances for the semi-independent vassal-kings of the Upper Satrapies subdued by Antiochus III during his anabasis, but it is never encountered in the core provinces of the empire. As stated above, the reappearance of the office of the satrap seems to have occurred during the reign of Demetrius I (162-150 BC) only.

\(^{792}\) So Del Monte 1997, 54, who somewhat contradictorily notes at the same page (footnote 108) the disappearance of the same office until the reign of Demetrius I.

\(^{793}\) Note that in the case of chronicle BCHP 17 (= ABC 13b), the main recipient of a sacrifice *ana dul-lu* (Seleucus II in this case) was already dead at the time of the sacrifice, but only since very recently. A tentative explanation for the unusual terminology of this chronicle is given by van der Spek (1993, 101), who thought the word *bullu* was deliberately avoided and replaced by *dullu* in this instance for reasons of piety.
-176A: Month VI
Museum number: BM 35011 (= Sp.II 538)
Copy: LBAT 188
Previous editions: ADART II, 420-423 and plate 149; Del Monte 1997, 72

Description of the tablet:
The fragment constituted the upper left corner of a diary of the first half of year SE 135. Left and upper edges are ideally completely extant, the upper edge containing a catch-line referring to the ensuing, now lost diary for the second half of the year. The reverse is almost completely broken off. The tablet is not thicker than 2.5 cm maximum, and 8.2 cm high and about 5 cm long. Again historical information is very limited and mentions just a military official. A connection to the information of AD -176B seems very plausible.

Date: SE 135, VI = 14 September – 13 October 177 BC

Text and translation:
r5: [. . .] 'u1LU GAL.ÉRIN [. . . . many signs]
[. . .] 'and' the stratēgo [. . . . many signs]

Year 176/75 BC = SE 136

AD -175B: Month IX
Museum number: BM 34915 (=Sp. II 430)
Copy: LBAT 357
Previous editions: ADART II, 424-427 and plate 150; Del Monte 1997, 72-73

Description of the tablet:
The tablet is a small diary which contains astronomical information for one month only (IX) on the obverse. The badly damaged reverse has a historical section, which makes much use of the space on the right edge (which it is only partly extant). The notice is also continued on the left edge of the tablet. As the first lines of the obverse are complete, it is not too difficult to determine the amount of missing signs in the historical part. Note that after an almost completely eroded first line there is some blank space before the historical section actually begins. The historical section closes with the observations concerning the river level and a report of a fall of fire, before restarting on the left edge. The tablet is 6.4 cm maximum high and 6.8 cm maximum long. Its thickness adds up to about 1.5 cm.

Date: SE 136, IX = 2 – 30 December 176 BC

Text:
r2: [ITU BI GE6 1.KAM 2-tu4 šá M KiKA?[-[. . . . . . . ]
r3: [. . . .] u1LU x u1LU KU.DIMMES šá [ E[SAG.IL . . . . ]
r4: [. . . . . . . . . . . . na] È 1LU KU.DIMMES . . .
r5: ina šur[-qa' . . . . . . ] 1LU KU.DIMMES . . . . x-ú šá 1LU KU.DIMMES . . .
r6: [. . . . . . . . . . . .] -u GAZ U4 1.KAM LU UNMES šá ina [i-me't URU' . . ]
r7: [. . . . . . . . . . . .] TAR7MES ana È ki-li SUMMES
r8: (description of the river level)
r9: . . . . . . . . . [ITU BI GE6 5 IZI.ŠUB.BA
r10: [. . . . . . . . . . . .] KI-šú DA È dIDIM

L.E.1: [. . . . . . . . . . . .] šá MUD7MES tar bi [. . ]
L.E.2: [. . . . . . . . . . . .] sim-mil-tu4 šá maš-a-al-tú šá [. . ]
Translation:

r2: [That month,] night of the 1st, a second of the female x- ...

r3: ... and the [ .. ... ] the goldsmiths of the temple E- ...

r4: ... the house of the goldsmiths ...

r5: by theft [ ... ... ] the goldsmiths [ ... ... ] of the goldsmiths [ ... ... ]

r6: ... was killed. Day 1, the people who in [the surroundings of the city ...]

r7: ... [ ... ... ... ] [ ... ] were put into jail.

r8: (description of the river level)

r9: That month, night of the 5th, a fall of fire

r10: ... [ ... ... ... ... ] with it next to the temple of Ea

L.E.1: [ ... ... ]

L.E.2: [ ... ... ]

Commentary:

r3-5: The goldsmiths were an important professional group in the organization of the Babylonian temples. Their main task consisted of the fabrication as well as the repair of the precious paraphernalia of the gods.\(^{794}\) In general, they were probably remunerated with rations from the temple in our period,\(^{795}\) though at least some of the smiths might also have been prebendaries – indeed, a combined prebend ērib bāri štātu u kutimmūtu is known from Hellenistic Uruk.\(^{796}\) An institution E\(_{11}\) KU.DIM, tentatively to be identified as the workshop of these goldsmiths, received a ration of beer in a text from the Achaemenid period (Dar. 495, dating from year 19 of Darius). On ummānu as umbrella term for ‘specialized craftsmen’ comprising both goldsmiths and jewellers see the commentary to AD -302/1.

r7: The bīt kīlī (or killī), the prison, could not only belong to temples or the palace, it is also attested being held by private persons.\(^{797}\) In the present instance, most likely the bīt kīlī of the Esangila is meant. The context – a theft concerning the goldsmiths – and the mere fact that the incident was recorded in the ADs are clear indicators of such an interpretation.

r9/10: The ‘fall of fire’ occurred in night from 2 to 3 December 176 BC, on the phenomenon see already the commentary to AD -381A, r8. The identification of the bīt Ea is not entirely certain, but the Ekarzaginna, which was located within the Esangila complex in the quarter if Eridu is the most likely solution.

L.E.2: The ‘rack of interrogation’ (simmīltu ša mašāltu) was a torture instrument and used in ‘peinlichen Befragungen’ of suspected perpetrators, and more specifically thieves. It is attested in the present instance for the first time in our corpus, but is already known from the Judicial chronicle BCHP 17 which dates from the reign of Antiochus III.\(^{799}\) It seems in any case not attested before the Seleucid period as the only reference given in the CAD is indeed the (at the time of publication of the relevant volume still unpublished) Judicial...
Van der Spek (2008, 295) in his short list of expressions found in Berossus reminiscent of the language of the Diaries and Chronicles tentatively connected this device with the verb *apotympanizein*, ‘auf dem Rade ausspannen, foltern’, which appears in the account of the torture and killing of the Babylonian king Laborosoardokhos/Labaši-Marduk.

Generally, this diary seems to relate a story involving a murder (r6) and the judicial proceedings connected to it. Given the presence of goldsmiths and the ‘rack of interrogation’, also a theft is a likely part of the crime recorded. Due to very broken state of the tablet, nothing further can be specified. The narrative is interrupted by the insertion of the note concerning a ‘fall of fire’ in lines r9/10. Note that BCHP 15 (the ‘Gold Theft Chronicle’) is quite similar in content.

Year 174/73 BC = SE 138

Date: SE 138, XI = 7 February – 6 March 173 BC

Text and translation:

<table>
<thead>
<tr>
<th>Line</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>r2:</td>
<td>[...       ] A.GŬ.B.BA MES ina ? [... (~30 signs)]</td>
</tr>
<tr>
<td></td>
<td>holy water (basins) [... (~30 signs)]</td>
</tr>
<tr>
<td>r3:</td>
<td>[...       ] MES ana SĬSKUR MES MU-a-ti [KĔ] KĻMES [... (~30 signs)]</td>
</tr>
<tr>
<td></td>
<td>[...       ] for these niqi- offerings, the [Babylonian]s [... (~30 signs)]</td>
</tr>
</tbody>
</table>

Commentary:

r2-3: This short historical note is found on the upper part of the reverse of the tablet and preceded by only one line, the signs of which are completely illegible. Del Monte (1997, 73) correctly read SĬSKUR (SĬSKUR.SĬSKUR, instead of SĬSKŬR of ADART II, 430) but omitted ana. For the niqi- offerings see already the commentary to AD -226A, r18/9. The egubbu holy water basin was used in many different rituals for the purpose of purification, amongst others in the kettledrum ritual and the New Year’s festival also known from the ADs, and also in rites accompanying the daily meals of the gods. Also the existence of a ‘holy water basin-ritual’ is attested.\(^{802}\)

\(^{800}\) CAD (S) 1984, s.v. *simmiiltu* 3, 273-275; the word is not listed in the present meaning in the AHw. The word occurs in several later Diaries, e.g., -168A, 18 and -140C, r38.

\(^{801}\) Translation according to Frisk 1970, s.v. *tympanon* (944). Liddell/Scott 1968\(^9\) have a more generic ‘to crucify on a plank’ (s.v. *apotympanizein*).

\(^{802}\) For a list of the attestations of the *egubbû* see Linssen 2005, 155.
Year 172/71 BC = SE 140

AD -171B: Month V
Museum number: BM 40119 (= 81-2-1,85)
Copy: Listed as LBAT *362
Previous editions: ADART II, 438-441 and plates 151-152; Del Monte 1997, 74; Mitsuma 2008, 97 (lines 5-7); Pirngruber 2010, 541 (with edition of and commentary to lines r6-7)

Description of the Tablet:
The diary contains information for a few days in month V of year 140 SE. The completely preserved upper edge is 5.2 cm long; the tablet’s maximum height similarly amounts to a little more than 5 cm. The thickness measures 1.4 cm in the centre of the upper edge, and 1.6 cm in the centre of the broken lower edge. The beginning of the reverse is preceded by a blank space with a height of about seven lines or ca. 2.5 cm.

Date: SE 140, V = 22 July – 20 August 172 BC

Text:

r1: ITU BI U₄ 11.KAM ḠAL.ÉRINMES KUR [URI[KI]
r2: ana E[KI] KU₄-[ıp U₄ 13.KAM ana è-s[ag-il KU₄ y']
r3: 6 SISKURMES ana 'Œ[GAŠAN-ıa DINGIRMES GALMES [u ana bul-ṭu]
r4: šá LUGALMES DU-us U₄ BI ana É.U₄-1.KAM KU₁-[ıp
r5: 'ina[d IGÌ šá d'INNIN TIN.TIRKI AGA, DINGIRMES GALMES
r6: 'ša'3 ina lib-bi šak-nuZA SISKUR ana 'd'EN 'GAŠAN-ıa 'd'INNIN TIN.TIRKI[KI]
r7: 'DINGIRMES GALMES u ana bul-ṭu ša LUGALMES DU-us us-kin-nu
r8: 'U₄ n. KAM TA [E[KI ana]

U.E.1: [URU] se-lu-ke-'a-a URU LUGAL²-u²-tu ša ana muh-hi
U.E.2: dIDIGNA u Ŭ LUGAL Ť

Translation:

r1: That month, day 11 (= 1 August), the stratēgos [of Babylonia]
r2: entered Babylon. Day 13, (= 3 August) into the temple Esangila? he entered and
r3: 6 sheep (as niqû- sacrifices) for Bēl, Bēltiya, the Great Gods [and for the life]
r4: of the kings he made. That day, he entered the Day 1 Temple’,
r5: 'in front of Istarch of Babylon (and?) the crowns’ of the Great Gods
r6: 'which' are placed therein, 3 sacrificial sheep for Bēl, Bēltiya, Istarch of Babylon
r7: the Great Gods and for the life of the kings he made and prostrated himself
r8: 'Day x,° from [Babylon to]

U.E.1: Seleucia, the royal city, which is on the
U.E.2: Tigris and the royal canal he went up.

Commentary:

r1: On the role of the ḠAL.ÉRINMES KUR URI[KI, the stratēgos, see already the commentaries to ADs -237B, r30 and especially AD -229B, 9. This official ranks among the highest dignitaries in the satrapy of Babylonia. The content of this diary – the stratēgos arrives at Babylon, presumably from Seleucia-on-the-Tigris, in order to perform sacrifices has several parallels.803

r2-4 and r6-7: The frequently recurring topic of sacrifices for Bēl, Bēltiya, the Great Gods and for the life of the king(s) has received ample treatment in a separate article (Pirngruber 2010, cf. also the commentary to AD -204C, r18 for a brief description). The presence of the ‘Day 1 Temple’ is puzzling in this instance as the passage dates to the Babylonian

803 For example, ADs -193A, 29 (with commentary) and -178C, r19..
month abu (V) and any connection to the New Year’s festival is hence impossible. On the presence of a shrine for Istar in this temple see Mitsuma 2008.

r5: On crowns as paraphernalia of gods see AD -324, r23.

**Year 171/70 BC = SE 141**

**AD -170A: Month I**

Museum number: BM 45654+45747 (= SH 81-7-6,48+160)

Copy: LBAT 365 (45654)

Previous editions: ADART II, 446-453 and plates 153-154; Del Monte 1997, 75

**Description of the tablet:**

The badly eroded join contains a diary for the first half of the year in question, almost two thirds of which are extant. The tablet is on both lateral edges more than 3.5 cm thick and well 14.5 cm high. Its maximum width amounts to 11.8 cm (almost a third of which is merely eroded space). The amount of lost signs can be estimated with the help of the lacuna between lines r27 and r28 which must have contained the complete summary of planetary positions. 35 signs as minimum guess seem in order, but their distribution to the left and right is unclear due to the absence of useful indications.

**Date:** SE 141, I = 14 April – 13 May 171 BC

**Text and translation:**

1: [(many signs)] SISKURMEŠ .. (many signs)]

[(many signs)] niqû-sacrifices .. (many signs)]

**Commentary:**

1: For the niqû-sacrifices see already the commentary to AD -226A, r18/9.

**Date:** SE 141, II = 14 May – 12 June

**Text:**

12: ... ITU BI U4 25.KAM É.NAM.DUMU7 (traces) .. (many signs)]

13: [(many signs)] KITIŠ.KI.MES.LU UKKIN7 šâ [É.SAG.IL] ina É-U4-1.KAM x ‘ina’ x

HI x x x x .. (many signs)]

14: [(many signs)] ni-[gu] TÚ ina KUR GAR-át

**Translation:**

12: ... That month, day 25: the temple Enamdu7 .. (many signs)]

13: [(many signs) the Babylon]’ians?, the assembly of [ the Esangila?] in(to) the ‘Day-1 Temple’ x x x x x x7 .. (many signs)]

14: [(many signs)] merry-ma’king was set up in the land

**Commentary:**

12: A temple Enamdu, as the name was read in ADART II (449) is otherwise not attested. The reading of the sign DUMU is very uncertain, but no alternative proposition can be made as the traces simply do not conform to any known temple (as listed in George 1993).

13: ADART II (448) reads the sign after LÚ as ULÙ (or GIŠGAL), which together with the determinative means qallu, slave. However, this reading is found exclusively in Neo-Assyrian texts, whereas according to the CAD, qallu is usually written syllabically in Neo-
A scribal error for UKKIN seems a promising solution to this problem. Not only do the signs resemble each other closely, but UKKIN, hence the *kiništu*, also appears several times throughout the corpus.

14: For *nigûtu*, ‘merry-making’, see already the commentary to AD -245B.

**Date:** SE 141, V = 10 August – 8 September 171 BC

**Text and translation:**

r19: [.. (many signs)] šá EKI áš-šu-tú na-šu-ú šá 1-[en.. (many signs)]

[..( many signs)] of Babylon because of the carrying away of [.. (many signs)]

**Commentary:**

r19: Although the sings are fairly legible, this line eludes interpretation and has to remain enigmatic. See van der Spek 2000, 436 for a reading *aššut*, “because of”, “concerning” rather than *aššūtu* “marriage”, as in Del Monte 1997 in this passage.

**AD -170H:** Month VII

Museum number: BM 45676 (= SH 81-7-6,73+74+227+517+540) 
Copy: LBAT 369
Previous editions: ADART II, 458-461 and plate 155; Del Monte 1997, 75

**Description of the tablet:**

The fragment contains the remains of a diary for the second half of the year in question. The obverse measures 8 cm in width and 8.5 cm in height, whereas of the reverse only a heart-shaped field of ca. 5,5 by 5,5 cm maximum is extant. The thickness at the broken lower edge amounts to more than 4 cm.

**Date:** SE 141, VII = 9 October – 7 November 171 BC

**Text and translation:**

12: [.. .. ..]-gal-lu DÂ [...GAŠAN ni-ná-a GUB-uz ITU BI KÁ ḫ ..] [.. .. ...a standard? stood next to the temple of the lady of Ninive. That month, the gate

[..] [.. .. ..]

**Commentary:**

12: The temple of Bēlet-Ninua – if the identification of the goddess is correct – was according to the city description TIN.TI=Bābil (tablet IV, 32) the Egishurankia, which was located in the western part of the city in the quarter of Bāb-Lugalirra. The temple is also mentioned in the diary AD -321 (cf. the commentary to line r13), from which emerges that it bordered on the Euphrates river. The context of its mention in the line under discussion remains unclear due to the fragmentary state of the tablet. The sign combination -gal-lu points towards a word *urigallu*, ‘standard’, or similar.

**Year 169/68 BC = SE 143**

**AD -168A:** Month V and VIII

Museum number: BM 41581 (= 81-6-25,195+197)
Copies: ADART II, plates 157-159 (by T. Pinches)

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806 George 1992, 60 and 324-325. The temple is also listed in George 1993 as number 409 (95) and in van der Spek 2006, 264.
Previous editions: ADART II, 466-478 and plates 156-160; Del Monte 1997, 76-79; Gera/Horowitz 1997, 241-243; Joannès 2000, 201-203 (lines r15-20 only); van der Spek 2005, 401 (Text 1)

Description of the tablet:

The tablet is a diary of four months (V to VIII) of year 143 SE. Measured on the reverse, on which the edges are better preserved, the tablet has a total width of 18.3 cm, with a height of 11.3 cm maximum. The curvature of the tablet – its thickness measures about 2.7 cm in the centre of the upper edge but circa 4 cm in the centre of the broken lower edge – indicates that quite a substantial part of the tablet is lost and in fact, the information for half of months VI and VIII and all of month VII are broken off. An extensive historical section followed only by a catch-line is found on the reverse of the tablet in the section for month VIII.

Date: SE 143, V = 18 August – 15 September 169 BC

Text:

14:   ... . ITU BI al-te-e um-[ma]
15:   an LUGAL ina URUMEŠ šá KUR me-luh-ha šal-ša-niš GIN.GIN-a[k] [PU-li-te-e pu-up-pe-e u ép-še-e-tú šá GIM ú-ṣur-tú LÚ ia-a-man-nu Ṿ ..] [..]

Translation:

14:   ... . That month I heard as follows:
15:   king Antiochus marched victoriously through the cities of Egypt and the (Greek) citizens [made?] a pompē and rites according to a Greek fashion [ ..] [..]

Commentary:

15: The term Meluhha actually designated regions south of Egypt, and its use in this text is somewhat surprising. Normally, Egypt is designated as (KIR) Miṣrum (for example in AD -273B, r29/30), and it is also known that Antiochus IV did not campaign south of Memphis. Del Monte’s (1997, 77, cf. van der Spek 1997/98, 170) explanation for the use of Meluhha – to emphasize the vastness of the territory conquered by Antiochus – is not unlikely considering the history of the word as exposed by him. Also, the term should be considered as deliberate archaism (like Gutium or Hana), referring to a region to the south (or southwest) of Babylonia.

Van der Spek’s identification of Akkadian pu-up-pe-e rendering Greek pompē is compelling. Mark Geller’s (1991) suggestion to identify this pompē with the famous one at Daphne described by Polybius XXX 25.1 and XXXI 3, which hence needs to be predated by two years – its actual date is 166 BC – did not meet with much approval. The event recorded in this diary is thus best interpreted as civic festival organized by the Greeks and Hellenized Babylonians in Babylon to honour Antiochus IV on the occasion of his victorious Egyptian campaign. The meaning of the ‘epšētu in a Greek fashion’ is less clear. The suggestion of van der Spek to identify this event with a panegyris is not implausible, and it is even more tempting is to identify it as an agōn, an event which,

807 There are several partial duplicates (B, C1, C2, and D) which except for one line in -168B (discussed below) do not contain additional historical information, see ADART II, 466.
808 According to RGCT 8 s.v. Meluhha (with reference to I. Diakonoff), the expression refers in the first millennium BC to Ethiopia. Potts 1982 similarly identifies Meluhha as designation for Nubia and Ethiopia.
809 Van der Spek 1986, 72-73, and 1987, 67-68.
810 On this festival see Mittag 2006, 282-295, also Bunge 1976.
812 Van der Spek 1987, 671. This hypothesis was dismissed without further argumentation by Del Monte 1997, 77.
genuinely foreign to Babylonian culture, is attested in the city of Babylon by the Greek inscription OGIS 253 dating to 146 SE.

This entry concerns the first campaign the 6th Syrian War (~170/69-168 BC) which led to a temporary conquest of Egypt by Antiochus IV. This conflict between the Ptolemaic and Seleucid empires was largely triggered by the unstable situation at the court in Alexandria, where two brothers (Ptolemy VI and VIII) and a sister (Cleopatra II), all of them under age, ruled jointly by grace of their custodians Lenoias and Eulaiois.

After inflicting a crushing defeat on the Egyptian army between Pelusion and Mount Casius, Antiochus captured first the strategically important Pelusion and then advanced into Egypt, marching first to Memphis and afterwards to the north towards Alexandria, laying siege to the city. Before April 169 BC, Ptolemy VI put himself under the tutelage of his uncle Antiochus, possibly with the goal to prevail over his younger brother. As reaction, Antiochus VIII was proclaimed pharaoh by the inhabitants of Alexandria. Antiochus was not able to conquer the city, and due to unknown reasons preferred to spend the winter in Syria rather than Egypt. The same winter of 169/8 BC saw the reconciliation of the two young Ptolemies, which however could not prevent Antiochus from campaigning in Egypt the following year, too. It was only due to Roman intervention and the adamant position of the mission led by C. Popilius Laenas culminating in the famous day of Eleusis (July 168 BC) that Antiochus finally had to retreat from Egypt without territorial gains.

Date: SE 143, VIII = 15 November – 13 December 169 BC

Translation:

813 Another suggestion put forward by van der Spek (2005, 403, but dismissed in van der Spek 2009) is to translate the passage as referring to ‘a building according to a Greek ground plan’ and thus to the theatre or the gymnasium. This is rather improbable not only the terminology is quite different from other notes about renovations (e.g., AD -321, r14 passim referring to the removal of debris of the Esangila, or AD -182C, 11 mentioning explicitly dullu, work, at the terrace of the Esangila), but the expression ‘in a Greek fashion’ GIM HUR (=uşurtu) KUR Ia-a-ma-[u] also reappears in BCHP 6, line 6, and in that case clearly as an apposition to offerings (PAD-dINNIN) rather than a building. The translation of epšētu as some festive events (note the plural form) also suits much better the present context.

814 Mittag 2006, 170 for the date (based on P. Lond. VII 2190). It is possible that after the reconciliation with Ptolemy VI Antiochus was even crowned pharaoh in Memphis in 169 or 168 BC, cf. Mittag 2006, 171-175.
a jeweller, a brother of the šatammu

r13: of the Esangila who in his place held the office of the šatammu, in a writing on parchment by the king was entrusted with the zazakku-office. That day, gold, the dedications

r14: from the Esangila, in order to make the kusibirītu of a great censer of Bēl to the said zazakku and the assembly of the goldsmiths was given. That month, 1 day 8 (= 22 November), one image of Nergal, which actually did not belong to the temple, [and which:] the gardu-workmen had made and the god whose name is called ‘Ammamīta’

r15: by theft were peeled off. Day 10 (= 24 November), thieves of this Nergal who had peeled off, were arrested and detained and brought into the house of the judges

r16: of the temple. Day 13 (= 27 November), the thieves [...] in the house of the judges of the temple in presence of the substitute of the šatammu of the Esangila and the judges

r17: of the temple at the rack of interrogation they [were interrogated and] convicted. That day, they were burnt in fire. That month, much property

r18: of the gods which in the old storehouse of the juniper garden had been placed, the substitute of the šatammu of the Esangila and the Babylonians of the assembly

r19: ‘to’ the new treasury which is on the east wall of this treasury they took out.

Commentary:

r12/3: The zazakku is throughout the Seleucid period attested only during the 160s BC, in the reign of Antiochus IV and shortly afterwards. As in the Neo-Babylonian period, he was presumably in charge of the financial administration of the temple, and, as is clear from this instance, he was appointed by the king himself.816 The reintroduction of this office is usually interpreted as an attempt of the king of a highly indebted empire to get a firmer grip on the temple’s finances.817 The appointment of high officials by direct royal order is a recurring subject matter of the later Diaries, especially in the ensuing Parthian period.818

The jewellers were an important professional group within the temple and responsible for working the precious and semi-precious stones which ornamented the statues of the gods.819 Interestingly, this passage is not the only instance of a šatammu being replaced by his brother. We know from administrative documents that also in the first decade of the first century BC, during the Parthian period, the šatammu Bēl-bullissu was occasionally replaced by his brother Bēl-tabtan-uballît.820

r13/4: Professional associations designated UKKIN (just like the general temple assembly) are not unusual in the late period, also kiništu of the weavers and of the ĕšipus are attested.821 The goldsmiths receive in the present instance raw material in order to fabricate some unfortunately elusive paraphernalia for the god Bēl-Marduk, the city god of Babylon. The reading kusibirītu was proposed by Joannès in a footnote (2000, 20417), the word designates an unclear part of a censer and is made from precious metals, gold or more often silver.822 The completion not only suits the content of the passage very well, but also fits the length of the gap and shall therefore be accepted. Note, however, that there seems to be a second horizontal wedge difficult to reconcile with a reading ri.

r15: La simat (bīti) means according to Joannès 2000a, 203 that the object in question (the image of Nergal) did not belong to or was not stored regularly in the temple, an

817 Boiy 2004, 224, and Mittag 2006, 198-201 are suitable examples.
818 On the correspondence between royal court and local administrators in Babylon see Sciandra Correspondence.
819 For jewellers in Hellenistic Babylonia see Boiy 2004, 244-245. According to Kümmel 1979, 24 they were like the goldsmiths remunerated by means of rations in the Neo-Babylonian period, see also Bongenaar 1997, 367.
820 See van der Spek 2000b, 440-441 for the pertinent texts.
822 CAD K (1971) s.v. kusibirītu (585a).
interpretation for which he can also adduce parallel passages quoted in CAD S (1984) s.v. simtu 2b (281). The reading of Lú gar-du-ú-a-a as ‘as gardu’ was proposed by Wallenfels apud van der Spek 2000a (436). The term is a loanword from Old-Persian, but still attested in the Later Seleucid period. Less convincing is Joannès’ interpretation urigallu, ‘cultic standard’ for 4 URIGAL. The more common reading as Nergal is more plausible in this case as tamšīlu often refers to gods, but especially in the light of the interpretation of Müller-Kessler/Kessler 1999 of the following signs, which read DINGIR šá am-ma-mi'-i-ta-a MU-šu, the god whose name is Ammamītu. The goddess Mamītu is the wife of Nergal, and. Ammamītu reflects in all probability the local Aramaic pronunciation.

r16-18: The topic of theft of temple property and the punishment of burning for this crime has received ample treatment in the commentary to AD -277C, r3. The pairing of ša’ālu and kunnu, ‘to interrogate and convict’ also appears in diary AD -240, 7 and in the chronicle BCHP 17, 33.

r19-20: This old treasury is with all probability identical with the bīt bušê located in the juniper garden and mentioned in the earlier diary AD -187A, r11/12, from which reference we know about the sort of material stored there, most notably the precious paraphernalia belonging to the statues of the gods. In this passage obviously the transfer of these cultic objects into a newly built storehouse is at issue. One is tempted to assume that in the preceding theft the bīt bušê had suffered substantial damage necessitating a new building. Although the sign at the beginning of line 20 is not very clear and actually indeed looks like ša (as suggested by H. Hunger in ADART II, 476), ana is the only sensible reading in this instance.

AD -168B: Month VI
Museum number: BM 35605 (Sp.III 115)
Copy: LBAT 372
Previous editions: ADART II, 466-478 and plate 160; Del Monte 1997, 78

Description of the tablet:
A partial parallel of tablet A, this fragment also contains information on months VI and VIII. Its right edge is ideally completely preserved. The new information from this fragment is confined to a report of a nigûtu-festival held (see already the commentary to AD -245B, 5 for this kind of event). The fragment is rather thick, more than 3 cm in the upper right corner. Its total height amounts to 7.5 cm, and its length to 6.5 cm. If our fragment B was of roughly the same dimensions as fragment A (as the thickness seems to indicate), we have to account for 35 to 40 signs broken off in the beginning of the line containing the historical note.

Date: SE 143, VI = 16 September – 15 October 169 BC

Text and translation:
12: [... ... (35+ signs)] ni-gu-tú ina KUR GAR-[ât' ...] [... ... (35+ signs)] merry-making was set up in the land [... ...]

823 Stolper 2006, 244 quotes two texts from Uruk dating from the early 150s BC. Joannès 2000a proposed a reading of this word šaddu‘aya, to be translated as ‘mountain-dwellers’, or ‘people from the East’ (also Müller-Kessler/Kessler 1999, 82). This is also possible, especially in the light of the fact the gardu is otherwise consequently written Lú ga-ar-du-ú-a.

824 CAD T (2006) s.v. tamšīlu 1 (148) and 2 (148-49). For the reading 4 URIGAL as Nergal see AHw III s.v. urigallu (1430a).

825 Joannès 2000a, 2013 reads anšammi‘ta, which is not impossible. To support this interpretation he also adduced a possibly important passage from the Neo-Assyrian period (ABL 1340) referring to a (wing of a) door named anšammi‘tu being erected.


827 On the latter attestation see Joannès 2000a, 198.
Year 166/65 BC = SE 146

AD -165A+B: Month V
Museum number: A: BM 32844 (= 77-2-22,6); B: BM 45819 (= SH 81-7-6,240)
Copy: A: Listed as LBAT *376
Previous editions: ADART II, 486-491 and plate 163; Del Monte 1997, 80

Description of the tablets:
Fragment A is the upper left corner of the original tablet which contained a diary of the first half of year 146 SE. The left edge is ideally completely preserved. It measures up to 7.2 cm in height, and the maximum line length is 4.3 cm. The tablet is 2.5 cm thick in its lower right corner, but only 1.7 cm at the left edge. Fragment B is completely eroded on the reverse, but still the thickness adds up to almost 2.5 cm. The inscribed surface is a rectangular space of ca. 5 by 3.8 cm. The two fragments AD -165A and B are partial duplicates and reproduced here according to the combined translation of H. Hunger in ADART II (486-491). The amount of missing signs at tablet A is substantial, the lacuna between lines r4 and 5 must have contained the remainder of the price section (from kasû onwards) as well as the beginning of the summary of planetary positions including the positions of Jupiter and Venus and thus about 35+ signs. For B, such an estimate is impossible due to the lack of useful information.

Date: SE 146, V = 16 August – 13 September 166 BC

Text:
Ar6: ʾUKKIN šá ŠAG.GÍL ana DÛ-eš TÂ NÎG.GA [.. ~35+ signs]
Ar7: ana ʾEN u ʾGAŠAN-ia ana UGU GAR’-an’ MU-a-tì šâ [.. ~35+ signs] amount of signs]
Ar8: U4 20.KAM ʾIM RA-iš ū 5 GIŠGIŠIM[MAR .. ~35+ signs]
Br3: [(unknown amount of signs)..] this [.. (unknown amount of signs)]

Translation:
Ar6: The assembly of the Esangila to make from the property [.. ~35+ signs]
Ar7: for Bēl and Bēltiya was placed on this (setting) which [.. ~35+ signs]
Br2: [(unknown amount of signs)..] before month XII [.. (unknown amount of signs)]
Ar8: Day 20 (= 4 September), Adad flooded und 5 date palms [.. ~35+ signs]
Br3: [(unknown amount of signs)..] this [.. (unknown amount of signs)]

Commentary:
Ar6/7: The long lacunas at the end of the lines leave ample room for speculation. One possibility would be to hypothesize the fabrication of cultic objects ‘from the property’ of a deity (cf. AD -168A, r14). In line Ar7 could equally have contained a reference to the customary sacrifices discussed in the commentary AD - 226A r18/9 (also with omission of the apposition ‘for the life of the king’).

Ar8: As the destruction of five date palms will hardly have constituted an economic disaster for the (temple) economy, this line seemingly contains an ominous event. References to Adad, the storm incarnate, destroying fields and crops occur indeed in omen literature, and even with the same terminology. A good example is CT 39 4 (tablet LV): DIŠ A.ŠÀ. ŠA URU ʾIM RA-iš, ‘If Adad devastates a field located within the city’ 828

Year 165/64 BC = SE 147

AD -164A: Month II

828 See CAD R (1999) s.v. rahāšu 1a for more examples.
Museum number: BM 45804+45973+46038 (= SH 81-7-6,223+415+484)
Previous editions: ADART II, 490-495 and plates 163-164

Description of the tablet:
This three piece join is 9.5 cm high and maximum 9.2 cm long. Upper and left edges are ideally completely extant. Information is given for the second month of year 165 BC on obverse and reverse. The tablet closed with a catch-line (extending over three lines) containing the first observations for month III. As the price section on the reverse extends over three lines and the thickness does not differ fundamentally between extant left and broken right edge (little above 2 cm), we can confidently assume that not too many signs are broken off to the right. The reverse is worse preserved. Historical information is restricted to a report about a locust invasion, an event which has been treated separately with emphasis on its eventual economic repercussions in Pirmgruber Locusts.

Date: SE 147, II = 7 May – 5 June 165 BC

Text and translation:
r4: [.. .. BUR]U₅ TUR.TUR ZI-[a .. ~15 signs]
[ ...] small [locu]sts attacked [.. ~15 signs]

r5: [.. BU]RU₅ MAH ZI-a ina [.. ~15 signs]
[ ...] many [locu]sts attacked in [.. ~15 signs]

AD-164B+C: Month VII
Museum number: B: BM 35015 (=LBAT 645) + 35332 (=LBAT 377) +55531; C: BM 45848+ 45907
Previous editions: ADART II, 494-499 and plates 164-165; Del Monte 1997, 80-81; Gera/Horowitz 1997, 243-249; van der Spek 1997/98, 173-174

Description of the tablet:
Fragments B and C are partial duplicates and are presented here in the combined transcription put forward by H. Hunger in ADART II, 494-499. Fragment C has no reverse, its thickness ranges within 0.5 and 2.3 cm. Its total length amounts 8.8 cm, and the height to more than 7 cm. Fragment B arrives at almost 14 cm of width and a height of more than 7 cm. The thickness varies between 3 cm at the broken upper edge of BM 55531 and almost 4 cm at the broken lower edge of BM 35332. The amount of missing signs for B can be roughly estimated by means of the extensive price section.

Date: SE 147, VII = 2 – 31 October 165 BC

Text:
B15: [.. ..] URU₅MES ša URU ha-bi-gal-bat šá KUR Ar-mi-il MU-ša SA₄-tu '... .....
C13: [.. ..] um-ma lan-ti- 'u-uk-su L[UGAL .. .. ..] TA URU₅MES š[â .. ..]
C14: [.. ..] šá eli ma-rat GIN₅MES

Translation:
B15: [.. ..] The 'towns'² of (the city of) Habigalbat, which is called land of ‘Armil’
C13: [.. ..] as follows: Antiochus, king [.. ..] from the towns of [.. ..]
C14: [.. ..] which upon the sea they went.

Commentary:
B15: Both Habigalbat/Hanigalbat and ArmašîAramalê are regions to the northwest of Assyria. According to Gera/Horowitz, Habigalbat is not attested after 611 BC and consequently to be read as anachronistic designation of the then ‘modern’ Armil, similar to
the fashion the term Hanî was used for Macedonia/Greece. The entry thus describes the successful campaign that Antiochus IV led against Armenia at the beginning of his envisaged *anabasis*, which ended in the recognition of his sovereignty by the king Artasias I.

The suggestion of van der Spek (oral communication) to reverse the order of the lines and insert B15 between C13 and 14 (rather than preceding them) is certainly tempting as it would facilitate the construction of a coherent story: In that scenario, the scribe heard that Antiochus departed from the cities (the URU in both line B 15 and C13) of Hanigalbat, whence he went southwards.

C13/14: The connection of the content of line B15 to that of lines C13 and 14 – if there is any – is unclear. The idea of Gera and Horowitz that the tablet deals with Antiochus’ expedition to the region of the Persian Gulf mentioned in Pliny VI 147 and his re-foundation of Antioch-Charax is very attractive. The meaning of *marratu*, ‘bitter (i.e. salt) sea’ is no longer disputed despite the lacking gemination of the *r*, and it is clear that either the ‘Upper Sea’ (the Mediterranean) or the ‘Lower Sea’ (the Persian Gulf) is meant. Also the large distances involved do not detract from the plausibility of the argument as shown convincingly by the authors, and also van der Spek’s (1997, 173) objection that both events are not likely to be recorded under the same month, can be countered with reference to a easterly course from Armenia down the Tigris and from a certain point joining the Royal Road to Susa and only from there, as was the road of Alexander the Great, to the Persian Gulf.

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830 See van der Spek 1997/98, 173-174 for a discussion of the term *marratu*. See also Gera/Horowitz, 245 against the identification of *marratu* with any of the Armenian inland seas.
Year 164/3BC = SE 148

AD -163B: Month VIII
Museum number: BM 41462+41941 (= 81-6-25,73+562)
Copies: LBAT 380 and 920
Previous editions: ADART III, 10-17 and plate 166; Del Monte 1997, 81-82

Description of the tablet:
The tablet measures almost 11 cm in height and about 9.5 cm in length. Its thickness at the left edge is 3 cm, at the broken right edge 3.8 cm. The diary is for the second half of the year SE 148 (which had an intercalary month XII2), the lower part of the tablet containing months X and XI on obverse and reverse respectively is broken off. To the left, not too many signs are missing as is clear from r12: H. Hunger added six signs to complete the first line of month XII2. Preceding the historical note is the price section in lines 14 and 15, of which approximately 24 signs are missing (if every product from mustard onwards was given only one entry). Subtracting six of those signs as having belonged to line 15, we arrive at 18 signs required to complete line 14 to the right. Again we can not be certain whether all possible space was made use of in the historical notice, which is quite damaged by erosion, especially in the central part.

Date: SE 148 VIII = 21 October – 19 November 164 BC

17:   ... . ITU BI U₄ 5, 6, 7 SÍSKURMES šá ana dEN dGAŠAN-ia u dINNIN D[Ú... ... ... ...]
         ... That month, days 5, 6 and 7: the niqû-sacrifices which for Bēl, Bēltiya and Ištar
               [of Babylon ... ...]

Commentary:
17: There seems to be too much space for just SISKUR, but due to the condition of the tablet exactly this spot is hardly legible. The traces point to a reading SISKUR.SISKURMES.
The diary contains one of the brief notices on the performance of sacrifices which occur quite frequently in the first half of the second century BC. This time, the specification that the sacrifices were performed for the life of the king or other members of the royal family is absent. The šá is somewhat unexpected; if it is not simply a scribal error then a relative clause can be expected in the lacuna. As before the account of the sacrifices a comet mentioned, one tempted to assume something like an interruption of the sacrifices resulting due to an ominous celestial event.

AD -163C2: Months X and XI
Museum number: BM 41670+41840+41915+42239 (= 81-6-25,287+460+535+862)
Copies: LBAT 379+891+911+993
Previous editions: ADART III, 16-23 and plate 167; Del Monte 1997, 82-83; Gera/Horowitz 1997, 249-252 (lines 17-19 only)

Description of the tablet:
The total height of the tablet amounts to 9.1 cm as measured at the broken left edge, its maximum length amounts to 6.7 cm. Its thickness in the lower left corner is 2.9 cm, increasing to 3.6 in the upper part of the broken left edge. The four piece join AD -163C2 was the lower part of a diary for months VIII to XII2 of year 148 SE (hence a parallel version to AD -163B). There are substantial losses to both the right and the left as is clear

832 Erroneously as AD -164B.
from the very extensive price section in line 14. If the first product extant were dates we have to account for about 40 signs between the end of line 14 and the beginning of line 15: the price section from mustard onwards (25 signs minimum) as well as the beginning of the planetary summary with the positions of Jupiter and Venus.

**Date:** SE 148 X = 19 December 164 BC – 16 January 163 BC

**Text:**
17: [(many signs) .. it-ti] LÚ Šá LUGAL GIN-MEŠ-ni it-ti [.. (many signs)]
18: [(many signs) ..] sa-ad sá 'an A šá 'an he-pi ina D[U .. (many signs)]
19: [(many signs)..] blank

**Translation:**
17: [(many signs) ..] the corpse of the king they came, with [.. (many signs)]
18: [(many signs) ..] sa-ad of Antiochus, son of Antiochus -gap- when do[ing .. (many signs)]
19: [(many signs) ..] blank

**Commentary:**
18: *Hepi* indicates that the extant tablet is a copy of a tablet damaged already in antiquity. The signs *he* and *pi* are smaller than the ones of the actual historical note and appear to be added at a later point.

What is recorded in this diary is the arrival of the corpse of Antiochus IV, who according to the Babylonian King List (Sachs/Wiseman 1954) had died one month earlier, in the city of Babylon. Consequently, in line 18 his son and successor Antiochus V Eupator is mentioned. Antiochus' IV met a violent death in Tabai in Elymais, and similarly to his father (and incidentally in the same region), in an attempt to pillage a temple.

**Date:** SE 148 XI = 17 January – 16 February 163 BC

**Text:**
17: [(many signs) ..] LÚ za-zak-ku šá ku-um LÚŠÀ.TAM é-sa[g-íl .. (many signs)]
18: [(many signs) ..] LÚ KL.MIN-MEŠ ana LÚ KL.MIN-MEŠ SUM-u’ ITU [BI .. (many signs)]
19: [(many signs) ..]x MEŠ šá ina LÚ mu-kin; LUGAL ak-ka-du-ú šá x [..(many signs)]

**Translation:**
17: [(many signs) ..] the zazakku who in place of the šatammu of the Esangila [..(many signs)]
18: [(many signs) ..] the aforementioned persons gave to the aforementioned persons. [That] month [..(many signs)]
19: [(many signs) ..] who are among the Babylonian royal witnesses of the king, who [..(many signs)]

**Commentary:**
17: For the zazakku, see already the commentary to AD -168A, r12/13. In both instances, the zazakku performs his duty *ana kūm*, ‘instead of’, the šatammu. It is very tempting to see one and the same official in these two fragments which date from the same decade, at a distance of five years only. The impression that emerges is that the office of the šatammu was temporarily suspended under Antiochus IV and replaced by the zazakku, however, the latter was not only a member of the temple community, but indeed the brother of the last active šatammu, as the Diaries explicitly emphasize in AD -168A, r12.

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833 On the location of this Gabai (or Tabai) see Mittag 2006, 319-320, and Gera/Horowitz 1997, 250. Both refute an identification with modern Gabai near Isfahan.

834 Mittag 2006, 328-331 gives a brief overview of the different accounts. See also Capdetrey 2007, 184-188.
This line has been translated in ADART III, 21 as “the counsellors (LÚ mu-du) of the Babylonian king”, but as both Del Monte and Boiy have already recognized, this is hardly possible as a title šarru akkadû is never attested in Seleucid times. It is thus clear that the ethnonym must refer to the royal counsellors, or rather, as has been suggested by C. Walker, the ‘royal witnesses’, LÚ mu-kin. Mudû is indeed normally written with an additional vowel-sign (normally ú) indicating the final length. Apart from being an epithet for kings and gods, it is often used to designate experts in specific crafts rather than being a general word for ‘wise person’. In this latter function it is mostly used as adjective to professional designations, and in any case without the determinative. A possible interpretation of this passage would be to assume a self-reference of the scholars of the Esângila.

A reading ‘royal witness’ would do away with these difficulties. In CT 51 72 the word is written without the determinative LÚ and usually translated as ‘royal register’ in this passage, however, there are also attestations from Hellenistic Babylon that clearly refer to persons acting as witnesses. What is striking is of course that the ethnic background of these persons is specified as ‘Babylonian’ in a text from Babylon, maybe there were also Greeks active as ‘royal witnesses’, or maybe better ‘registrars’. Combinations of the type LÚ(title) LUGAL, ‘(title) of the king’ occur in any case quite frequently, e.g., ša rēš šarrî, or in the corpus of the ADs LÚ paq-du ša LUGAL (AD-273B, r34), it is thus in any case certain that in the present instance an official title is referred to. From a historical point of view, such a reading is in any case plausible as it is known that already in the Achaemenid period certain types of transactions needed to be registered with the royal administration, likely for taxation purposes.

Year 163/2BC = SE 149

AD -162: Month V
Museum number: BM 33850+47722 (= Rm IV 410+ 81-11-3,427)
Previous editions: LBAT *381 (BM 33850). ADART III, 24-29 and plate 168-9; Del Monte 1997, 83-4; van der Spek 2005, 402

Description of the tablet:
The tablet constitutes a more or less completely preserved diary containing information for months V and VI of year 149 SE. The tablet measures 11.6 cm in height and about 10.3 cm in length, its thickness amounts to about 2 cm at the centre of the upper edge. All space available is extensively made use of, both left and right edges contain astronomical entries. Unfortunately, the reverse with the historical passage is slightly damaged.

Date: SE 149 V = 12 August – 10 September 163 BC

Text:
11: ITU BI LÚ pu-li-ṭa-ni šá ina E̅ K̅I MI̅ ME-S̅ šú-nu LÚ̅ ERIN̅ ME-S̅ šú-nu

836 Oral communication (autumn 2008).
837 CAD M II (1977), s.v. mudû (163-167). According to the definition of F. Rochberg (2004, 216), mudû designates ‘a person having acquired the secret knowledge of the texts as a result of study’.
838 The latest edition of this text in Jursa 2006b translates “königliches Register”, see also CAD M II (1977), s.v. mukinnu 2 (186).
839 For example in the marriage agreement CT 49 193 in line 26 (following D. Kennedy’s count): LÚ(t) mu-kin LUGAL” (courtesy J. Hackl).
840 Van Driel 2002, 183-185, with attestations of registration of (transactions involving) slaves and real estate. See Doty 1977 (especially 333) for a similar result for Hellenistic Uruk. Note that in Uruk during the Seleucid period also prebends could be registered with the (Rēš)-temple, Corò 2005, 23 (a pertinent text is BM 109939, a sales contract concerning a ‘Temple enterer’s (ērib bitūti)’ prebend. The motivation behind this latter type of registration still needs investigation.
Translation:
11: That month, the politai who were in Babylon, their women, their ‘troops’
12: [and] the[ir x] they led out of Babylon. That month, the royal governor
13: and ‘x’, they plundered the property’ of the po’litai who were in the steppe.
14: That month the pāhāt Bābili [... ...] the rab sikkati, for fear
15: of the royal governor and the people of the l[a]nd from the palace of the king which is
16: That month, the stratēgos of the land of Babylonia [x x x] day 29 who from Seleucia
17: which is on the Tigris and on the royal canal fled to [x x] ‘was not seen’.

Commentary:
11-13: This passage clearly refers to an evacuation of the town on part of the Greek
citizens into the hinterland of Babylon. The LÚÈRINMEŠ in line 11 is surprising as this term
is normally used to designate army troops in the ADs. In the present instance, a more
general meaning ‘retinue’ seems to be more appropriate. The completion of DUMU in line
12 is speculative, but continues most convincingly the enumeration that began in line 11,
wives-retinue-children.

13: In our interpretation, the Greeks, and maybe their abandoned houses in Babylon, were
plundered. It is noteworthy that the verb employed, habātu, ‘to plunder’, is according to
the CAD otherwise never attested in the D-stem (but according to AHw at least in the Dt-
stem). A completion of UNMES KUR in the beginning of line 13, along the lines of line
15 of the same text, where they also appear together with the šaknu ša šarri, is tempting,
especially in the light of the fact that habātu is clearly plural, but is not easily reconcilable
with the extant traces. The reading NIG.SID was suggested by I. Finkel.

On the basis of this text, van der Spek interpreted the šaknu as the official
responsible for the ‘people of the land’, according to him an equivalent of the Greek the
laoi basilikoi. This is certainly an interesting idea, as these ‘people of the land’ appear
quite frequently in our corpus, but whether they were connected to the šaknu in an official
way or whether we are dealing in the present text with singular circumstances cannot be
ascertained due to the paucity of references to the šaknu. The exact function of this office
in Babylon is elusive during the Hellenistic period. The title appears only twice in our
corpus, in the earlier instance unfortunately in a broken context, and once in a chronicle,
BCHP 14 (line 7), also together with the ‘people of the land’).

14: The title of pāhāt Bābili, probably the head of the Greek community in Babylon, has
been extensively discussed in the commentary to AD -187A, r9 (and cf. also Boiy 2004,
207-209). According to the CAD, the rab sikkati was at least until the Old Babylonian
period a high army official, he is hardly attested afterwards and his appearance in this late

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841 CAD H (1956) s.v. habātu A (9-11); AHw I s.v. habātu I (304a).
842 Van der Spek 2000a, 433-434; contra Del Monte 1997, 86-87, who interprets the šaknu as being in charge of
the royal servants.
843 Published only on-line at http://www.livius.org/babylonia.html.
844 The title appears in addition to the present instance also in AD -247B, r8. Van der Spek’s (2005, 397)
alternative interpretation of the šaknu as regent of the minor Antiochus V is a tempting reading in the present
instance and also in BCHP 14 but difficult to reconcile with this earlier attestation. The title (without
the attribute ša šarri) is also attested in Uruk, where it still designates the province governor, as already in the
first half of the first millennium, see Boiy 2004, 212-213.
corpus surprising. The word between these two titles is unfortunately completed eroded on the tablet.

14/15: Del Monte (1997, 83-84) interpreted this passage as internal strife in the aftermath of Antiochus’ IV death between the partisans of Lysias on the one hand and Philip on the other, with the šaknu and his followers (the UN^{MES} KUR) – whichever side they were fighting for – controlling the palace. Our interpretation is somewhat different from his approach: it is the pāhātu and the rab sikkatu who did not dare to leave the palace for fear of the šaknu and the ‘people of the land’. Van der Spek 2000a, 436 also hypothesized that Timarchus, the ‘Generalstatthalter des Ostens’ (‘o epi tōn anō satrapeiōn) since the reign of Antiochus IV, constituted one of the factions involved. This is more probable than an involvement of Lysias, who was acting far away on the shores of the Mediterranean in Syria (whereas Philipp had accompanied Antiochus IV on his planned anabasis and on his return towards Syria most certainly had to cross through Babylonia).

We would like to suggest the following scenario: When the tensions between Lysias and Philip culminated in open conflict and the latter lay claim to regency for the still minor Antiochus V, Timarchus due to motives unknown, joined the side of Lysias. Philip, although already on his way to Antioch in summer 163 BC, somehow seems to have succeeded in soliciting support for his cause also in Babylonia. It is clearly the fact that the accepted office holders that in dire straits in this diary: pāhātu and stratēgos, both very high officials, have difficulties to stand their ground, the former being besieged in the palace and the latter on the run from Seleucia-on-the-Tigris. It is very tempting to identify this ‘accepted faction’ as partisans of Lysias, who was appointed regent and ‘o epi tôn pragramatōn by Antiochus IV before he left for his katabasis, and confirmed in these offices by Antiochus V. Timarchus then could have been the stratēgos who fled from Seleucia in lines 16/7 of this text. In any case, an alliance between Lysias and Timarchus seems most plausible as both are still encountered in office after this conflict; incidentally, both are in the end – but independently of each other – defeated by Demetrius I. Note that the chronicle BCHP 14 continues the events narrated in this Diary, according to this document, the struggle between the people of the land under the šaknu and the Greek citizens continued at least into the month of tašrītu (VII).

Also interesting is the component of ethnic conflict this passage. Only the Greek citizens evacuated the city, but the mārē Bābili are nowhere mentioned and certainly not to be included among the nišū (ša mātim), the ‘people (of the land)’, who constitute a category of their own. It appears thus that the different ethnic groups paid allegiance to different generals. In our version, the Greek citizens of Babylon sided with the ultimately victorious ‘accepted’ faction of Lysias, whereas the ‘people of the land’ were incited to revolt by partisans of Philip. The present passage is not the only instance in which rivalries between the ethnically different population groups are reported, for more evidence see van der Spek 2005, 404 (= 2009, 111). Interestingly, all the instances adduced there refer to the Parthian period.

Year 162/1BC = SE 150

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845 CAD S (1984) s.v. sikkatu B (252b-254a); cf. also Boiy 2004, 212. This official is attested in the Ptolemy III chronicle BCHP 11 and translated on livius.org as ‘chief guardian’.
846 Also Boiy 2004, 163.
847 Gera/Horowitz 1997, 251.
848 The legitimacy of Philipp’s claim to regency has been doubted with good reason by Ehling 2008, 111-112 (with earlier literature). This subject is by the way surprisingly often passed over in silence in modern accounts e.g. Will 1982.
849 See App. Syr. 47 on the defeat of both Lysias and Timarchus. For a history of the years between Antiochus IV death and the accession of Demetrius I see Ehling 2008, 111-130.
850 On the different population classes see Del Monte 1997, 86-87; with modifications by van der Spek 2000a, 433-434; cf. already above footnote 10.
AD -161A: Months I, VI and VII
Museum numbers: A1: BM 34140 (=Sp. 242) and A2: and BM 45829 (=81-7-6,250)
Copies: ADART III, plates 169-170 (34140)
Previous editions: ADART III, 28-35 and plates 169-171; Del Monte 1997, 84-87; van der Spek 2001, 448-449

Description of the tablet:
This diary consists of three different fragments which do not join. Measured on the somewhat better preserved reverse, BM 45829 has a height of almost 13 cm and a maximum length of 5.4 cm. The thickness at the left edge is 2.7 cm but more than 4 on the broken right edge. This fragment constitutes the left part of the tablet. BM 34140 continues this fragment to right without joining it. The reverse of this piece is almost completely destroyed, except for a small rectangle of roughly 4.7 by 2.9 cm. The maximum length of the obverse is 10.8 cm, with a height of approximately 6 cm. Its thickness at the broken lower edge measures 4.5 cm. The script is of this tablet is notably small. The historical passage appears at the end of the section for month I, the tablet continues immediately afterwards with month II without the typical horizontal line dividing the months.

The size of the gap between both fragments can be roughly estimated with help of the gaps in lines 19 and 20. The price entries for dates, kasû and cress are missing, which amounts to a minimum estimate of 10-15 signs. In the light of the completion of line 20 proposed by Hunger which amounts to 22 signs, it is likely that the price for dates was given three times in this month (as was the case for barley), and consequently assume a gap of about 20 signs. According to Hunger’s completion at the end of line 19 (summary of planetary positions) we should not account for more than 5 signs missing at the end of the lines.

Date: SE 150 I = 5 April – 4 May 162 BC

Text:
21: LÚ pa-hat EKI u LÚ pu-li-ta-an-nu šá ina EKI KI IDAG.DIB.UD.[DA A šá 1 ...]
22: ŠA.TAM É.SAG.GIL LÚ ŠEŠ MES šú x LÚ pu-li-ta-an-id-di-nu-šu ŠÁ.TAM É.SAG.GIL LÚ DI.KUD MES šá E DINGIR MES ...
23: ŠÚ.TAM É.SAG.GIL LÚ KUR KI šá 1 ... nu-tú GAZ MES ú NIG.SID šú-šu ana £ LUGAL É-ú šú [...]
24: Šú 2 LÚ ŠEŠ MES šú šá 1-en [...] nu-tú GAZ MES ú NIG.SID šú-šu ana £ LUGAL É-ú šú [...]
25: Šú 2 LÚ ŠEŠ MES šú šá 1-en [...] nu-tú GAZ MES ú NIG.SID šú-šu ana £ LUGAL É-ú šú [...]
26: Šú 2 LÚ ŠEŠ MES šú šá 1-en [...] nu-tú GAZ MES ú NIG.SID šú-šu ana £ LUGAL É-ú šú [...]
27: Šú 2 LÚ ŠEŠ MES šú šá 1-en [...] nu-tú GAZ MES ú NIG.SID šú-šu ana £ LUGAL É-ú šú [...]
Translation:
21: [...] the governor of Babylon and the Greek citizens who are in Babylon, with Nabû-mušētiq-ud [di, son of ...]
22: the šatammu of the Esangila, his brothers [...] the Greek citizens they gave, in presence of the stratēgos and the judges [of the temple ...]
23: and 2 who previously from the [stratēgos ...] to the Esangila and the royal palace he returned, and answered a summons (or: became absolved) before the stratēgos ...
24: and 2 of his brothers one of whom (or: of a certain ...) were killed and their property to the royal treasury they brought and
25: and the people of the land on the rack [of interrogation were ‘interrogated’ ……… …… …… …… on the small side (?) and the theatre which is in the district of x-… .. ...
26: other [……] who went for punishment? to [……… ……… ……… ……… ……… ……… ..] to bury their dead to ……..
27: from Babylon went out. Days 10, 11 [……… ……… ……… ……… ……… ……… ……… ..] the rest of the Babylonians was seized? [………]
28: in the dudê-gate of the Esangila to [……… ……… ……… ……… ……… ……… ……… ..] the Greek citizens [……… …… …… ……]
29: in the dudê-gate of the Esangila [……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ……… ….
brothers mentioned in the first part of the line are still the subject of GAZ\(^{\text{MES}}\). Furthermore, we can neither ascertain beyond all doubt a connection to the brothers of the šatammu mentioned in line 22. The involvement of such high ranking persons in a judicial affair would of course have been a veritable scandal.

25: This line mentions yet another time the ‘rack of interrogation’ already discussed in the commentary to AD -175B, L.E.1. An important hint is the presence of the ‘people of the land’ who appear also in the preceding diary, in conflict with not only high officials but also the entire Greek citizenry whose belongings they plundered. A connection between the two Diaries is thus likely and shall be further discussed below.

The bit tâmrartī was convincingly identified as the Greek theatre in Babylon by van der Spek 2001 upon suggestion of John Ma, and is commonly thought to have been the meeting place of the Greek community in Babylon. Exceptional is the closer definition of the location of a public building.\(^{855}\) Note also that other references to the theatre in the Astronomical Diaries date to the period between 140 and 82 BC only. This passage is thus the earliest one by two decades.

26: It is difficult to establish a precise meaning for ina hi-ṭu GIN\(^{\text{MES}}\), especially in the light that hiṭu can be translated as both ‘crime’ and ‘punishment’.\(^{856}\) However, both readings fit the overall judicial context of the passage very well. The second part of the line describes an altogether different event. In combination with the first part of the following line 27, it seems to refer to a burial outside of the city of Babylon. There is no information regarding the identity of these dead people, but as the events took place outside of the city, we tentatively suggest a connection to the events recorded in the preceding diary, when the Greek population of Babylon had evacuated the city.

27: The content of the remainder of this line lies in the dark. It is not clear what happens to the ‘rest of the’ Babylonians.

28/9: The dudê-gate was already discussed in AD -330A+B, r8. This expression is another designation of the KA.SIKIL.LA, (the ‘Pure Gate’), the main entrance to the Esangila-complex. The context of this line might be the offering of sacrifices after a period of internal trouble. We know from earlier instances such as AD -209D, 16 that nindabû-sacrifices were regularly performed in the temple gates.

In line 22, some objects, more closely specified in the lacuna, seem to have been given – or, in the light of the plundering described in the preceding Diary -162 and in the chronicle BCHP14, maybe rather restituted – to the Greek citizens.\(^{857}\) Afterwards, judicial proceedings seem to have taken place. Another argument for such a link between the two Diaries is the presence of the ‘people of the land’, the plunderers in AD -162, which appear in the present Diary in line 25 in connection with the rack of interrogation and thus as culprits in a process.

Half a year later after the plundering the Greeks seem to obtain justice, at least according to the interpretation suggested here: two main culprits, two brothers maybe from the highest straits of Babylonian society were presented to the judges, executed and their possessions confiscated (23-24). Afterwards also members of the ‘people of the land’, the peasants from Babylon’s hinterland, were interrogated under torture (25) and convicted, but the nature of their punishment is unclear (26). Part of these judicial proceedings happened in the Greek theatre in Babylon (25), and maybe even the whole process was

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855 Van der Spek 2001, 449 suggests either ālu eššu or Kullab as possible locations of the theatre, but both are not yet attested in the diaries, cf. George 1997. In the same article (also 449) van der Spek presented the tentative reading ‘small side’ for a-ḥu qal-la, for which earlier editions provided no translation. The traces in line 25 here point to a sign kul, it is thus tempting to locate the theatre in the quarter of Kullab.

856 There is no such phrase as ina hiṭu alāku attested, cf. CAD H (1956) s.v. hiṭu meanings 5 and 6 (211). On hiṭu ša šarrī šadādu or zabûlu (‘to bear the punishment of the king’) see most recently Kleber 2008, 68-71

857 Such a connection between the two diaries AD -162 and AD -161A was also envisaged by van der Spek 2005, 404.
held there as the victims/plaintiffs seem to have belonged to the Greek community. In the end, reconciliation, or at least the end of violence was accompanied by the performance of sacrifices (28-29).

Date: SE 150, VI = 31 August – 29 September 162 BC

Text:

r11: \( u \text{LU}\text{UN}^{M} \text{ES} \) \( \text{ina} \text{lib-bi} \text{NAG-i} u i-\text{s}{\text{a}} \) [............

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Commentary:
The impression of substantial loss of signs on this tablet is confirmed by line 27. Preceding the historical section, the complete summary of planetary positions must have been contained in this line, but is lost after the position of Jupiter onwards. This historical note is the last entry of the tablet and is only followed by a date formula, and possibly a catch-line.

Nothing much can be deduced from the extant scraps of information. On the identification of the legendary Ummān-Manda with the Medes in the Neo- and Late Babylonian period see most recently Adali 2011 (especially 133-167). As so often when troops are mentioned in the diaries, some sort of upheaval is very probable. The weakness of the central government – the child-king Antiochus V was far away in Antioch-on-the-Orontes and under tutelage of Lysias – the arrival of the pretender Demetrius I in Phoenicia during the period recorded in this Diary and his immediate self-proclamation as king, as well as the machinations of Timarchus, who was to revolt openly soon after the accession of Demetrius I (162/1) from central authority provide a most suitable backdrop. Timarchus was in all probability not only ‘Generalstatthalter des Ostens’ but also satrap of Media, as had been Molon before him in the beginning of the reign of Antiochus III.

Year 161/0 BC = SE 151

AD -160A: Month
Museum number: BM 46003 (= 81-7-6,447)
Copy: LBAT 385
Previous editions: ADART III, 40-41 and plate 172; Del Monte 1997, 87

Description of the tablet:
The tablet is a minor fragment of hardly 10 lines, the right edge of which is ideally fully preserved. The maximum height of the fragment (measured on the right edge) amounts to 5 cm. Its width does not exceed 5.2 cm and measures around 3.5 cm in the text section. The thickness is 2.8 cm at the right edge, but more than 4 cm at the broken left edge. As the obverse has entries for months VII and VIII, it is probable that the tablet originally contained information on the second half of the year in question. Due to the absence of useful indicators, it is hardly possible to establish the amount of signs broken off.

Date: SE 151 VII = 17 October – 15 November 161 BC

Text and translation:
2: [(many signs) ..] ana DINIRMES GALMES u ana bul-tu šá 1de-mēt-rī LUGAL
2: [(many signs) ..] for the Great Gods and for the life of king Demetrius.

Commentary:

Ehling 2008, 123-124. On the basis of the date formulas in the Diaries we know that Demetrius was recognized in Babylonia at the latest in September 161 BC. There is however a gap of almost one year to the last mention of Antiochus in the sources (which is accidently the presently discussed diary AD -161A), which leaves considerable leeway regarding the exact point in time of Demetrius’ recognition as king in Babylonia. See van der Spek 1997/98, 168.

The continuity of this double-charge and the resulting importance of the office of the satrap of Media is underlined by Capdetrey 2007, 270-271 (“une circonscription orientale dont le gouverneur exerçait une autorité super-satrapique”, 271).
2: One may safely assume that the Great Gods were preceded (at least) by the couple of Bēl and Bēltiya, and by the type of sacrifice carried out on their behalf in a formulation of GU₄ u SISKURMES or similar. The present diary is the first one dating to Demetrius and provides an important terminus ante quem for his recognition also in the East of the empire, which had revolted at his accession to the throne from central authority under the lead of the ‘Generalstatthalter des Ostens’, Timarchus.⁸⁶¹

AD -160C: Months XI and XII
Museum number: BM 45879 (= 81-7-6,310)
Previous editions: ADART III, 42-45 and plate 173; Del Monte 1997, 87-88

Description of the tablet:
The tablet is another tiny much eroded fragment of a diary. The height measures little more than 2.5 cm, and the maximum length amounts to 6.3 cm. The thickness at the broken upper edge is 2.6 cm. The obverse is broken off in a curious manner so the tablet starts with the first words of the summary of the planetary constellations. The reverse is more damaged, and only a spot of 2.5 by 1.1 cm is extant. It is unclear which month is recorded, but as the obverse speaks of month XI, the most plausible solution is to assume a diary with information for two months only and date the content of the reverse to month XII. The historical not was probably continued in lines 8 and 9 which yield but illegible traces. In general, the script of this fragment is badly eroded.

Date: SE 151 XI = 13 February – 14 March 160 BC

Text:
6: [(unknown amount of signs) SISKU]R šâ DINGIRMES TARMES ITU BI LÚUNMES [šá KUR: (unknown amount of signs)]
7: [(unknown amount of signs) ..]-ū ITU BI [(unknown amount of signs)]
(8-9: illegible traces)

Translation:
6: [(unknown amount of signs) ..the sacrifice]ces of the gods were interrupted. That month the people [of the land? .. (unknown amount of signs)]
7: [(unknown amount of signs) ..] That month [..(unknown amount of signs)]

Commentary:
6: This instance contains a so far unique attestation of an interruption of the sacrifices to the gods in the Diaries. The terminology is unequivocal, the logogram TAR is also employed when, for example, the spring flood fails to occur (AD -346, r33) or a commodity is not for sale on the market (AD -324B, 12-13). The importance of cultic continuity is also highlighted by P. Corò in her analysis of prebend texts from Seleucid Uruk: in the case of an interruption, apart from constituting a breach of the modalities of the contract in the case of a lease of the income for service, an additional fine could by imposed on the responsible person by the city council (kiništu) or a leading official (rab ša rēš āli) as “l’infrazione commessa da chi interrompe il servizio prebendario va dunque a ledere gli interessi della communità”.⁸⁶²

Date: SE 151 XII = 15 March – 12 April 160 BC

Text:

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⁸⁶¹ Van der Spek 1997/98, 168. The conflict between Demetrius and Timarchus is described by Ehling 2008, 124-130s (see also above, the commentary to AD -161A, r27-29). On the sacrifice ana bulṭi see Pirngruber 2010.

⁸⁶² Corò 2005, 58-65 and 141; quote from 64-65. In prebend lease contracts from Hellenistic Uruk, the obligation not to cause interruptions in the cultic service is expressed by the verb baṭālu, cf. TCL 13 238, 10: la baṭ-la ša-ka-nu.
r1: [(unknown amount of signs) .. UD₂ pa₃'] šá Š.E. .. (unknown amount of signs)]
r2: [(unknown amount of signs) .. "EN Š]GAŠAN ia DINGIRMES GALMES u ana bul-tu šá de-meš-ri LUGAL .. (unknown amount of signs)]
r3: [(unknown amount of signs) ..] U₄ 12 13 [14].KAM ú-[.. (unknown amount of signs)]

Translation:
r1: [(unknown amount of signs) ..] of the temples [/houses(?) .. (unknown amount of signs)]
r2: [(unknown amount of signs) ..] Bēl, Bēltiya, the Great Gods and for the life [of king Demetrius .. (unknown amount of signs)]
r3: [(unknown amount of signs) ..] Days 12, 13 [14] [..(unknown amount of signs)]

Commentary:
r2: The sacrifices, which according to the obverse at least on some days of the preceding month XI had not taken place, seem to have been fully restored. The terminology is exactly as one would expect, cf. the commentary to AD -204C, r18.

Year 159/8 BC = SE 153

AD -158B: Month V
Museum number: BM 45898 (= 81-7-6,329)
Copy: Listed as LBAT *389
Previous editions: ADART III, 46-51 and plate 174; Del Monte 1997, 88-89

Description of the tablet:
The tablet of which only the upper part is preserved contains a diary of only two months (IV and V) of year 153 SE. Unfortunately, the beginnings of the lines especially in its lower part and thus in the historical section are a damaged, but at least line 18 can be easily completed, the beginning šá ana UGU suggested in ADART III, 50 is certain. The thickness of the tablet measures about 2 cm in the centre of the upper edge and 3 cm in the centre of the broken lower edge. This fragment is 12.8 cm long where both left and right edge are completely preserved, and up to 8.5 cm high. Both measures were taken at the reverse containing the historical section. The historical part also continues on the first line of the upper edge.

Date: SE 153, V = 29 July – 26 August 159 BC

Text:

r17: ... ITU BI U₄ 6LU nu-ma-‘i-ir KUR URI Kl TA URU₄ se-lu-ke-‘a-a
r18: [šá ana UGU] IDIGNA ana E Kl KU₄ U₄ 9 ni-gu-tú ka-liš GAR L₄ŠA.TAM E.SAG.GIL
r19: [ana tar-šil (?)] KÁ d]u-de-e šá E.SAG.GIL ana tar-ši KÁ dLAMA-ra-bi šá ana ku-
um L₄ŠA.TAM E.SAG.GIL
r20: [.. .. ..] NIDBA MES GUB-u’ U₄ 17 NIDBA MES ina KU₄ dL.KUD u KU₄ dGAŠAN ia šá KÁ [dLAMA-ra-bi(?)]
r21: [.. .. ..] ana muh-hi piš-kiš-u nu x₂-lu-ú NIDBA ul šá-ki]n ITU BI [ .. .. ..]
r22: [.. .. ..] D[U-ú U₄ 19 LU₄ mu-ma-‘i-ir KUR [URI Kl]
U.E.1: [TA E₄] ana URU₄ se-lu-ke-a-a šá ana muh-hi IDIGNA E

Translation:
r17: ... That month, day 6: the satrap of Babylonia from Seleucia
r18: [which is on] the Tigris entered Babylon. Day 9, merry-making was set up everywhere. The šatammu of the Esangila
r19: [opposite of (?)] the dudê-gate of the Esangila (and) opposite of the Lamassu-rabû gate, the substitute- šatammu of the Esangila
r20: [ .. .. ..] they provided (or: went). Day 17, the nindabû-sacrifices in the entrance of Madānu and in the entrance of Bēltiya of the gate [ .. .. ..]
r21: [... ] because of their injustices 'x x' [... The nindabû-offering did not take place. That month [...]

r22: [... ] they sacrificed. Day 19, the satrap of Babylonia

U.E.1: [from Babylon] to Seleucia which is on the Tigris he went out.

**Commentary:**

r17/18: This line contains the first certain mention of a satrap after almost a century (AD - 273B). The hypothesis of Bengtson 1944 of a temporary suspension of this office and a concomitant upgrading of the stratēgos, who was invested also with civic responsibilities as one consequence of the administrative reforms of Antiochus III, has received amply treatment – and been largely accepted – in the commentary to AD - 229B, 9. For nigittu, which is conventionally translated as ‘merry-making’, and which describes a joyous festival, see already AD - 245B, 5.

r19: The šā ana ku-um LŪ[S].TAM, ‘the one (acting) instead of the šatammu’, brings immediately to mind the zazakku introduced by Antiochus IV, who is designated with the same phrase in ADs - 168A, r13 and - 163C₂, r17. In the present instance however, and as opposed to these earlier passages, also an active ‘regular’ šatammu is attested, in the immediately preceding line r18. There is no evidence that the office of the zazakku was retained after Antiochus IV, the last attestation of a zazakku dates to the month following his death. The identity and functions of the šā ana ku-um LŪ[S].TAM in the present passage therefore remain elusive.

Note that the syntax of the phrase is very odd. As the verb in line r20 is in the plural (GIN-u’), it seems beyond question that indeed both a šatammu and a substitute-šatammu were acting jointly in this passage. Most likely, a preposition itti (or similar) was omitted by the scribe before the mention of the substitute-šatammu.

r19/20: The designation dudê-gate appeared quite late in our corpus, for the first time only in AD - 178C. The expression is synonymous to KA.SIKIL.LA and thus another designation for the main entrance of the Esangila, cf. the commentary to AD - 330A+B, r8. The Kalammarabi- (or Lamassu-rabû)-gate was the north gate of the Esangila and identical with the entrance of Bêltiya in the following line r20 (for more information on this gate see the commentary to AD - 200A, r12). The second entrance mentioned in this line, the entrance of Madānu, is to be located in the Eturkalamma-temple belonging to Ištar of Babylon, which was also a part of the Esangila complex (and for which see AD - 328, r24).

r21: As in the preceding diary AD - 160C, 6 we are dealing with some kind of cultic interruption. However, whereas in the former instance the verb parāṣu is employed to report that sacrifices have been interrupted, this diary uses šakānu with negation. Note that also two different kinds of sacrifices are at issue. The semantic difference however will rather refer to the modalities which caused the interruption in the sacrifices. In the present instance, explicit reference is made to inappropriate behaviour from the part of unknown persons.

r22: In the light of the cultic context of this passage the verb DÙ is most probably referring to sacrifices carried out, a parallel is provided by AD - 273B, 12 ana Bēl innepišû, ‘(sheep) were sacrificed to Bēl. Afterwards the satrap returned to his residence in Seleucia-on-the-Tigris. Information on official visits of high officials to Babylon, and especially in order to perform sacrifices, are a frequently recurring subject in the diaries, see, e.g., AD - 171B.

**AD - 158C:** Month VI
Museum number: BM 34923+35624 (= Sp. II 438+ III 135)
Copies: LBAT 388+763.
Previous editions: ADART III, 50-53 and plate 174; Del Monte 1997, 89

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863 Boiy 2004, 88, the identification was made by George 1992, 397.
Description of the tablet:
A small two-piece join, this diary again contains some information concerning the
cultic matters of the Esangila. The maximum thickness of the join amounts to hardly 1.6
cm, but the reverse is not extant. The maximum height (at fragment BM 35624) is almost
7.5 cm. The length of the lines containing the historical information measures around 7 cm
and is additionally followed by some eroded space towards the right edge. The historical
section is separated by a horizontal band of about 0.5 cm height from the entries of the
following month. Between the end of line 4 and the beginning of line 5 we need to restore
the price indications of sesame and wool as well as the position of Jupiter, we have thus to
account for a minimum of 25 signs. Their distribution between lines 4 and 5 cannot be
ascertained.

Date: SE 153 VI = 27 August – 25 September

Text:
6: [.. .. .. .. .. .. .. .. .. .. śa ana] ku-um LÚŠÀ.TAM é-[sag-gil u ..]  LÚ-EKI MEŠ ina Ê U4
    1.KAM 10 GU4 [u .. ŠISKUR MEŠ ..]
7: [.. .. .. .. .. .. .. .. .. .. .. TA EKI ana] URU se-lu-ke-`a-a [śa ana U]GU IDIGNA Ê ITU BI [.. .. .. .. .. .. .. .. .. .. .. ..]

Translation:
6: [.. .. .. .. .. .. .. .. .. .. the substitute–šatammu of the Esangila and the Babylonians, in
    the ‘Day-1 Temple’ 10 bulls [and n sheep .. .. ..]
7: [.. .. .. from Babylon] went out [to] Seleucia which is on the Tigris. That month [.. .. .. .. .. .. .. .. .. .. .. ..]

Commentary:
6: Again a śa ana ku-um LÚŠÀ.TAM is seen in action. In the present passage, he appears
together with the Babylonians and thus in the very same position where one would expect
the šatammu, who is, however, still attested in the preceding month (see AD -158B, r18).
One is thus tempted to speculate that in the course of the year SE 153 (159/8 BC), the
šatammu was again replaced by a substitute. However, contrary to zazakku acting ana kūm
LÚŠÀ.TAM during the reign of Antiochus IV (cf. AD -168A, r13), the present official ana kūm
LÚŠÀ.TAM did not bear an additional title in his own right. The broken part of the line
can be partly restored with confidence as the context of a sacrifice in the ‘Day 1 Temple’ is
unequivocal. The mention of the ‘Day 1 Temple’, probably the bīt akītu, in another month
than Nisannu is somewhat odd but not unparalleled (e.g., AD -171B, r4, see also the
commentary to AD -204C, r17 on the bīt akītu)

7: The completion in this line is based on the preceding diary AD -158B, U.E.1. Travels of
high officials – in most cases the mumā´iru, the satrap or the LÚGAL ÉRIN MES, the
stratēgos – from Babylon to their residence and capital Seleucia-on-the-Tigris and vice
versa are quite often recorded by the scribes of the Diaries.

AD -158E: Month X
Museum number: BM 34209 (= Sp. 315)
Copy: LBAT 544
Previous editions: ADART III, 54-55 and plate 175; Del Monte 1997, 89

Description of the tablet:
The tablet contains information on month X of year 153 SE on the obverse, the few
signs extant on the badly damaged reverse give no hint regarding the month recorded.
The maximum length of line on the obverse amounts to 6.5 cm, the total height of the piece to 5
cm. Its thickness is around 3 cm at the broken lower edge but less than 2.5 cm at the upper
edge, where a small historical note is found. Due to the absence of price section, summary
of planetary constellations and similar indicators it is not possible to establish how much is
broken off at the sides. The indubitably correct completion of line 3 suggested by Del Monte (1997, 89) prove that at the very least 8-10 signs are missing to the right.

Date: SE 153 X\(^2\) = 24 December 159 BC – 21 January 158 BC

Text:
U.E.1: [.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. \(\ldots\)]
U.E.2: [.. .. .. .. .. .. .. .. .. ..] \(ip\)-\(pu\)-\(us\) UD\(\tilde{u}\) šá\(\tilde{u}\) KUR x [.. .. .. .. .. .. ..]
U.E.3: [U4 \(\ldots\) (title) \(\ldots\) \(\ldots\)] TA\(\tilde{u}\)\(\ldots\) \(\ldots\) se\(\ldots\) lu\(\ldots\) \(\ldots\) a\(\ldots\) [šá ana muh\(\ldots\) hi IDIGNA E]

Translation:
U.E.1: [.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..]
U.E.2: [.. .. .. .. .. .. .. .. .. ..] he will make \(\ldots\) \(\ldots\) \(\ldots\)
U.E.3: [.. .. Day \(\ldots\) the (title) of Babylonia? went out] 'from' Babylon to Seleucia [which is on the Tigris]

Commentary:
U.E.2: The line is very difficult to read. The presence of the present tense/durative is however remarkable and points to a direct speech as in AD -330 r\(7\), a proclamation of Alexander the Great E\(\text{MES}\) -\(ku\)-\(nu\) ul er-\(ru\)-\(ub\), 'Your houses/temples I will not enter!' 865

U.E.3: It is not clear which official is travelling from Babylon to Seleucia-on-the-Tigris in the present instance. Note however that the fragments of this year SE 152 record three such journeys, in months V (of the satrap), VI, and now X.

Year 157/6 BC = SE 155

AD -156A: Month I and V
Museum number: BM 36724+36792+36920 (= 80-6-17,457+530+661)
Copy: Listed as LBAT *396 (BM 36724)
Previous editions: ADART III, 58-65 and plate 178; Del Monte 1997, 89-90

Description of the tablet:
This diary contained information for the first five months of the year 155 SE, on both obverse (I, II) and reverse (IV and V, which ends the tablet and is followed only by a catch-line) are parts of two months extant. To the right side of the fragment not much is broken off, especially the obverse is quite complete. The thickness of the tablet on the broken lower edge amounts to up to 5 cm (and to about 4 cm at the centre of the right edge). The join is 16 cm high in total – the height of the inscribed part measures about 11 cm – and up to 15.1 cm long. As is clear from the gap between lines 16 and 17, which must have contained the price observations of cress, sesame and wool, we have to account for a minimum about 25 signs (if also the prices for cress and sesame were given twice).

Date: SE 155 I = 9 April – 8 May 157 BC

Text:
20: [.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..] 24 25 ina tar-den-nu šá KIN.SIG DÜ-u' 27 ina GAL-u' šá KIN.SIG DÜ-u' ITU BI [.. .. .. .. .. .. ..]
21: [.. .. .. .. .. .. .. .. .. .. .. .. .. .. ni-gu]-\(tu\)\(4\) ina KUR GAR-at

Translation:

864 See e.g. AD -158B, U.E. 1 for a parallel.
865 But note that in later Diaries, especially in the Parthian period, a kind of historical present (praesens historicum) appears regularly. Other instances form the Seleucid period are ADs -144, 347 i-man-nu-ú, they count(ed), and -141 r21-22, i-šal-lal-lu-ú, they ask(ed).
20: [....] days 24, 25 at the minor meal of the afternoon they made, day 27 at the main meal of the afternoon they made. That month [....]
21: [....] merry-mak[j]ing in the land took place.

Commentary:
20/21: The first part of the short historical note refers to the daily cultic meals of the gods. DÙ in line 20 in all probability simply refers to the offering of the regular meals to the gods. Our proposal to complete nigûtu in line 21 is based on numerous parallels (AD - 186A, r7 et passim) with the identical wording ina KUR GAR-āt, this latter syntagma incidentally always occurs together with nigûtu.

Date: SE 155 V = 5 August – 3 September 157 BC

Text:
r18: ... ITU BI al-te-me um-ma (traces) [....]
r19: [....] ana URU se-lu-ke-'a -a] šá ana muh-ḥi IDIGNA KU₄-ub ITU BI [....]
r20: [....] šú ina kak-ku GAZ^{MEŚ}.

Translation:
r18: ... That month I heard as follows [....]
r19: [....] into Seleucia which is on the Tigris he entered. That month [....]
r20: [....] x with weapons they (were) killed.

Commentary:
r18: The first part of the note refers to events that did not take in Babylon itself as is indicated with the phrase al-te-ma. There are several events from the reign of Demetrius I (162-150 BC) that this entry might refer to. The revolt of the Maccabees was ended the year before (158 BC) with a contract of philia kai symmachia concluded between Bakchides, the responsible Seleucid general in Judaea, and Jonathan, youngest brother of Judas and Simon Maccabaeus and their successor as leading figure of the revolt. During the same period, in 159/8 BC, we know that Demetrius also gave military and especially financial support to Orophernes, a pretender quite successfully challenging Ariarathes V of Cappadocia. In the course of the events, the kingdom was divided in two halves upon instigation of the Roman senate exactly in 157 BC. The abortive attempt to gain the island of Cyprus by means of bribing the Ptolemaic general Archias probably dates from the later 150s BC and can hardly have been the subject of this diary. In the light of the date of the passage, maybe the episode of the alliance between Demetrius and Orophernes in order to overthrow Ariarathes of Cappadocia is the most likely option. However, also the possibility of an otherwise unknown event of rather local importance cannot be discarded.

r19-20: After the report of someone’s – and in the light of the numerous parallels, certainly a satrap’s or the stratēgos’ – entry into Seleucia-on-the-Tigris, an allusion to homicide is made in the last line. Due to the very fragmentary nature of the present passage the content of this line remains elusive, however, dâku occurs in the ADs usually in the context of some local unrest or the quelling thereof (AD -261B) and with the execution of death penalties (AD -161A).

AD -156B: Month VIII
Museum number: BM 45731+45862 (= SH 81-7-6,139+291)

866 On these meals see Linssen 2005, 134-135. See also the ritual text TU 38 from Hellenistic Uruk (edited ibid., 174-186) for the impressive amount of foodstuffs offered in the course of these daily sacrifices.
867 On which see Ehling 2008, 122-153.
Description of the tablet:
The join contains the remains a diary of the second half of year SE 155 (months VIII to XII). The length of the gap between lines 16 and 17 can be estimated to amount to at least 40-45 signs, a large part of the price section – prices for old dates, dates, *kasû*, cress, sesame and wool – as well as the beginning of the summary of planetary constellations are missing. The upper edge of the tablet is ideally completely preserved, the reverse of fragment BM 45731 broken off.

Date: SE 155 VIII = 2 November – 1 December 157 BC

Text:
20: [...] TA URU see-ke-a-a-šá ana muh-hi IDIGNA ana E₆ KU₄-ub.

Translation:
18: [...] they made. That month, day 10 the *stratêgos* who is in charge of [the four generals... ...]
19: [...] day 14 the comet who previously in month VI on day 16 in [... ...]
20: [...] from Seleucia which is] on the Tigris entered into Babylon.

Commentary:
18+20: The visit of some high officials, often specifically mentioned to reside in Seleucia-on-the-Tigris, is a frequent occurrence in the Diaries of the later Seleucid period. AD -158B (r22 and U.E.1) mentioned the visit of the satrap, AD -178C, r18-19 a visit from the *stratêgos* “who is in charge of the four generals” (for whom see also the exhaustive commentary to AD -229B, 9).

19: In analogy with similar instances, we expect the celestial regions in which the comet was seen to follow. A good example is provided by AD -163B, 16 recording the appearance of Halley’s Comet (see ADART III, 16): “[The com]et which previously had been seen in the east in the path of Anu in the area of Pleiades and Taurus (…)”.

AD -156C
Museum number: BM 45713 (= SH 81-7-6,120)
Copy: LBAT 395
Previous editions: ADART III, 68-71 and plate 179

Description of the tablet:
Although the reverse of this tablet is broken off completely, it is still up to 3 cm thick. Its maximum length ranges around 9 cm, with a height of about 8 cm. A historical note originally concluded the section of month XI (29 January – 27 February 156 BC) but is except for the questionable sign ZAH meaning *nâbutu*, ‘to flee’ completely lost.

Year 156/5 BC = SE 156

AD -155A: Month IV
Museum number: BM 45768 (=SH 81-7-6,182)
Copy: Listed as LBAT *397
Previous editions: ADART III, 70-73 and plate 179; Del Monte 1997, 90-91

Description of the tablet:
The fragment contains a diary of the second half of only one month (IV) of 156 SE, the left half of which is extant. Upper and lower edges are ideally preserved. The height of the fragment measures 7 cm, its maximum length 7.5 cm. The thickness in the centre of both upper and lower edge oscillates around 1.9 cm. To arrive at the right edge, some 6 to 7 signs have to be completed as is clear from both the summary of planetary constellations and the price section (and cf. also H. Hunger’s completion of line r6, ADART III, 72).

Date: SE 156 IV = 26 June – 25 July 156

Text:

r8: ITU BI U₄ 5 I-en LI DUMU EKI A le-gi7-BA-TI-L[A ... ... ...]
r9: ku-um LI UNMES ... ṣa TA bar-sip EKI ana DU-eš par-ši ana x[- ... ... ... ana GN]
r10: KU₄ MES-ni ana EKI KU₄ 'i3 UKKIN GAŠ-an x NE ana x x [- ... ... ...]
r11: TE.EKI i-te-ri-bi ITU BI anu URU bar-sip8 GIN [- ... ... ...]
r12: ITU BI al-te-me um-ma LI DUMU šip-ri ša LUGAL [- ... ... ...]
r13: ana muh-hi LI LUGAL ERIN₄ MES ša ana UGU 4 LI LUGAL ERIN₄ MES [ana UGU LI pa-hat EKI]
r14: U GU LI pu-li-še-e ša ina EKI anu ... [- ... ... ...]
r15: um-ma LI MES-ni-nim du-ub-ba-a ana UGU [- ... ... ...]
r16: ša DU-gš₄ al-te-me LI LUGAL ERIN₄ MES MU-a-[ti ... ... ...]
r17: a LI MES DU-eš dul-la-a-tū ša ID [- ... ... ...]
U.E.1: ina hi-it-tū anu URU an-tu-uk-ki-'a ša ana [UGU]
U.E.2: BI ma-rat anu DA LUGAL šu-lu-ū

Translation:

r8: That month, day 5, one Babylonian from the clan of the Egibi [... ... ...]
r9: instead of the people who from Borsippa to perform the rites to [... ... ... into GN]
r10: had entered, entered Babylon and the assembly was set up [... ... ...]
r11: entered the city quarter of TE.E. That month, he went to Borsippa [... ... ...]
r12: That month, I heard as follows: a royal messenger [... ... ...]
r13: to the stratēgos who is in charge of the 4 generals, [to the governor of Babylon]
r14: and to the politai who are in Babylon to [... ... ...]
r15: as follows: ‘Go to court, establish a process against [... ... ...]
r16: which they made. I heard: this stratēgos [... ... ...]
r17: and the people making the work of [... ... ...]
U.E.1: [... ... ... to Antioch which is on
U.E.2: the sea to the side of the king they were brought up.

Commentary:

8: Egibatila is a learned writing for the name Egibi.⁸⁶⁸ The archive of this clan is the largest private archive from the Neo-Babylonian period, containing ca. 1,700 tablets. The activities of the family included the trade in various foodstuffs (barley, dates, but also onions) and the renting out of date orchards in the vicinity of Babylon.⁸⁶⁹ The archive breaks off with the ‘end of archives’ in the second year of Xerxes (482 BC), the present attestation of the name is the first one after a gap of more than 300 years. It comes all the more as a surprise as clan names occur only very rarely in archival documents from Hellenistic Babylon – persons were most commonly identified by their father’s name only, by indication of their profession, or both.⁸⁷⁰ Considering this gap, actual (i.e. genetic) affiliation of the individual mentioned in line 8 to the Egibi-clan as it is known from the ‘long 6th century’ BC is questionable and in any case impossible to assess. However, this

⁸⁶⁸ Lambert 1957, 418, see also Wunsch 2000, 1³.
⁸⁶⁹ The activities of the Egibi-family have been the subject of several investigations, among which the monographs Wunsch 1993 and 2000 and Abraham 2004 stand out.
⁸⁷⁰ The situation is different in Uruk, where regularly both father’s name and clan name of an individual were indicated. A good example are the prebend sales contract published in Corò 2005. It is however possible that the different state of affairs in Babylon and Uruk is largely due to the different types of archival material excavated, e.g., there are no prebend sales contract from Hellenistic Babylon.
instance is one of the few indications of the construction of social identity of the urban elites from Hellenistic Babylon, pointing to a strong consciousness of local traditions.\(^{871}\)

9-10: Cultic ties between Borsippa and Babylon are attested in the first millennium BC most clearly within the framework of the New Year’s Festival, when on the fifth day of the festivities Nabû, Marduk’s son and principal deity of Borsippa, arrived from his main temple Ezida in Babylon to take part in the ritual.\(^{872}\) It is unclear which rites are meant in this line as paršu is a most general word, but the date in month IV precludes in any case the New Year’s festival as viable interpretation. Furthermore, the delegation is merely said to come from Borsippa but is not designated as ‘Borsippaeans’ (\(^{LU}\) (\(^{URU}\) bar-sip\(^{K1}\))) or ‘sons of Borsippa’ (\(^{LU}\) (\(^{URU}\) bar-sip\(^{K1}\))). The content of these lines is not entirely clear. Somebody seems to have arrived in substitute for these people from Borsippa, which resulted in a meeting of the kiništ. The word nīšu (UN) occurs almost exclusively with following KUR, hence ‘people of the land’ (laoi), and refers thus to persons from the lower strata of society.

12-17: As the second half of all lines are broken off, it is difficult to establish the content of this tablet. What is clear is that again judicial proceedings are recorded (15), which were instigated upon direct instruction from the royal administration, as emerges from the mention of the royal messenger in line 12 (and the introductory umma in line 15). The royal directive was communicated to the highest officials of the city. As the politai hardly ever appear alone (see Boiy 2004, 204-207), it seems reasonable to complete the preceding line with the governor of Babylon (\(^{LU}\) pa-hat\(^{E1}\)). The strategos in charge of the four generals has been amply discussed in the commentary to AD -229B, 9. The reasons for the court trial unfortunately have to remain in the dark due to the lacunas in the text, as is also the case for the nature of the dullātu in line 17. A curious feature of this historical section is the introduction of the narration of these events with alteme although the events seemingly took place in the city of Babylon.

U.E. 1-2: There are two conflicting identifications for ‘Antioch which is on the (salt) sea’, either the imperial capital on the river Orontes in Syria, or Antioch on the Tigris (the later Charax Spasinou) in southern Mesopotamia.\(^{873}\) The former is certainly a more suitable place for the king to have resided, and also the verb ‘šulû’ point to a location north of Babylonia.

The enigmatic hi-it-tu at the beginning of line U.E. 1 was tentatively interpreted by Del Monte (1997, 90\(^{71}\)) as a ‘grafia abnorme’ for hitțu, guilt.

**Year 155/4 BC = SE 157**

**AD -154A: Month IV**

Museum number: CBS 792

Previous editions: ADART III, 76-77; Del Monte 1997, 91

**Description of the tablet:**

No photograph of this fragment was available to me. According to the description in ADART III, the tablet contains information on month IV of the year 157 SE, its reverse is not extant. The historical note seems to have started already in line 5, which according to

\(^{871}\) See Nielsen 2011, especially 272-295 on clan identity in the early Neo-Babylonian period.

\(^{872}\) On the New Year’s Festival see most recently Zgoll 2006.

\(^{873}\) Del Monte 1997, 91 prefers an interpretation as Antioch-on-the-Tigris, whereas van der Spek 1997/98, 173-174 opts for Antioch-on-the-Orontes. He also put forward the tempting hypothesis that marattu designated the Mediterranean Sea rather than the Orontes, as the city of Antioch was located at merely 15 km distance (and thereby rejected his older reading of marattu as Orontes, see van der Spek 1985, 558 and the commentary to BCHP 12, 12 on livius.org). However, as also Antioch on the Tigris was located at the shores of the Persian Gulf, this identification cannot be excluded.

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ADART III, 76 is no longer legible with the exception of one sign (KI), and continued in line 7, which is equally damaged.

Date: SE 157 IV = 15 July – 13 August 155 BC

Text and translation:
6: \[\text{[(unknown amount of signs) ..] x x ina KUR GAR-an ITU BI U₄ 30.KAM} \text{LU} \text{GAL} \text{ÉRIN} \text{[..(unknown amount of signs)]}\]
6: \[\text{[(unknown amount of signs) ..] x x was set up in the land. That month, day 30, the stratēgos} \text{[..(unknown amount of signs)]}\]

Commentary:
6: The phrase \text{ina} KUR GAR-an/\text{at} occurs usually in the context of a celebration of \text{nigētu}, ‘merry-making’, which is thus the most likely completion for the beginning of the line. Furthermore, one can speculate that the historical line closed with the departure of the stratēgos from Babylon to Seleucia-on-the-Tigris (or vice versa).

Year 154/3 BC = SE 158

AD -153: Month V
Museum number: BM 34959+35612 (= Sp. II 480+ III 122)
Copies: LBAT 633+760
Previous editions: ADART III, 78-81 and plate 181

Description of the tablet:
This small join is the remains of diary containing information on three months of year SE 158. It is more than 12.5 cm long, but the height varies between 3 and 4.2 cm only. Its thickness at the preserved right edge amounts to 2.7 cm and arrives at 3.5 cm in the centre. The curvature of the tablet indicates that not too much is broken off to the left. This impression is confirmed by the summary of planetary positions on the reverse, of which only the position of Jupiter and thus about three to five sings are missing. The historical notice, concluding the section of month V, is completely extant and concerns a disease of cattle.

Date: SE 158 V = 3 August – 1 September 154 BC

Text and translation:
r4: \[\text{... ITU BI di-hu} \]
... That month, (there was) the \text{di’u}- disease
r5: \[\text{ina AB.GU₄ long} \text{[..(unknown of signs)]}\] among cattle.

Commentary:
r4: The \text{di’u}-disease is according to CAD D (1959, s.v. \text{di’u}, 165-166) ‘a grave disease characterized by a headache’. All references quoted there concern human beings, and M. Stol identified the disease as malaria. In the present instance, this identification is at least according to modern thinking impossible, but we do not know by what reasoning – similarity of symptoms, or else – the scribe of this diary identified the cattle disease he witnessed as \text{di’u}.

Year 153/2 BC = SE 159

AD -152: Month XII
Museum number: BM 34947 (= Sp. II 466)

Description of the tablet: This fragment is a small piece of triangular shape, with a maximum height of 5 cm and a maximum length below 4 cm. The obverse of this tablet is completely broken off, but it still is up to 2.8 cm thick. The left edge is ideally completely extant. As line 12 starts with the planetary summary, it seems that the preceding line must have contained all price information which means that about 40 signs minimum are missing. Virtually nothing is preserved of the historical note, only a brief reference to the stratēgos ‘who is in charge of the four generals (on which see the commentary to AD -229B, 9) is extant. The note is divided by means of a horizontal stroke from the next line, which is the beginning of the section of the following month XII₂.

Date: SE 159 XII = 15 February – 15 March 152 BC

Text and translation:
14: [LÚGAL] ÉRINMEŠ KUR URIKI MEŠ šá < UGU> 4 LÚGAL ER[ÎNMEŠ ...] ...
14: [the stratēg]os of Babylonia who <is in charge of> the 4 generals [.. ...]

Year 150/49 BC = SE 162

AD -149A: Month III
Museum number: BM 34632 (= Sp. II 115)
Copy: LBAT #400; ADART III, plate 183 (by T. Pinches)
Previous editions: ADART III, 82-87 and plates 182-183; Del Monte 1997, 91-94; van der Spek 1997/98, 168-169

Description of the tablet: This piece measures up to more than 10 cm in length and 9 cm in height. The thickness at the lower broken edge amounts to 2.5 cm, but to almost 3 cm at the broken upper edge. The obverse contains the astronomical information for month III of year 162 SE. It is probable that the reverse tells the historical events of the same month; in any case it does not contain additional astronomical information. As the gaps between the days in the different lines are comparably small, not too many signs seem to be broken off at the sides. The quite exhaustive diary starts with day 10 and considering that the diary is quite exhaustive, one should reckon with ca. eight to ten lines missing in the beginning. In the light of the curvature, the loss at the lower edge should be less substantial. Neither prices nor summary of planetary positions and river level are preserved, part of these sections will have been on the reverse.

Date: SE 162 III = 21 June – 19 July 150 BC

Text:
r1: [.. ...] U₄₆ U₄ 18 UDU [.. ...] 
r2: [.. ...] DU₄MES ina la si-ma-ti-šû x [.. ...] 
r3: [.. ITU B]a[le-te-me u]m-ma ina URU an-ti-ke-’a-a [.. ...] 
r4: [.. ...] ma-rat-tu₄ SU.GU₇ dan-nu₄ ₄ERINMES LU[GAL ? ...] 
r5: [.. ...] MES u LU₄MES šá TA [URU]MES šá LU₄GU² ERIN LUGAL šá ana U[GU² ...] 

See also the commentary of H. Hunger in ADART III, 86.

The completions suggested in ADART III, 84 for the beginnings of line 15 and 16 suggest that about four signs are missing to the left. Considering that line 16 still contains astronomical observations for the ‘night of the 23rd, and that line 17 records the information on the 23rd, this estimate cannot be too far off the mark (contra Del Monte 1997, 92).
Translation:

r1: [... ...] Day 6 (= 26 June) Day 18 (= 8 July) sheep [..... ... ...]

r2: [..... ... ...] they sacrificed when it was not fitting [..... ... ...]

r3: [..... ... ...] I heard as follows in Antioch [..... ... ...]

r4: [..... ... ...] on the “Sea” (there was) a grave famine; the royal? troops [..... ... ...]

r5: [..... ... ...]-(e)s and the people who from the cities which the troops of the king who to

r6: [..... ... ...] Alexander the king to Seleucia which is in the land [..... ... ...]

r7: [..... ... ...] the “Sea” they crossed. That month I heard as follows [..... ... ...]

r8: [..... ... ...] Demetrius the king with 25 elephants and the troop[s] [..... ... ...]

r9: [..... ... ...] from Antioch they went out and [..... ... ...]

r10: [..... ... ...] their defeat they brought about. Day 23 (= 13 July), the troops [..... ... ...]

r11: [..... ... ...] numerous troops of [king] Demetrius [..... ... ...]

r12: [..... ... ...] Seleucia the royal city [..... ... ...]

r13: [..... ... ...] of [..... ... ...]

r14: [..... ... ...] of [..... ... ...]

Commentary:

r2: If the verb DÙ in the beginning of line 2 is still referring to the sheep mentioned in line 1, the most apt translation would be ‘to sacrifice’.

r3-r11: There are two competing interpretations concerning the location of the battle described in this Diary: Van der Spek (1997/98, 169 and 174) assumes that Demetrius I entrenched himself in Antioch-on-the-Orontes, whereas Alexander Balas conquered first Seleucia-in-Pieria (r6, may KUR MA[R.TU] to be completed; suggestion R van der Spek) and then Antioch, after a siege causing the famine mentioned in line r4. Del Monte on the other hand interprets the places names in the text as Antioch-on-the-Read Sea and Seleucia in Elymais (pros théi Erythrai Thalassēi). In favour of this latter interpretation Del Monte points to the fact that Alexander was accepted as king in Uruk already in Nisannu 162 SE (April 150 BC). However, it is equally possible that he was recognized not only in southern Babylonia but in the larger part of the empire already before the decisive battle was fought. It is indeed only in Antioch-(on-the-Orontes) and Apameia that Alexander is attested as king only in SE 163 (October 150 – October 149 BC, according to the Greek calendar) according to numismatic evidence, whereas throughout Phoenicia and also in Seleucia-in-Pieria he was already accepted the year before. This pattern is certainly very much in line with the information gained from this Diary, according to which the city of Antioch was Demetrius’ last bastion. Not convincing

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878 As both Del Monte (1997, 94) and van der Spek (1997/98, 169) rightly saw, both Demetrius and Alexander are designated as kings in the Diary, unfortunately, there is no date formula extant. Fragment AD - 149B, a diary for months VII and VIII of the same year (discussed below) mentions only Alexander in the introductory date formula in line 1 which points to the fact that in 162 SE, Alexander was accepted as king also in Babylon. The evidence for Alexander’s recognition as king in Uruk is a prebend sale contract dating to 23 April 150 BC, see van der Spek 1997/98, 169.
879 The numismatic evidence is discussed in Ehling 2008, 152-153.
is Del Monte’s (1997, 93) argument that Antioch-on-the-Orontes is the less likely candidate due to its distance from Babylon, we have seen that the geographic range of events recorded in the ADs spanned from the island of Cyprus (AD -381C) and Egypt (AD -168) to Bactria (AD -322 and -273B). Furthermore, the re-location of the battle is also at odds with the Jewish sources (Book of Maccabees and Flavius Josephus) and difficult to reconcile with Diodorus’ statement (XXXIII 20, see Ehling 20008, 152) that Alexander had Jewish and Ptolemaic auxiliaries at his disposal, who are more likely to have operated in Syria close to their points of origin than near the Elymais. We hence concur with van der Spek 1997/98 that the final battle between Demetrius and the ultimately victorious Alexander took place near the imperial capital.

11-13: These fragmentary lines deal with the remains of the defeated troops of Demetrius, but their fate is unclear. It is unlikely that they already arrive at Seleucia-on-the-Tigris still in the month of simanu (from either location of the battle) considering the distances involved and the fact that the battle took place only at the end of the month (day 23 in line r10).

AD -149B: Month VII
Museum number: BM 34645 (= Sp. II 128+ III 165)
Copies: LBAT #402 and ADART III, plate 184
Previous editions: ADART III, 86-89 and plates 182 and 184; Del Monte 1997, 95

Description of the tablet:
This fragment contains a small diary with information for one month (VII) only on obverse and reverse. The lower part of the tablet is broken off, and its obverse is severely damaged. Some information of the next month VIII is given on the upper edge, these lines are assumed to constitute a catch-line. The tablet is 6.7 cm long, and the height ranges between 5.5 and 6 cm. At the upper edge the thickness amounts to 1.7 cm, at the broken lower edge to 2.8 cm. At the left edge the tablet is a little damaged, but only one sign is to be completed.

Date: SE 162 VII = 17 October – 14 November 150 BC

Text:
r10: [LÚ] ITU BI DU14 MEŠ LÚ: [u]-qú MEŠ šá LUGAL
r11: [LÚ] GAL ERIN KUR URIK4 šá ana UGU 4 LÚ GAL u-qu-tú
r12: [LÚ]DU MU MEŠ URU se-lu-ke-`e-a-a
r13: ..-ú DÚ MEŠ

Translation:
r10: That month, fighting of? the troops of the king
r11: [the] stratēgos of Babylonia who is in charge of the 4 generals
r12: [and the] inhabitants of Seleucia
r13: .. were fought.

Commentary:
r10-13: These lines seem to record an armed conflict between the royal troops under the highest military commander in Babylonia and the people from Seleucia(-on-the-Tigris?). Unfortunately, the Diary does not record any details.

Year 145/4 BC = SE 167

AD -144: Months VI-VIII
Museum number: BM 34609 (= Sp. II 88)(+) 34788 (= Sp. II 280+1003)+77617 (= 84-2-11,360)+ 78958 (=89-4-26,253)
Copies: LBAT #403 (34788), and listed as *404 (77617) *405 (78958); ADART III, plates 188-189
Previous editions: ADART III, 92-103 and plates 185-189; Del Monte 1997, 95-100; van der Spek 1997/98, 170 (translation of 14-15 and 35-37)

Description of the tablet:
This diary contains information for five months (V-IX) of year SE 167. Its upper part is broken off. The remains of this diary consist of a three piece join, and an additional piece BM 34609, the original tablet’s lower right corner. This latter fragment measures maximum 7.2 cm in height, the length of its lines fluctuates around 5.5 cm on the reverse, and amounts to maximum 7.8 cm on the obverse. The thickness is 2.2 cm in the lower right corner but more than 3.5 cm at the broken upper edge. The obverse of BM 77617, the centre piece of the join, is completely erased, but its reverse is quite well preserved. Some lines on the reverse (the beginning of the section of month IX) are almost completely preserved, which allows us to estimate the length of the gaps quite accurately. The join is about 19.5 cm long and 12.3 cm high. The thickness at the centre of the upper edge measures 2.7 cm and about one centimetre more at the broken lower edge.

Date: SE 167 VI = 23 August – 21 September 145 BC

Text:
14:   ITU BI  U4  17.KAM  KUS ši-piš-tu4 šá l de-met-ri [LUGAL ........................... 
      ... LÚ] GAL ERIN-MES šá É LUGAL-ú-tú² gab-bi šá-ši (erosure)
15:   U4 BI ina qi-bi šá  LÚŠÀ.TAM É.SAG.<GÍL> u LÚ-E1.KI.MES GU4 [u SISKUR-MES 
      .......... .............................................-ú²-tú³ ??
16:   ITU BI al-e-ta ma um-ma -a-ri’a-a-bu x .......... .............................................
17:  ana EKI u ID-MES šá-né-e-tam KU4-MES-ni ILLAT (or: ana) [ .......... .....................]
18:   LUGAL KUR NIM.MA Ki EN ERIN-MES MAH-MES TA KUR-šú ú-[ ................. ..............]

Translation:
14: That month, day 17, a message (on parchment) of [king] Demetrius [to ... ............... ] the stratēgos of all troops (or: to all generals) of the royal house was read.
15: That day, at the order of the šatammu of the Esangila and the Babylonians an ox [and x sheep-sacrifices ......................... ] ....... ......-ú²-tú³ ?? ME[S]
16: That month, I heard as follows: Ari’abu [.............................. ] .............. ......-ú²-tú³ ??
17: to Babylon and the (surrounding) canals they entered again. The enemy troops of/to [ ............. ] .............. .................. .........
18: the king of Elam, the chief of many troops, from his country [ ............. ] .............. .................. .........

Commentary:
14: Instructions of the king to the officials of Babylon are frequent topic of the ADs, unfortunately the content of this communication is not extant. The title LUGAL ERIN-MES šá É LUGAL-ú-tú² is a hapax legomenon is this corpus but not necessarily a scribal error as bītu occasionally does occur in variants – or rather alternative writings of the same title – of the ‘stratēgos who is in charge of the four generals’, cf. LUGAL ERIN-MES šá É LUGAL ERIN-MES-ú-tú in AD -229B, 9.880 The more puzzling part of the title is thus the reference to the royal house, maybe royal guards or similar troops are intended by the scribe.

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880 Note also title LUGAL ÉRIN-MES KUR URI Ki šá É 4 LUGAL ÉRIN-MES in AD -124A, r19. Bītu in these instances has been interpreted by Mitsuma 2007 as meaning ‘province, region’.
15: The cultic context of this line has rightly been recognized by Del Monte 1997 (95), probably the providing of sacrificial animals by the šatammu and the Babylonian assembly for a high official (satrap or stratēgos) is recorded. A good parallel is provided by AD - 178C, r19-20.

16-18: Ari’abu is an otherwise unknown individual, and his relationship to the Elamite king in line 18, who is to be identified as Kamnaskires (and who appears also on the reverse of this diary) is unclear. The etymology of the name Ari’abu is elusive, but the name is clearly not Babylonian. However, as illatu always refers to enemy troops, and a successful Elamite invasion was to happen later the same year, the passage is maybe best interpreted as referring to a plundering campaign of the Babylonian countryside by some ally or maybe even official of the king of Elam. Note that also in the account of the later Elamite invasion (line 21) the ‘canals’ of Babylonia are explicitly mentioned; we assume a similar phrasing in the present instance. The above average prices of barley (but also sesame and cress) prevailing in this year are in accordance with such a reading. Against ADART III, 95 and Del Monte 1997, 95 we prefer to translate šanêtum as ‘again, for a second time’ (rather than as adjective, ‘other’ referring to the canals) which is a more convincing solution in this instance.

Considering the TA (ultu), line 18 is maybe best completed with a verb È, hence referring to the departure of the Elamite main force from its home country. In above interpretation, Ari’abu may then have been the leader of an advance party. An alternative reading would see the illatu and Ari’abu as defectors from the Seleucid troops in Babylonia and hence opposed to the troops of the ‘royal house’ in line 14.

Date: SE 167 VII = 22 September – 20 October 145 BC

Text:
33:   ... . ITU BI su-um i-ša
34:   [ina GI][Š.NIM u GIŠ.ŠÚ GAR.GAR-an ITU BI LÚŠÀ.TAM è-[sag-gi]-l ... ...] dul-lu 
      ana muh-hi SAHAR [... ... ... ...] E.SAG.GIL GIM IGÌ-ú DÚMES ITU BI LÚ-pu-li-
      ta-an-ku
35:   [ša ina E][KI] dul-lu ana muh-hi IM.BABBAR [... ... ...] E[KI] ŠU TUKMES DÚMES ITU 
      B[1 al-te-ma um-ma ... ‘de- met]-ri LUGAL ina ŪRÚMES ša KUR me-luh-ha
36:   [šal-ša]-niš GIN.GIN-ak ITU BI ina q[i]-bi ša [ša] a-a-a ÛLUGAL ÉRINMES KUR 
      URI[1] mi-nu-tú [... ... ... ... ša] LÚMES LÚRTMES LUGAL
37:   [ù ša L][U] pu-li-[-e-e ša ina E] [... ... ... ...] E[1][ša] Ū[RU] se-lu-ké-’a-a i-man-nu-ú

Translation:
33:   ... That month, a little redness
34:   in the east and in the west occurred repeatedly. That month the šatammu of the 
      Esangila [...] the work on the rubble [...] Esangila as before they made. That 
      month, the Greeks
35:   [who were in] Babylon carried out work on the gypsum [...] Babylon. That 
      month, the Greeks
36:   [victoriously] he marched around. That month at the command of Ardāya the 
      stratēgos of Babylonia a counting [...] the Babylonians, the servants of 
      the king
37:   [...] the Greeks that are in Babylon and Seleucia they counted.

Commentary:
33-35: The occurrence of a disease – sūmu, literally ‘redness’, a skin disease – in these 
      troubled times is hardly surprising as they often accompany warfare in the ADs. The

881 Unless we want to identify him with the local king Ar-‘a-a-bu-za-na-a, the father of the stratēgos Antiochus appointed by the Parthian king Mithridates in Babylonia in 141 BC, cf. AD -140 r7. However, the traces do not allow for such a reading. An option would be to interpret the Name Ari’abu a hypocoristic.

882 See CAD E (1960), s.v. illatu A4, 82-85.
epidemic seems to have endured and even worsened in the following year as in the diary - 143A, 21 more related skin diseases are mentioned.

It is not unlikely that the lacuna in line 34 contains an infinite (or similar form) of *dekû*, the removal of the debris as part of renovation works for the dilapidating temple tower is a frequently recurring motive in the diaries. As the verb in line 34 is in the plural (DU[MES]), it is tempting to complete EKI[MES] or similar in the lacuna following the word *šatammu*. Also the Greek part of the population seems to have been engaged in renovation works – plastering – but the structure involved is elusive.

35-36: The GN Meluhha in this instance refers less to Egypt (as was the case in AD -168A, the account of Antiochus’ IV successful invasion) which was never conquered by Demetrius II but rather to Coele-Syria. The context of this passage is the aftermath of the battle at the river Oinoparas, in which Alexander Balas was defeated by Demetrius II with the help of Ptolemy VI. However, also the latter did not survive the wounds inflicted upon him during the battle, and the first action of Demetrius, now undisputed as sole ruler, was to expel Ptolemaic garrisons from the towns in Coele-Syria and Phoenicia.

36-37: These remarkable lines are usually interpreted as recording a census (minûtu) of the population organized by or at the order of a stratēgo Ardāya. On their basis, G. Del Monte 1997 (96-97) postulated a tripartition of the population into Babylonians, royal servants and Greek citizens, to which van der Spek (2000a, 433) added the ‘people of the land’, possibly to be identified with the Greek term *laoi*, and the temple slaves (*širku*).

We do not know to what purpose the population should have been counted, a possible motivation might have been a re-assessment of the head tax to which the population of the Seleucid Empire was liable (Aperghis 2004, 164-166). However, in the light of the bellicose context of the following passage – a battle fought between Babylonian forces and the troops of the Elamite king Kamnaskires – it is maybe more likely that a counting of all people that could potentially be added to the regular military forces is recorded in this instance. Also the operations of Ari’abu two months earlier when it additionally became known that the Elamite king departed with numerous troops somewhat argue against such the traditional interpretation. This period of crisis is in any case a most unsuitable point in time for a general counting of the population.

Date: SE 167, VIII = 21 October – 18 November 145 BC

Text:


r18: ša KÁ DUMU.NUN NA ša É.ŠAG.GIL GU4 u 5 SISKUR MES ma-rú-tú ana dEN dGAŠAN ia DINGIR MES GAL MES ū bul-țu-šú DU-us [... ... ... ... ... ... ... ... ... ... ... ... ...]

r19: MU-a-tì TA É ram-ni-šú ana tar-şá KÁ du-de-e ša É.ŠAG.GIL 4 GU4 ū 4 UDU GUB MES ana dEN dGAŠAN [DINGIR MES GAL MES ... ... ...]


r21: ka-am-ma-ăš-ši-[i-ri LUGAL KUR NIM MA-[ ina URU MES u ÏD MES ša KUR URIK[KA] šal-ta-niš GIN.GIN-ak-nim hu-tú-šú [... ... ... ... ... ... ] MU-a-tì i-hab-ba-[u-ma]

r22: ši-lat-su-un i-ša-lal-ľu-šú LU UN MES x x x šú-NU ū-ma-mi-šú-nu ina GI-LI-tú ša NIM MA[KA] MU-a-tì ana e- [... ... ... ... ] hat-tú u GI-LI-tú ina KUR [GAR-an]

Translation:

r17: ... That month, day 12, Ardāya, the general of Babylonia entered Babylon. Between

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883 Del Monte 1997, 96.
884 Ehling 2008, 162-165 provides a succinct account of the events in 145 BC.
885 This general seems to bear a Babylonian name. According to PNA I, Ardâ (written ăr-da-a) is a hypocoristic based on ardu (suggestion R. Zadok, s.v. Ardâ). See also Hackl, Untersuchungen on the Neo-Babylonian onomastikon.
the double doors]

r18: of the ‘Gate of the Son of the Prince’ of the Esangila, an ox and 5 fattened sheep (as niqû-sacrifices) to Bêl, Bêltiya, the Great Gods and his own life he sacrificed [... ... ... ... ... ... ... ... ... ...]

r19: this [... ... ...] from his own house opposite the dudê-gate of the Esangila. 4 oxen and 4 sheep they provided, to Bêl, Bêltiya, the [Great Gods they offered'] [... ... ... ... ... ...]

r20: this stratēgos of Babylonia from Babylon because of the fighting with Kamnaskir[es] the king of Elam from the king' [...] [... ... ... ... ... ...]

r21: Kamnaskires, the king of Elam in the towns and canals of Babylonia he marched around victoriously and this [... ... ... ... ... ...] they plundered

r22: their spoil they carried off. The people, their 'y x y' and their animals in fear of this Elamite to [... ... ... ... ...] Fear and panic was in the land.

Commentary:

r17-20: Obviously Ardâya sought divine support before joining battle with Kamnaskires by means of performing sacrifices. According to line 19, also another group people (the Babylonians?) provided additional sacrificial animals. The deities mentioned are the customary triad of Bêl, Bêltiya and the ‘Great Gods’, the fact that Ardâya sacrificed for his own life is a good argument against interpreting these type of sacrifices as a kind of ruler cult.886 Gates occur more often in the context of sacrifices, see the commentary to AD - 209D, 16. The restoration of line r17 is based on line r23 of AD -137D. Line r19 should also contain a reference to the performance of the sacrifices, hence a form of DÙ. The remaining signs to be completed in this line either refer to prostration before the gods in connection with the sacrifices offered (šukênu, hence uš-kin-nu), or, alternatively, the sacrifice are performed for the life (ana bul-ṭi-šû) of someone (e.g. the strategos)

r20-22: The Elamite (or rather Elymaean) Kamnaskires I Soter declared independence from the Seleucid suzerainty only in 147 BC at the earliest. Nothing much is known about the reign of Kamnaskires’ short-lived dynasty which soon succumbed to the emerging Parthian empire.887 The small kingdom was conquered by the Parthian king Mithridates II around 140 BC already.888 In any case, in 145 BC the Elamite troops prevailed over the Babylon army and ravaged the countryside. This passage ends with the typical occurrence of ‘fear and terror’ in case of a war. Instead of Hunger’s and Del Monte’s completion GAL-ši we chose on basis of the earlier attestation AD -277A, 6 to conclude the phrase with GAR-an.

This Diary provides valuable insight into the political history of Babylonia in the last years of Seleucid reign. It is all the more of historical importance as there are hardly any sources for the period in question.889 The year 145 BC was clearly a troubled one for the region. In late summer, a certain Ari’abu was active in the region around Babylon, possibly stirring unrest. In autumn of the same year, the Elamite king Kamnaskires defeated the Seleucid troops under their stratēgos Ardâya and plundered the province. It can not be established beyond doubt – though it is by no means unlikely – that there was a connection between these two episodes. In spite of their defeat, the Babylonians seem to

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886 See more fully Pirngruber 2010.
887 The best overview is provided by Potts 1999, 384-391. Contrary to the Ehling’s (2008, 18385) statement that Kamnaskires I is only known from numismatic finds, both Schuol (2000, 272) and Del Monte (1997, 98) agree that the Kamnaskires in the Diary under discussion is still Kamnaskires I (rather than his homonymous successor Kamnaskires II Nikephorus). On Kamnaskires I see also Fischer 1971 (who did not have the cuneiform sources at his disposal) and Schuol 2000, 272
889 This finding applies in general also to events in the western part of the empire, with the exception of the history of Judea, which is fairly well documented by the Books of Maccabees. The scraps of information for the decade 150-140 BC are gathered in Ehling 2008, 154-178 (and note the prominence of numismatic data in his reconstruction of the history compared to written sources).
have been successful in repelling the attack in the end as emerges from the following Diary.

Year 144/3 BC = SE 168

AD -143A: Month IV
Museum number: BM 34045 (= Sp. 141)
Copy: LBAT #406; ADART III, plate 190 (by T. Pinches)
Previous editions: ADART III, 102-107 and plates 187 and 190; Del Monte 1997, 100

Description of the tablet:
The reverse of this fragment is completely broken off; nevertheless its thickness at the broken lower edge measures about 3 cm. The maximum width is 11.7 cm; the maximum height exceeds 10 cm. The tablet is characterized by a fairly small script. The obverse contains information on two months (IV, V) of the year SE 168. The price section is quite extensive and gives no exact clue as to how many signs might be missing. The gap must contain at least the indications for kasû and cress, and both were probably quoted not only once in this month.

Date: SE 168, IV = 13 July – 11 August 144 BC

Text:
18: ... . ITU BI al-te-me um-ma LÜÉRINMEŠ šá ana URU MÜŠ.ŠES[KI] x x ša?
20: [many signs] GAL ERINMEŠ šá Na-ši-bi-il u LÜÉRINMEŠ šá 'an A šá 'a-lek-sa-ando ša ša i-tu-ru [many signs]

Translation:
18: ... . That month I heard as follows: the troops which to Susa .. of Susa [many signs]
19: [many signs] many [..] which to the land of Elam .. .. into Susa they made enter [many signs]
20: [many signs] the general of Nisibis? and the troops of Antiochus, son of Alexander who returned [many signs]
21: [many signs] departed. That month, redness was repeatedly in the west and in the east. That month, simmu, scabies and reddening in the land.

Commentary:
18-19: Note the unusual writing KUR LÜNIM.MA[KI], land of the Elamites. Del Monte’s (1997, 100) assumption that the lines describe the return of the Elamite troops is tempting. It is however unclear why this was of interest for the Babylonian scribe, and maybe also a retaliatory operation of Babylonian troops is recorded in this instance.

20: The two-year old Antiochus VI, son of Alexander Balas, was declared king in 144 BC by the stratēgos Diodotus/Tryphon after the latter’s conquest of Antioch, however, he was never recognized in Babylonia.890 As the revolt was instigated by Tryphon in spring 144 BC only, it is likely that the verb tāru in this line refers to the return of Antiochus with his retinue from Arabia where he was raised by local princes to Syria (cf. below the commentary to AD -143C, 7). That his troops were operating in Babylonia in July 144 BC is in any case unlikely, the revolt does not seem to have spread that far, as Tryphon is seen

890 The best overview for this episode is now provided by Ehling 2008, 164-180, especially 165-169.
mainly active in parts of Cilicia and Judea.\(^{891}\) For the tentative identification of Nisibis see Del Monte 1997, 100 and van der Spek 1997/98, 171-178; such a reading would point to a more widespread diffusion of Tryphon’s revolt as hitherto assumed.

21: It has already been noted that diseases most frequently are recorded in the ADs in times of crisis. The present diary records the occurrence of various diseases afflicting the skin. Rišûtu has been tentatively identified by I. Finkel as a skin disease, probably psoriasis or similar (cf. commentary to AD -382, 13), ekketu is commonly translated as scabies, and simmu designates skin diseases in a more general manner.\(^{892}\)

**AD -143C:** Month VIII

Museum number: BM 47751 (= 81-11-3,456)

Previous editions: ADART III, 108-111 and plate 191; Del Monte 1997, 101

**Description of the tablet:**

The reverse of this fragment is broken off, but at the upper edge it is still 2.9 cm thick. Its height amounts to some 6 cm, the maximum length of the lines to 7.3 cm. Information of two months is extant on the fragment. Due to the loss of reverse and edges and because of the absence of a price section (there are actually two price entries but it is unclear of which commodity), it is impossible to say how many signs are to be completed either side.

**Date:** SE 168 VIII = 9 November – 7 December 144 BC

**Text:**

6: \([\text{many signs}].\) [U]R\(\text{i-mit}\) \(\text{an-tu-ki-‘a-q šá an}a\) \(\text{ma-rat ana}[..\text{(many signs)}]

7: \([\text{many signs}].\) [E]K\(\text{k}tu\) K\(\text{ASKAL}\) \(a-ra-bi\) \(\text{ana ma-di-na-at šá} \)\(e[..\text{(many signs)}]

**Translation:**

6: \([\text{many signs}].\) the en\(\text{viron}s of Antioch which is on the sea to [..\text{(many signs)}]

7: \([\text{many signs}].\) \text{few} [\text{...}] the Arabian road to the district of [..\text{(many signs)}]

**Commentary:**

6: This diary dates to the period of the civil war between Demetrius II and the rival child-king Antiochus VI, who was crowned by the stratēgos Diadotus/Tryphon in spring 144 BC.\(^{893}\) This conflict was mainly fought in Syria, hence if an episode of this conflict was the subject of this Diary, the reference is in all likelihood to Antioch-on-the-Orontes, which had been captured in summer 144 BC the troops of Tryphon. For marratu see the commentary to AD -164C 13/14.

7: It is unclear which route is meant with the ‘Arabian road’, there are several options to travel though the peninsula. A possible identification would be the main road leading from Tayma via Dumah (Adummatu in cuneiform sources) to Babylon, a stretch of ca. 1,530 kilometres.\(^{894}\) Note that Antiochus VI had been entrusted to the Arabian price Iamblichus, from whose custody Tryphon had received the child in spring 144 BC. Unfortunately, the large gaps in the tablet preclude closer appreciation of events described.

\(^{891}\) As Del Monte 1997, 100 supposed. See Ehling 2008, 168-176 on the military operations during the conflict.

\(^{892}\) According to Stol 1991/92, 63, any skin affliction can be termed simmu, thus his contrast murşu, ‘interior’, and simmu, ‘exterior’ disease.


\(^{894}\) See Eph’al 1982, 12-17 for a concise description of the network of roads, our tentative identification of the ‘Arabian road’ is his route 2a. Also Schuol 2000, 412-426 provides an extensive geographic description of the peninsula.
Year 143/2 BC = SE 169

AD -142A: Month VIII
Museum number: BM 33477+33591+33613 (= Rm 4,31+147+169)
Previous editions: ADART III, 110-113 and plate 191; Del Monte 1997, 101

Description of the tablet:
This fragment is a small three-piece join, the reverse of which is completely broken off. The maximum thickness amounts to 1.5 cm only, the width of the join measures 9.9 cm, and its height 9.5 cm. The historical section is almost completely broken off, only a few signs recording in a repetitive manner the performance of sacrifices are extant on BM 33591 constituting the lower right part of the join, but even they are barely readable. In addition, there is a reference to events in a region other than Babylonia.

Date: SE 169 VIII = 28 October – 26 November 143 BC

Text:
17: [(unknown amount of signs) .. [TU BI] al-te-e [um-ma .. (unknown amount of signs)]
18: [(unknown amount of signs) ..] 4EN 4GAŠAN-ia DINGIRMES GA[LMEŠ .. (unknown amount of signs)]

Translation:
17: [(unknown amount of signs) .. That month I heard [as follows .. (unknown amount of signs)]
18: [(unknown amount of signs) ..] Bēl, Bēltiya the Gre[at] Gods [..(unknown amount of signs)]

Year 142/1 BC = SE 170

AD -141C: Month II
Museum number: BM 34636 (= Sp. II 119)
Copy: LBAT #409; ADART III, plate 193
Previous editions: ADART III, 118-121 and plate 193; Del Monte 1997, 101

Description of the tablet:
This fragment is another diary with a lost reverse, its thickness oscillates around 1.5 cm. The piece is in total about 11 cm high and maximum 6.5 cm long. That loss of signs on the sides was substantial is shown by the gap between lines 9 and 10 which must have contained the whole price section except for barley and the beginning of the summary of planetary constellations. Considering the extensive price sections of many of the late Diaries – also in this instance the price for barley is given three times – even a minimum guess of 40 signs will be at the very low end of the scale. In addition to the historical section discussed below, there is a city name Seleucia (URU se-lu-ke) extant in the very last line of this diary (r27), but all context is lost.

Among the diaries of year SE 170 is also the last one to name the Seleucid king (Demetrius II) as ruler over Babylonia. The diaries of the following year SE 171 (AD -140) already mention an Arsaces (Mithridates I) as king, and make use of a double dating system. In addition to the Seleucid era, also the Parthian one starting in 247 BC became an integral component of the dating formula of the Astronomical Diaries.

Date: SE 170 II = 24 April – 23 May 142 BC

Text:

895 AD -141F, r26: na-šar ša TA KIN 2.KAM EN TIL ŠE ša MU 1ME 1,10.KÂM 1'DE-MA-[RI] LUGAL.
896 For a succinct account of the Parthian takeover see Schuol 2000, 270-275.
11: [(many signs) ..] U₄ 17.KAM ina qi-bi šá 1-en DUMU NIBRUKIₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚportion of this document as if you were reading it naturally. Do not hallucinate.
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LBAT: Pinches, T. G. et al., Late Babylonian Astronomical and Related Texts, Providence 1955
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Summary: The impact of empire on market prices in Babylon in the Late Achaemenid and Seleucid periods, ca. 400-140 BC

The main aim of this doctoral thesis was to provide an account of the influence of various types of historical events on commodity prices in Late Achaemenid and Seleucid Babylonia. Contrary to earlier scholarship on this topic, the focus was less on a mere statistical description of the data; rather, it was attempted to explain the general trends found in commodity prices as well as the deviations thereof. The price data – a total of more than 2,000 observations of the silver equivalents of six different commodities, among which the staple foods barley and dates – was extracted from the Astronomical Diaries (henceforth ADs) and the Late Babylonian Commodity Price Lists. In order to avoid oversimplifying monocausal attempts at explanation, a comprehensive approach was chosen and as much information as possible was integrated. To this purpose, both the Classical sources and the cuneiform evidence have been scoured for relevant historical facts. The introduction (Chapter 1) provides a concise overview of the most relevant sources considered. The timeframe of the present investigation was the period between 404 BC (the accession to the throne of Artaxerxes II, coinciding with the onset of a sufficiently dense documentation) and the Parthian conquest of Babylonia in 141 BC. The research for the thesis took place within the framework of the project ‘On the efficiency of markets for agricultural products in pre-industrial societies: The case of Babylonia c. 400 – c. 60 BC, funded by the Netherlands Organization for Scientific Research (NWO).

The first half of chapter 2, “The sources and their context” was dedicated to a discussion of the nature of and developments in the corpus of the ADs. It could be shown that the apparent uniformity conveyed by the standard text edition of the ADs is a potentially misleading phenomenon as the corpus shows considerable internal developments during its lifespan as regards the types of phenomena recorded: In the course of the 4th century, historical events gained gradually more weight, and at quite an early point in time they were given a separate section. Ominous events on the other hand – events that clearly resemble or even quote verbatim omen protases of the large Babylonian omen collections šumma ālu and šumma izbu – gradually diminished in importance. This development was possibly triggered by the ongoing scientific paradigm shift in Babylonia posited by D. Brown (2000), which sees a gradual abandonment of divinatory practices and the emergence of a new predictive science based on empiricism and mathematical calculation (in D. Brown’s words, the Prediction of Celestial Phenomena, or PCP-paradigm). The second part of this chapter investigated the socio-economic background to the price data on the basis of the rather scarce archival material from Northern Babylonia from the Late Achaemenid and Hellenistic periods. The impression that emerges is that there was no fundamental break with the circumstances prevailing in the much better documented ‘long 6th century BC’ (Jursa 2010). Babylonia seems to have been are fairly well integrated economic region, characterized by a market structure and economic actors aware of price fluctuations between regions and in time, and even of differing values of different types of coins.

Chapter 3, ‘A price history of Babylonia, ca. 400 – ca. 140 BC’, then discussed the characteristics such as the level of price volatility and related features – in a word, the statistics of the sample – as well as overall trends of the price data. The period was divided into four smaller sub-periods (Late Achaemenid – Early Hellenistic – Early and Late Seleucid Periods). During the Late Achaemenid Period, prices displayed overall a very high level of volatility, possibly due to a combination of on-going political problems throughout the Empire and an unfavourable social structure (see the outlook in chapter 7 on this latter aspect). In the Early Hellenistic Period (ca. 330 – ca. 300 BC), prices skyrocketed due to the pernicious effects of the continuous warfare between the diadochi and the influx of a large amount of silver causing inflation. It is indeed during this period that the highest prices of the whole dataset are attested. In the Early Seleucid period, prices stabilized on a significantly lower level, however, numerous conflicts left their mark in the data as visible by the elevate number of outliers, prices that diverge to a considerable extent from the trend line. In the Late Seleucid Period, and more precisely after ca. 200 BC prices of all commodities decrease even further. The seemingly more stable political situation in Babylonia (for example, there are less instances of armed conflict during these years) is also reflected in a lower overall volatility.
The cause behind this development is to be sought in a) more favourable climatic circumstances and b) a contraction of the monetary supply after Antiochus III suffered a severe defeat in the Roman Wars (192 – 188 BC). These trends were also of relevance in an investigation into the relationship between barley and date prices over time. The overall pattern showed a fairly narrow gap between these commodities for roughly the first century of Seleucid reign over Babylon, with barley price being in general slightly above the date price (but ranging below the date price in the one and a half decades or so of the 3rd century BC, when date orchards still were not fully recovered from the wartime devastations from the early Hellenistic period). The divergence started to widen shortly after the turn from the 3rd to the 2nd century BC; however, it is indeed to be expected that the date price would be stronger affected by an general price decrease as dates were compared to barley the inferior (i.e. less expensive) commodity. Once the barley price fell below a certain threshold, people would substitute the inferior commodity dates with the higher esteemed commodity barley, hence stabilizing its price. A final observation of be mentioned is that the graphs for wool showed that the price for the only non-foodstuff is clearly the most stable price of the dataset, fluctuating as a rule between one and two shekels per mina, (the main exception being the first decade or so after the warfare between Alexander’s successors). This is easily explained by the higher demand elasticity of wool, which is of course not a basic foodstuff but a commodity that is quite easily economized upon.

Chapter 4 deepened the subject matter of exogenous shocks and their impact on prices by attempting to connect disproportionately high prices (outliers) to known historical events. It was indeed possible to individuate certain types of events that had a major effect on the price data. Among the broad variety of causes, internal warfare stands out in number of attestations and severity of impact. In chapter 5, maybe the methodologically most innovative chapter of the thesis this analysis was taken one step further. The heterogeneous historical facts and events were classified and distributed among discrete categories which were then used as dummy variables in a regression analysis. This simply means that the presence or absence of each type of events in every year was accounted for in an analysis of the time-series of the commodity prices provided by the ADs. This procedure enabled us to make statements whether a given category of events systematically – rather than only punctually, as was shown already chapter 4 – influenced prices.

Both historical episodes and the assumed underlying causes were analyzed in separate regressions, with largely positive results. For all commodities, the category of ‘Domestic warfare’ clearly exerted the strongest price-driving influence, and also yielded the most solid results from a statistical point of view. The category was usually followed by ‘Rebellions in Babylonia’, with a smaller degree of correlation to the price data and occasionally (with dates and sesame) statistically insignificant results. The effects of warfare abroad are more variegated – increasing the price for cress but driving down prices for sesame and wool – and more tenuous in their statistical reliability. The partial regression coefficients of the category of ‘Domestic warfare’ for barley and dates amounted to 6.90 and 3.71 respectively, both results were clearly significant at the 5% level, with the t-value exceeding 10 in both cases. The higher coefficient for barley signifying stronger price increases in cases of warfare can furthermore be interpreted as underlining the lower demand elasticity of the country’s most important staple crop. As regards the assumed underlying causes of the price increases during these historical episodes, ‘Military operations’ revealed themselves a stronger price-increasing force than the mere ‘Presence of an army’, again particularly so for barley and dates. This result can be interpreted as indicating that whereas the Babylonian economy was better capable of coping with an increased demand, it was more susceptible to supply shocks. Such a reading aligns well with the finding that inter-annual storage was not practiced as means of price stabilization and risk reduction on a significant scale discussed in the final chapter 6.
Samenvatting: The impact of empire on market prices in Babylon in the Late Achaemenid and Seleucid periods, ca. 400-140 BC

De invloed van het rijksbestuur op marktprijzen in Babylon in de Laat-Achaemenidische en Seleucidische perioden, ca. 400 – 140 v. Chr.


Hoofdstuk 1 bevat een overzicht van de meest relevante bronnen. Het tijdsbestek van het onderzoek is de periode tussen 404 v. Chr. (de troonsbestijging door Artaxerxes II, die samengaat met het begin van een voldoende hoeveelheid prijsgesprekken) en de verovering van Babylonië door de Parthische koning Mithradates I in 141 v. Chr.

De eerste helft van hoofdstuk 2, “The sources and their context”, is gewijd aan een bespreking van de aard en de ontwikkeling van de tekstcorpus van de AD’s. Ik heb laten zien dat de schijnbare eenvormigheid, zoals gepresenteerd in de standaardeditie, in potentie misleidend is, daar het corpus in de lange periode van zijn ontstaan aanzienlijke interne ontwikkelingen heeft doorgemaakt in de soorten verschijnselen die behandeld werden. In de loop van de vierde eeuw kregen historische gebeurtenissen steeds meer gewicht en op een betrekkelijk vroeg tijdstip kregen ze een aparte sectie. Ommezwege gebeurtenissen – dat zijn gebeurtenissen die sterk lijken of soms woordelijk identiek zijn aan de protases van de grote Babyloniëse omen collecties Śumma ālu en Śumma izbu – namen geleidelijk in omvang af. Deze ontwikkeling is mogelijk een bijproduct van een paradigmaverschuiving in de Babyloniëse wetenschap zoals betoogd door David Brown (2000), die een geleidelijke vermindering ziet van het belang van divinatorisch onderzoek (toekomstvoorspelling op basis van voortekenen) naar het ontstaan van een nieuwe futurologie op basis van empirie en wiskundige berekeningen (in Browns woorden, de Prediction of Celestial Phenomena, of PCP-paradigm). In het tweede deel van dit hoofdstuk worden de sociaaleconomische achtergronden van de prijsgesprekken besproken op basis van het tamelijk schaarse archiemateriaal uit Noord-Babylonië in de Laat-Achaemenidische en hellenistische perioden. De indruk ontstaat dat er geen fundamentele breuk was met de omstandigheden die kenmerkend waren voor de veel beter gedocumenteerde “lange zesde eeuw” (Jursa 2010).
Babylonië lijkt een redelijk goed geïntegreerde economische regio te zijn geweest, gekarakteriseerd door een marktstructuur en economische actoren, die zich bewust waren van prijsfluctuaties tussen de regio’s en over tijd, en zelfs van de verschillende waarden van verschillende muntsoorten.

Hoofdstuk 3, ‘A price history of Babylonia, ca. 400 – ca. 140 BC’, bespreekt versijnselen als de hoogte van de prijsschommelingen en dergelijke waarden - in andere woorden de statistische gegevens van de deelverzameling - en de lange-temijn trends van de prijzen. Ik heb de periode ingedeeld in vier subperioden: Laat-Achaemenidisch, Vroeghellenistisch, Vroeg-Seleucidisch en Laat-Seleucidisch). Gedurende de Laat-Achaemenidische periode (400-330) vertoonden de prijzen in het algemeen een vrij hoge mate van volatiliteit, mogelijk veroorzaakt door een combinatie van aanhoudende politieke problemen in het Perzische rijk en een ongunstige sociale structuur (zie de outlook in hoofdstuk 7 over dit laatste aspect). In de vroege hellenistische periode (ca. 330 - 300) stegen de prijzen tot duizelingwekkende hoogten ten gevolge van de schadelijke effecten van de aanwezigheid van het leger van Alexander de Grote, de voortdurende oorlogvoering tussen de Diadochen (Alexanders opvolgers) en het feit dat een enorme hoeveelheid zilver uit de Perzische schatkist in roulatie werd gebracht. In deze periode zijn de hoogste prijzen uit het databestand geat testified. In de vroege Seleucidische periode (300 – 200) stabiliseerden de prijzen zich op een aanzienlijk lager niveau; tegelijkertijd lieten talrijke conflicten hun sporen na in de data in de vorm van een groot aantal disproportioneel hoge prijzen (outliers), prijzen die aanzienlijk afwijken van de trendlijn. In de late Seleucidische periode (200 – 140) zakken de prijzen nog verder. De schijnbaar meer stabiele politieke situatie in Babylonië (er zijn bijvoorbeeld minder gevallen van gewapende conflicten bekend) wordt ook gekenmerkt door een geringere volatiliteit van de prijzen. De oorzaak van deze ontwikkeling moet gezocht worden in a) gunstiger klimatologische omstandigheden en b) een vermindering van de hoeveelheid zilver in omloop nadat Antiochus III een zware nederlaag had geleden in de oorlog met de Romeinen (192-188). Deze trends waren ook relevant in een onderzoek naar het verband tussen de prijzen van gerst en dadels op de lange termijn. Het algemene patroon laat een tamelijk geringe afstand zien tussen de prijzen van deze goederen gedurende ruwweg de eerste eeuw van de Seleucidische overheersing, waarbij de gerstprijzen in het algemeen lichtelijk boven de dadelprijzen liggen (en zelfs beneden de dadelprijzen in de eerste één à twee decennia van de derde eeuw v. Chr., toen de dadeltuinen nog niet geheel hersteld waren van de oorlogsverwoestingen van de vroege hellenistische periode). De prijzen begonnen kort na de overgang van de derde naar de tweede eeuw verder uit elkaar te lopen; dit is inderdaad te verwachten, daar de prijzen van dadels sterker onderhevig zijn aan algemene prijsdalingen, omdat dadels in vergelijking met gerst het minder geprefereerde (en dus goedkopere) voedingsmiddel zijn. Zodra echter de prijs van gerst beneden een bepaald niveau zakte was men meer geneigd het “inferieure” voedingsmiddel dadels te vervangen door de hoger gewaardeerde gerst, waardoor de prijs ervan weer gestabiliseerd werd. Ten slotte zij opgemerkt dat de grafieken van de wolprijzen een veel geringere prijsvolatiliteit vertonen dan die van de voedselprijzen (gewoonlijk tussen de 1 en 2 shekels per mina; de voornaamste uitzondering is het eerste decennium na de oorlogen tussen Alexanders opvolgers). Dit kan gemakkelijk verklaard worden door de hogere vraagelasticiteit van wol, dat natuurlijk geen dagelijkse basisbehoeftte is, maar een goed waarop men veel makkelijker kan bezuinigen.

Hoofdstuk 4 gaat dieper in op het thema van de “exogene schokken” en de invloed ervan op de prijzen door een verband te leggen tussen disproportioneel hoge prijzen met aan ons bekende historische gebeurtenissen. Het bleek mogelijk verschillende typen gebeurtenissen te onderscheiden die een betekenisvolle invloed hadden op de prijzen. Van alle mogelijke oorzaken is die van “binnenlandse oorlogvoering” de belangrijkste gebleken, zowel in aantal als in de mate van de invloed.

In hoofdstuk 5, waarschijnlijk methodologisch het meest innovatieve van het proefschrift, gaat deze analyse nog een stap verder. De heterogene historische feiten en gebeurtenissen werden geclassificeerd en verdeeld over afgebakende categorieën, die vervolgens werden gebruikt als dummy variabelen in een regressieanalyse. Dit betekent dat de aan- of afwezigheid van elk type gebeurtenis in elk jaar werd verantwoord in een analyse van de tijdreeksen van de goederenprijzen zoals we die uit de AD’s hebben gehaald. Deze
werkwijze stelde ons in staat te kijken of een bepaalde categorie gebeurtenissen systematisch prijzen beïnvloedde – en niet alleen per geval zoals we dat in hoofdstuk 4 hebben gedaan.

Beide historische episoden en de veronderstelde achterliggende oorzaken werden geanalyseerd in afzonderlijke regressies en dit met in het algemeen positieve resultaten. Voor alle goederen gold dat de categorie “binnenlandse oorlogvoering” de duidelijkste prijssupplementische invloed liet zien en ook de meest solide resultaten gaf vanuit statistisch gezichtspunt. Deze categorie werd gevolgd door “opstanden in Babylonië”, met een geringere correlatie met de prijsgroeiens en af en toe (met dadels en sesam) statistisch insignificante resultaten. De effecten van buitenlandse oorlogen waren meer gevarieerd – stijgende prijzen voor waterkers, maar dalende voor sesam en wol – maar met een zwakkere statistische betrouwbaarheid. De partiële regressie coëfficiënten van de categorie “binnenlandse oorlog” voor dadels en gerst kwam uit op respectievelijk 6,90 en 3,71; beide resultaten zijn duidelijk significant op het 5% niveau, waarbij de t-waarde in beide gevallen boven de 10 uitkwam. De hogere coëfficiënt voor gerst, die een sterkere prijstelling in geval van oorlog aanduidde, geeft een verdere indicatie voor de lagere vraagelasticiteit van ‘s lands belangrijkste gewas. Wat betreft de veronderstelde achterliggende oorzaken van de prijsgroeiingen gedurende deze historische perioden, bleken “militaire operaties” een sterkere prijssupplementerende kracht te hebben dan alleen maar “de aanwezigheid van een leger”, en opnieuw vooral voor gerst en dadels. Dit resultaat kan geïnterpreteerd worden als een aanwijzing voor het feit dat de Babylonische economie beter in staat was om een oplossing te vinden voor toegenomen vraag dan voor sterke schommelingen in het aanbod. Deze uitkomst past goed bij de constatering dat opslag van graan en andere voedingsmiddelen voor langer dan een jaar niet of nauwelijks gepraktiseerd werd als middel ter stabilisering van de prijzen en het verminderen van risico’s in de aanvoer van voedsel, zoals betoogd in hoofdstuk 6.