

## 1. GENERAL REMARKS ON MESOPOTAMIAN CHRONOLOGY

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*“So wenig absolute Datierung ein Selbstzweck und Chronologie eine autonome Wissenschaft ist, so ist andererseits umsichtige und tendenzfreie chronologische Grundlegung das vornehmste Postulat jeder Geschichtsschreibung.”*

LANDSBERGER (1954) 48

### 1.1. Preface

Absolute Mesopotamian chronology is securely established for most of 1<sup>st</sup> millennium BC Babylonia and Assyria. Lengths of reigns, chronologically fixed by astronomical observations, are known from Nabopolassar (626–605) onwards. It is probable also that the Ptolemaic canon from ca. 150 AD, which lists the Babylonian kings and their reigns beginning with Nabonassar (747–734) and ending with the Roman emperor Antoninus Pius, was based on Babylonian eclipse records, which augmented the historical dates.<sup>1</sup> Specific year dates of certain kings can be set because of astronomical observations (such as the three lunar eclipses during the reign of Merodach-baladan). The reign lengths of the Babylonian kings correspond to those known from Berossus (“Babylonian history”: *Babyloniaca* or *Chaldaica*),<sup>2</sup> a Babylonian priest during the Seleucid period (first half of the 3<sup>rd</sup> cent. BC). The Babylonian chronology for the first millennium BC of Ptolemy and Berossus has been confirmed by the Chronicle series and the Babylonian King List A (BKL A). Before the 8<sup>th</sup> century no continuous sequence of Babylonian kings can be securely established. However, Ptolemy lists some Neo-Assyrian kings in parallel with Babylonian kings, and because the Assyrian King List (AKL) and the Assyrian Eponym List (EL) enable us to set an absolute chronology from 910 to 649 BC, the absolute dates of contemporary Babylonian kings can be fixed via synchronisms. A solar eclipse mentioned in the Eponym Chronicle provides a reliable absolute date for the year of eponym Būr-Saggile:<sup>3</sup> 763 BC.

Prior to 910 there are some gaps in our knowledge of eponyms. Assyrian royal chronology can go back as far as ca. 1420/30, the reign of Enlil-nāšir II, with an uncertainty of ten years. Beyond this, reign lengths are poorly known, so that dates cannot be as certain. For instance the reign lengths of Enlil-nāšir’s predecessors have been lost in all versions of the AKL. In Babylonia, most kings’ reign lengths are known for the second half of the 2<sup>nd</sup> millennium; however, these data are only sufficient for a relative chronology. For absolute dates one has to rely on synchronisms with Assyria.

Around the middle of the 2<sup>nd</sup> millennium, after the end of the Babylon I dynasty and during the early Kassite period, there is a chronological gap in all of our information from Mesopotamia, the Dark Age, which makes it impossible to establish absolute chronology of the earlier half of the millennium (and earlier). Since we lack absolute dates, which could be anchored within the first half of the 2<sup>nd</sup>, or the end of the 3<sup>rd</sup> millennia, we simply do not know the actual length of the Dark Age. Only relative dates can be provided prior to ca. 1430/20. Chronological relations and synchronisms are sufficiently known for the time before the onset of the Dark Age: Hence one of the primary tasks is the coordination of the chronological data of early 2<sup>nd</sup> millennium BC Assyria, Babylonia, Egypt and Anatolia (Ḫatti). The central problem of Mesopotamian chronology is the dating of the Babylon I dynasty. Attempts have been made to compute an absolute date for this dynasty by means of the “Venus Tablet” written, it would seem, during the reign of the Old Babylonian king Ammišaduqa. But the data in the table is difficult to interpret and has resulted in three chronologies, the high, the middle and the low. In most publications the middle chronology (MC) is used. But this is for reasons of “convenience”, not because the middle chronology has been “proven”.

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<sup>1</sup> See GRAYSON (1980–1983) 101. On Babylonian chronology of the 1<sup>st</sup> mill BC see PARKER – DUBBERSTEIN (1956). For newly discovered chronicles see <http://www.livius.org/cg-cm/chronicles/chron00.html> (Oct. 2007).

<sup>2</sup> See for example CORNELIUS (1942) 1–16.

<sup>3</sup> UNGNAD (1938) 414 and 430, rev. 7: “*In the month of Simanu, there took place a solar eclipse.*” This eclipse has been dated to 15 June 763 BC.

This “introduction” to the chronology of 2<sup>nd</sup> millennium Mesopotamia includes the topics which form the basis for chronological discussions, such as the dating methods and calendars of Mesopotamia, relevant sources for Mesopotamian chronology (king lists, chronicles, year-names, eponyms and other sources containing chronological information) and natural science information (<sup>14</sup>C and dendrochronological data).

Each chronological topic is discussed in a separate chapter. The topics – hence chapters – are arranged alphabetically, not in order of importance: the chronological importance of each topic is considered in a summary at the end of the chapter. Chapter 1 – the present chapter – is an overview of the problems of 2<sup>nd</sup> millennium BC Mesopotamian chronology. Throughout the book previous research in the individual topics will be reviewed at some length with constant reference to the relevant publications and related topics.

The sources of chronologically important texts, as well as their editions and general bibliography and their historical and chronological value will be discussed in some detail. Each chapter begins with a short overview of relevant topics and throughout each chapter is an ongoing review of remarks by various scholars and their arguments for one or another chronology. The most important synchronisms between Mesopotamian dynasties and peripheral areas are included in order to refine absolute Mesopotamian chronology.<sup>4</sup> Graphs and tables are used to illustrate synchronisms and underscore chronological problems. At the end of each chapter links are provided to related topics treated within this book.

This book is not an argument for any of the currently proposed chronologies, but an extensive and critical review of existing studies. It is hoped that it

will offer insights into the current state of chronological research in Ancient Near Eastern studies.

### 1.2. From Relative to Absolute Chronology

Determining the sequence and reign lengths of rulers is the first step in establishing a period’s relative chronology. The next step is to fix this floating sequence in terms of the Christian era, thus establishing an absolute chronology.<sup>5</sup> This usually can be done with astronomically fixed dates and datable historical reports, as has been done for the 1<sup>st</sup> millennium. Since the sources for the 3<sup>rd</sup> millennium are too unreliable and insufficient to provide an absolute chronology, the absolute dates of the 3<sup>rd</sup> millennium will have to be based on those of the 2<sup>nd</sup> millennium, which is the subject of this book.

In his study of 2<sup>nd</sup> millennium chronology on the basis of the texts from Alalah, ZEEB (2001) 70 pointed out that in the study of relative chronology and synchronisms we are dealing with time spans rather than with specific “moments in time”. Synchronization is often obscured by the various modern terms used to label a specific period of time or culture. This is especially the case for archaeological sources, which are not directly linked with historical events. A study by EINWAG (1998) dealing with Syrian pottery from the beginning of the 2<sup>nd</sup> millennium (roughly speaking, the Middle Bronze Age [MBA]) has discussed the origins and use of terminologies for Syria-Palestine and Mesopotamia and their value for chronology.<sup>6</sup> Einwag warned that it is no more valid to apply the terminology of Mesopotamian ceramic periods to that of Syria than it is to apply the terminology of Syrian ceramic periods to those of Palestine (and he criticized the false synthesis implied by the term “Syro-Palestinian”). In none of these cases have absolute dates been securely fixed to ceramic changes. Moreover, ceramic

<sup>4</sup> On the importance of the convergence of data from astronomical, archaeological, historical and other (scientific) sources and methods see ZEEB (2001) 71–72. One of the aims of SCIEEM 2000 is to combine the results of the natural sciences with those of the humanities.

<sup>5</sup> On this basic approach see BRINKMAN, PPKB 37. The interesting issue of the concept “time” in the Ancient Near East will not be treated here: see RINGER (2002) 6–26 or WILCKE (1982) 31–52. However, some relevant issues can be found in the chapter **Year**.

<sup>6</sup> On the dates for the MBA, which is contemporary with Egypt’s Middle Kingdom (MBA II A) and Hyksos period (MBA II B), and its subphases (A and B) in the Levant, see BIETAK (ed.), *The Middle Bronze Age in the Levant, Proceedings*

*of an International Conference on MB IIA Ceramic in Vienna 24<sup>th</sup>–26<sup>th</sup> of January 2001*, CChEM 3 (2002). Roughly speaking, MBA II A is between the 20<sup>th</sup> and 18<sup>th</sup> cent. BC, MBA II B between the 18<sup>th</sup> and 16<sup>th</sup> cent. BC. Bietak proposed comparatively low dates for MBA (II): 1925/00–1720 and 1710–1680 BC. Ward, Dever and Weinstein offer higher dates: Ward and Dever 2000/1950–1775 and 1775–1750, Weinstein 1900–1740/30 and 1740–1720/10 BC. Further observations on stratigraphy and future <sup>14</sup>C analysis will hopefully provide decisive evidence for one way or another. However for the time being these <sup>14</sup>C results are still ca. 50–100 years too high with respect to <sup>14</sup>C-data connected with the eruption of Thera.

changes do not necessarily run parallel with historical developments.<sup>7</sup> Einwag pointed out that both terminologies (Old Syrian and Early Bronze Age) can be employed as long as their origins are kept in mind. He preferred historical designations, especially when a connection to a specific ruler or reign can be shown (→ **1.7. Periodization**).

Similarly, in historical and chronological research based on textual material scholars sometimes make incorrect assumptions about parallels and synchronisms resulting in incorrect conclusions. Most of the recently published proposed results rely on already established chronological systems, even though this is seldom explained or explicitly stated. Advances in historical research in the middle of the 2<sup>nd</sup> millennium will certainly clarify chronological issues.

Historical studies require a firm chronological framework. The AKL, EL, YL, BKL and the chronicles are the main sources for such study. One of the major tasks is to integrate the different time frames of these textual sources into a single independent one.<sup>8</sup> The evidence of archaeology (glyptic, pottery, etc.), orthography, <sup>14</sup>C dating, dendrochronology, astronomy, etc. must also be taken into account. Dendrochronological, radiocarbon and astronomical data are often considered to provide “hard facts” for absolute chronology.<sup>9</sup> Each of these dating techniques has methodological difficulties. Although the accuracy of the data-evaluation has increased in recent years, we are still confronted with relative dates as a consequence of floating dendrochronological results and the fact that <sup>14</sup>C dating has an uncertainty measured in decades. Thus GASCHE (2003) 206–208 labeled <sup>14</sup>C, dendrochronology and thermoluminescence as “pseudo-absolute” methods. (Unfortunately, it is rare to have as direct a correlation between historical and

natural science data in an archaeological find as that attested for Šamši-Adad I at Acem-Höyük.<sup>10</sup>) Theoretically all techniques can produce “hard facts”: Texts, for example, can potentially provide a date that has the chronological accuracy of one day. Astronomical observations recorded in the texts from the Ancient Near East relating to specific historical events or persons have greatly contributed to Mesopotamian chronology and still dominate chronological discussions – as in the new date for Šamši-Adad I, the 39<sup>th</sup> king of the AKL, based on a solar eclipse mentioned in the MEC.

The basis for chronology after the middle of the 15<sup>th</sup> cent. is the AKL and BKL in combination with dated tablets and the Assyrian eponym lists (ELs). For the second half of the 2<sup>nd</sup> millennium an uncertainty of 10 years is to be reckoned with, as has been demonstrated by BOESE – WILHELM in 1979 (“lowered Middle Assyrian chronology”). It is still uncertain how much time separated the middle of the 15<sup>th</sup> cent. from the end of the Babylon I dynasty (**1595 = MC, 1531 = LC, 1651 = HC, 1499 = NC**, sometimes also referred to as the “ULC”<sup>11</sup> → **Astronomical Data**).

All encyclopedias of the recent past, including the CAH (1970), as well as many specific studies generally adopt the MC as a working basis. However, this is merely a compromise within the discussion of Mesopotamian chronology. In fact today the MC is considered the least likely chronology. According to the MC the well-known Hammurāpi<sup>2</sup> of the Babylon I dynasty dates to 1792–1750. READE (2001) 2, who has derived the same low chronology as GASCHE *et al.* in *Dating ...* (i.e. 1499 BC for the end of the Babylon I dynasty), pointed out that the MC has been trusted by most scholars “*who have not realized the provisional nature of convention*”. After the discovery of the synchronism

<sup>7</sup> See BIETAK, *High ...* 3, 56 on the problems of synchronizing Egyptian and Palestinian chronology: For recent developments of SCIEM 2000 within this field note the studies published in the series CChEM and the journal *Ä&L*. A promising link between Egyptian, Palestinian and Mesopotamian chronology seems to be the site of Hazor (Ḥaṣor): for recent studies on chronological issues see Ben-Tor, *Ä&L* 14 (2004) 45–68 (favoring the NC by GASCHE *et al.* based on the dating of “Greater Hazor” and its link via Mari to Mesopotamian chronology; the archaeological material is compared with the one from Tell ed-Dab’a) and VAN KOPPEN, CChEM 9 (2007) 367–374 (with historical considerations which give a *terminus post quem* date for the construction of the defence works and the rise of Hazor as a supraregional political power in the MBA II B period). For a list of cuneiform texts from Hazor see CHARPIN (2004) 479–480.

<sup>8</sup> See Whiting’s posting on <https://listhost.uchicago.edu/pipermail/ane/2004-July/014327.html> (Aug. 2007)

<sup>9</sup> See HUBER (1999–2000) 68 and BLOCHER (2003) 380 on the distinction between “hard” and “soft” sciences.

<sup>10</sup> On the outline of the projects involved in SCIEM 2000 see BIETAK (2000).

<sup>11</sup> The ULC is actually a reduction of the LC by another 56/64 years according to the Venus Tablet data and the lunar calendar known from EAE 63 (=1467 BC): VAN DER MEER (1955), ALBRIGHT, *BASOR* 139 (1955) 22 and *BASOR* 144 (1956) 26ff. Unfortunately, the terms ULC and NC proposed by GASCHE *et al.* are often confused, but nowadays few scholars refer to the ULC as such anymore. The ULC can now be definitely excluded for historical reasons and from **generation** counting: WILHELM, MDAR 77.

between Hammu-rāpi' and Šamši-Adad I it became evident from a historical point of view that the HC, which like other chronologies is primarily based on the evaluation of astronomical data (the VT combined with lunar eclipses), cannot be correct. During recent years writers specifically dealing with chronological matters have preferred the LC, NC, or a lowered MC.

In response to the latest reassessment of absolute chronology of Mesopotamia undertaken by an interdisciplinary team under the direction of GASCHE (*Dating ...*), the British Museum archaeologist COLLON (2000) 6–9 wrote a short note on absolute dates. She touched upon the most important issues and topics crucial for the absolute chronology of Mesopotamia and the Eastern Mediterranean during the past few years; Specifically:

- **Synchronisms** in the Ancient Near East and their implication for absolute dating.<sup>12</sup>
- A reassessment of Mesopotamian chronology in view of the **NC** proposed by GASCHE *et al.*, *Dating ...*
- **Astronomical data** as the basis for the **HC** as proposed by HUBER, *High ...* 1, 5–17.
- **Dendrochronological data** and the **Thera eruption**.<sup>13</sup>
- Aegean chronology based on **radiocarbon data** and the **eruption of Thera**.<sup>14</sup>
- Conflicts between **archaeology and science** with respect to Egyptian chronology (see BIETAK [2003]

23–33.<sup>15</sup>) The main problem remains the **correlation of Aegean with Near Eastern chronologies**.

Collon decided to stick to the MC although the archaeological data, such as glyptic art,<sup>16</sup> suggest the LC (a lowering of 64 years) or even the NC (a lowering of 96 years). She stated: “We would be foolish to go ahead with an ultra-low chronology based on Mesopotamian data, central Mesopotamian pottery, and seals alone” (p. 8). Collon correctly pointed out that any lowering of chronology must be done in conjunction with Egyptian chronology taking into account geographical, historical, archaeological, scientific, synchronistic and other considerations.<sup>17</sup>

In recent studies most scholars have opted not to choose between the MC or LC and have therefore stuck to both of them or a solution in between.<sup>18</sup> The UHC, accepted in the beginning of the 20<sup>th</sup> cent., can be ruled out because of the important synchronism between Mari and Babylon. The most prominent representatives of the HC/UHC in the 1950s were LANDSBERGER (1954) and GOETZE (1957). The HC is now accepted only by Huber and a few philologists such as DALLEY (1984), FRAYNE, RIME 4 (1990) xxxi, HUNGER – PINGREE (1999) and SELZ (2002) 23<sup>35</sup>, who mostly base their arguments on the astronomical calculations of Huber. However, an even higher chronology than the HC has been proposed by EDER in 2003 and 2004 based on the material of Alalah in

<sup>12</sup> E.g. HEINZ (1992), GATES, *High ...* 2, 60–82.

<sup>13</sup> See e.g. KUNIHOLM *et al.* (1996) 780–783 and MANNING *et al.* (2001) 2532–2535. See [http://www.santorini-eruption.org.uk/by D.A. Sewell and http://www.arts.cornell.edu/classics/Faculty/SManning\\_files/testoftime.pdf](http://www.santorini-eruption.org.uk/by D.A. Sewell and http://www.arts.cornell.edu/classics/Faculty/SManning_files/testoftime.pdf) by S.A. Manning (both Oct. 2007).

<sup>14</sup> Warren with various articles, and MANNING, *A Test of Time*, Oxford (1999) give the very high eruption date of 1645 BC ± 7 years (instead of the more usual 1500–1520) linked to the **ice core analysis of Greenland**, which implies a High Aegean Chronology. Manning's dating is based mainly on dendrochronology and high-precision <sup>14</sup>C-dates. However, so far these dates are chronologically unsatisfactory, as has been shown by BIETAK in his review of Manning in *BiOr* 61 (2004) 199–222. More on the difficulties in establishing a chronology for the Eastern Mediterranean due to the discrepancy between the radiocarbon method and the historical chronology can be found in BIETAK – HÖFLMAYER (2007) 13–23. On this most important issue see HAMMER *et al.* (2003) 87–94 and BICHLER *et al.* (2003) 11–21. The newest dendrochronological data is based on this high date for the Thera eruption, which from the archaeological point of view is very unlikely.

<sup>15</sup> Tell ed-Dab'a is a key site linking the Aegean (Minoan frescoes) with the Near East (Hyksos) at the beginning of Egypt's 18<sup>th</sup> Dynasty.

<sup>16</sup> See for instance GUALANDI (1998) 133–134 or STIEHLER-ALEGRIA (1999) 95–97. A study on the late Old Babylonian and Kassite-style seals was published by COLBOW (2002): see esp. pp. 217–219 and 257–259. GASCHE (2003) 211–212 repeated the need for a chronology shorter than the MC on the basis of archaeological evidence and the fact that the Old and Middle Babylonian ceramic sequences can be hardly separated from each other by as much as two centuries. Some critical remarks on the elimination of the 16<sup>th</sup> cent. from an archaeological point of view have been offered by LIVERANI (2005) 214–215.

<sup>17</sup> This is the aim of the special research program SCIEM 2000: BIETAK (2000). A résumé of his team's results has been published by GASCHE (2003) 205–220, who pointed out that new results from the Levant, Egypt, Elam and the Indus seem to support the NC dates (p. 214). Gasche mentioned READE's 2001 study, which independently arrived at the same chronology as the team of Gasche in *Dating ...*, without commenting on Reade's new interpretation of the **AKL**.

<sup>18</sup> For example, COLLON (2000), SALVINI (1996), BRYCE (1999), MANNING *et al.* (2001) and MICHEL (2002).

combination with Egyptian chronology and the Assyrian and Babylonian Distanzangaben.<sup>19</sup> In any case, this variety of views and opinions indicates that the discussion of the absolute dates of the 2<sup>nd</sup> millennium BC is still very much alive.

In the past few years the LC has been the most frequently used chronology in the scholarly community.<sup>20</sup> However, lately the very low NC by GASCHE *et al.* has provoked renewed debate on chronologies. They based their study on ceramic sequences, which could not be accommodated within the MC, and “demanded” a drastic lowering of the MC by ca. 100 years. The NC was eagerly accepted by archaeologists.<sup>21</sup> However, few historians or philologists have accepted the NC so far: Among them READE (2001),<sup>22</sup> ZEEB (2001), and LAFONT, *Amurru* 2 (2001) 213<sup>2</sup>. In response to GASCHE *et al.*'s book published in *Akkadica* 119–120 (2000) an isolated view in favor of the MC or HC was presented by BECKMAN (2000) 19–32 who strongly rejected the NC on the basis of Hittite sources.<sup>23</sup> However, Beckman's main argument, based on the generation count, has been crit-

icized again by WILHELM in MDAR 77, who stated that not too much weight should be put on Hittite chronology.

Rohl *et al.* have proposed a radically low chronology (a shortening of approximately 300 years illustrated on behalf of the second half of the 2<sup>nd</sup> millennium<sup>24</sup>). This chronology is also called the “New Chronology”, but is not to be confused with the New Chronology of Gasche *et al.* Several opinions in favor of this radical revision of chronology were put forward.<sup>25</sup> Since this “New Chronology” by Rohl *et al.* is highly incompatible with the known historical facts of the Ancient Near East, it will not be further discussed in the present study.

The absolute chronology of the second half of the 2<sup>nd</sup> millennium BC, the Late Bronze Age (LBA), is dependent on synchronisms among the great powers of the era (Egypt, Assyria, Hatti and its Syrian dependencies) and shows an uncertainty of only 5–10 years. As of today, most scholars accept the LC for Egypt (1479 accession of Tutmosis III and 1279 accession of Ramses II),<sup>26</sup> the MC for Mesopotamia in the Old

<sup>19</sup> A critical review on Eder's views and those of NAGEL in *DaM* 6 (1992) has been presented by ZEEB (2001) 95–100, who especially criticizes the methodological approach of Nagel and Eder on Syrian-Egyptian (political) relations. EDER (2004) 192–193 refused to any longer use astronomical data for absolute chronological dates, since all those relevant for the 2<sup>nd</sup> and 3<sup>rd</sup> millennium BC have proven so unreliable.

<sup>20</sup> E.g. MICHEL and ROCHER (1997–2000), who had taken a view between the NC and LC based on the study of a solar eclipse in the MEC, switched in a 2002 article by MICHEL towards a solution between the MC and LC due to newly calibrated dendrochronological results by Manning *et al.*

<sup>21</sup> See e.g. GUALANDI (1998) 133–134 or PFÄLZNER – NOVÁK, *MDOG* 133 (2001) 165<sup>17+19</sup> following GASCHE *et al.* (1998a) 1–4 for the lowered dates of Šamši-Adad I. One cannot possibly be aware of all the underlying premises (lunar calendar, astronomical dates, etc.) for every one of the chronologies. Generally speaking, archaeological arguments seem to point towards a chronology lower than the MC. Note however that, as PODANY (2002) 44 stated in regard to the comparisons between the Terqa and Hjarādum material, ceramic comparisons normally only supply us with very general dates.

<sup>22</sup> Reade reached the NC as a result of his own reconstruction of the AKL. For a short critique see SASSMANNSHAUSEN (2006) 159.

<sup>23</sup> Usually the LC has been favored by Hittitologists within the past decades (see DE MARTINO [1993] 218–240). Exceptions include Klinger (MC) and Otten (HC). It is questionable whether Hittite chronology can help in determining absolute Mesopotamian chronology. But KÜHNE (1999) 203<sup>1</sup>, with reference to GASCHE *et al.*, *Dating ...*, demanded that Hittite material be included in the chronology discussion.

<sup>24</sup> This study was complemented by a re-evaluation of astronomical data by MITCHELL (1989/90) 7–26, which dated Hammu-rāpi' to 1565–1522 BC.

<sup>25</sup> Note JAMES *et al.* (1991) for the reduction of Mesopotamian chronology, especially with regards to the Middle Assyrian and Amarna periods. Further articles can be found by the “New Chronology” group by Mitchell and NEWGROSH in *JACF*. See also VAN DER VEEN – ZERBST (2002), which is a reprint of articles by the “New Chronology” group. They basically attempt to shorten Middle Assyrian chronology by setting up parallel Middle Assyrian kings and dynasties. For criticism of this approach see POSTGATE (1991) 244–246 and on Middle Assyrian kings and their family ties note CANCIK-KIRSCHBAUM (1999) 210–222. Further discussion between Whiting (including the principles of Assyrian chronology and its sources – the AKL, eponyms, Distanzangaben, etc.) and “New Chronologists” concerning the succession of Middle Assyrian kings is to be found on the ANE-discussion list compiled on [www.caeno.org](http://www.caeno.org) (Oct. 2007). HAGENS (2005) 23–41 also assumed the co-regency of various Assyrian rulers in the AKL, and arrived at a lowering of the Amarna period of 80–100 years.

<sup>26</sup> For summaries of studies of Egyptian chronology see VON BECKERATH (1997), ZEEB (2001) 113–121, WARBURTON (2004) 585–588, E. HORNUNG *et al.* (eds.), *Ancient Egyptian Chronology*, HdO I/83 (2006), and V. MÜLLER (2007) 203–230. Earlier, higher Egyptian dates had been preferred: see for instance ROWTON (1960) 15–22 on the 19<sup>th</sup> Dynasty, including a comparison with Babylonian and Assyrian dates. For the reconstruction of the Egyptian chronology on the basis of historical sources see KITCHEN (2000) 39–52.

Babylonian period (Hammu-rāpi's accession in 1792 BC) and the shortened chronology (ten years) proposed by BOESE – WILHELM (1979) for the Middle Assyrian kings which is connected with Hittite chronology based on the drastic shortening of Šuppiluliuma's I reign from 40 to 20 years: 1343–1322/18 (see WILHELM – BOESE [1987]).

### 1.3. Main sources for Mesopotamian chronology

This study's aim is to present the textual data upon which we gain our information on Mesopotamian chronology.<sup>27</sup> There is abundant information on how the Mesopotamians kept track of time connected with political history. They were aware of the various ways of preserving and interpreting the past in lists, chronicles, royal inscriptions, and so forth. Their care gives us the opportunity to reconstruct their past and perhaps even anchor it to an absolute chronology.<sup>28</sup>

Mesopotamian history and chronology has been mainly reconstructed on the basis of various king lists (KLs) supplemented by royal inscriptions and chronicles. The AKL still remains the “backbone” of Mesopotamian chronology; it represents the only stable and relatively fixed scheme with which all the data is to be compared, and thus is the starting point for any chronology-related issue. Other historiographical texts, such as BKL, the Synchronistic History and other chronicles, are to be included and possibly linked to the data of the AKL. A description of the relevant texts is presented in the following chapters. In addition their historical and chronological information and importance are discussed by a survey of the scholar discussions about them and their meaning for Mesopotamian chronology.<sup>29</sup>

- Venus Tablet (VT, omen tablet based on observations of Venus rising and setting cycles)
- King lists (AKL, BKL, SKL, Synchronistic KLs and other lists mentioning the royal genealogy such as the GHD, the ancestors' lists from Ebla, the HiKL and the UKL) and date-lists (year-names)
- Eponym lists including the Mari Eponym Chronicle (MEC; possibly mentions a solar eclipse)
- Chronicles (with information on synchronisms etc.)
- Royal inscriptions (building inscriptions with Distanzangaben, annals, etc.)

- Dated documents (calendar, year-names): prosopographical material, genealogy
- Historical epics
- Synchronisms
- Scientific data: historically linked archaeological, dendrochronological and radiocarbon data

The main topics within the current Mesopotamian chronology-discussion are:

- The dating of king Šamši-Adad I of Aššur, a contemporary of Hammu-rāpi', the most prominent ruler of the Babylon I dynasty
- The chronological problems of the AKL (first Assyrian Dark Age after the reign of Išme-Dagān I; variant reign lengths; lost reigns; the interpretation of DUB-*pi-šū*)
- Distanzangaben referring to Assyrian rulers
- Dendrochronological results from Acem-Höyük in connection with Šamši-Adad I
- A possible solar eclipse in connection with Šamši-Adad I
- Eponyms in conjunction with the AKL and Distanzangaben
- Calendars in use in Assyria before Tiglath-pileser I
- The chronological value of the VT and other astronomical data (especially eclipse data)
- Average generation lengths (especially in connection with Hittite chronology and the chronology of other peripheral areas)

A whole range of textual material belonging to different text genres and covering a period of ca. 1500 years has helped reconstruct the history and chronology of Mesopotamia. In order to gain a better understanding of their chronological information, one has to evaluate the historiographical value and historical reliability of each text. Historiographical considerations involve systematically ordering the sources according to their background and connections with other records or events. Important treatments of this subject were published by KRECHER – MÜLLER (1975), GRAYSON (1980), WILCKE (1982ff.), VAN DE MIEROOP (1999), GLASSNER (2004) and others. Historiographical texts do not only furnish historical facts, but give us an idea on how “civilizations render account to themselves of the past”.<sup>30</sup> Text genres

<sup>27</sup> For an introduction see SCHMIDTKE (1952), ROWTON (1970) and HALLO (1983) 1–17.

<sup>28</sup> Note the chapter “The Future of the Past” by GLASSNER (2004) 3ff. and 15ff. on historiographical works of the Mesopotamians (royal inscriptions, date-lists, KLs, ELs, his-

torical epics and other literary compositions, etc.) See pp. 37ff. for chronicles with specific chronological interest.

<sup>29</sup> See also PRUZSINSZKY (2006a) 181–201.

<sup>30</sup> SASSON, in: *FS Moran* (1990) 440.

can be ordered according to their historical reliability roughly as follows:<sup>31</sup>

- dated administrative and legal texts<sup>32</sup>
- letters<sup>33</sup>
- historiographic texts (royal inscriptions such as annals and building inscriptions, king lists, date-lists, etc.)
- literary texts
- scholarly texts

A different, more precise, hierarchy of texts according to their chronological value was presented by Edzard at a conference on chronology held in Chicago in 1971 (see VEENHOF [1981] for a short report):

- dated archival texts
- date-lists
- KLS
- synchronisms
- genealogical data
- historiography-paleography-stratigraphy

Lit. in order of publication date: OLMSTEAD, *Assyrian Historiography*, Columbia, Mo. (1916); GÜTERBOCK, *ZA* 42 (1934) 1–91; SPEISER, in: R.C. DENTAN *et al.* (eds.), *The Idea of History in the Ancient Near East*, New Haven (1955) 37ff.; PALLIS (1956) 463ff.; FINKELSTEIN, *PAPS* 107 (1963) 461–472; OPPENHEIM (1970) 143–153; MALAMAT (1968) 163–173; KRECHER – MÜLLER (1975) 13–44; TADMOR (1977) 209–213; GRAYSON (1980) 140–194; HALLO (1983) 1–17; VAN SETERS (1995) 243–244; WILCKE (1982) 31–52; id. (1988) 113–140; GLASSNER, *ChrMés* (English translation in 2004); YAMADA (1994) 11–37; BRINKMAN (1995) 667–670; RENGEL (1996) 9–60; VAN DE MIEROOP (1999); GLASSNER (2000) 383–393; papers presented at the XLV<sup>e</sup> RAI in Cambridge, MA in 1998 published in *Proceedings of the XLV<sup>e</sup> Rencontre Assyri-*

*ologique Internationale*, T. ABUSCH *et al.* (eds.), *Historiography in the Cuneiform World* (2001).

#### 1.4. Chronological Systems

*“Die kurze Chronologie beruht auf astronomischen Daten und mit Jahreszahlen versehenen Königslisten, die längere Chronologie beruht auf unsicheren Generationenabschätzungen in ebenso unsicheren Chronologien”.*

CORNELIUS (1958) 101–104

In 1987 an international colloquium on absolute chronology took place in Gothenburg. The papers and the discussion protocol of this congress have been published under the title “High, Middle or Low”, indicating that some decision was sought. In fact, a vote took place at the end of this meeting in which the low chronology (LC) was clearly favored. Papers presented at a subsequent conference on “High, Middle or Low” at Haindorf (1990) were published in *Ä&L* 3 (1992).<sup>34</sup> Two “EuroConferences” were organized by SCIEM 2000 (Haindorf [2001] and Vienna [2003]<sup>35</sup>) which dealt with more recent studies and developments in chronological research in the Eastern Mediterranean.

The Mesopotamian chronology systems, particularly the HC, MC and LC, solely depend on calculations based upon the **astronomical data** in the VT and not on the interpretation of king list data. However, within the past few years more emphasis has been given to sources other than the VT and the eclipse data in the omen tablets of EAE, which naturally has resulted in different chronologies.

##### 1.4.1. General

#### UHC–HC–MC–LC–NC<sup>36</sup>–ULC

After Schmidtke’s “*Der Aufbau der Babylonischen*

<sup>31</sup> For these text types and their attestation through time see VAN DE MIEROOP (1999) 12. A description of their character is given on pp. 13ff. On fundamental approaches within Ancient Near Eastern studies see his first chapter. Note also van de Mieroop’s useful distinction between “history from above” and “history from below” in chapters 2 and 3. Especially for the Dark Age following the end of the Babylon I dynasty, we know very little material of the “history from above” category. Sources for “history from below” are attested abundantly, but offer only limited information on the absolute chronology of that time. See PODANY (2002) 2. On some characteristics of historiography see the review of GLASSNER (2004) by VAN DER SPEK in *RBL* 9 (2005), where he discusses historiographical texts. For instance, van der Spek disagrees with Glassner’s definition of the AKL as a “royal chronicle” (according to his definitions of a chronicle) and prefers the term “chronographic text”.

<sup>32</sup> These documents are the most voluminous source of the Ancient Near East, shedding light on various commercial, administrative and judicial issues concerning the main institutions (temple and palace) as well as on the lives of private individuals. Prosopographical studies are an important working tool for sorting undated texts, including letters, into relative chronological order.

<sup>33</sup> Letters naturally provide a more personal view on various issues and events.

<sup>34</sup> The three different chronologies, high, middle and low, were represented by appropriately filled glasses of wine. For a short review see *JACF* 3 (1989/90) 88–91.

<sup>35</sup> Both published in the series CChEM (2003 and 2006).

<sup>36</sup> Note that two different chronological systems are designated with NC: “New Chronology” of Rohl *et al.*, and the “New Chronology” of Gasche *et al.*

*Chronologie*’ (1952), which arrived at a chronology very close to the LC by neglecting the astronomical evidence of the VT,<sup>37</sup> the Danish Assyriologist PALLIS (1956) offered an extended résumé of chronological studies and developments up to 1955.<sup>38</sup> In contrast to other overviews, he discussed the methods and lines of argument which had yielded such different results: Pallis began with the UHC,<sup>39</sup> which had been the most widely-accepted chronology at the beginning of the 20<sup>th</sup> cent., and traced the gradual acceptance of the LC. A much shorter summary on chronological studies from the beginning of the 20<sup>th</sup> cent. onwards was presented by TADMOR in 1970 in “*The World History of the Jewish People*” (ed. MAZAR), 63–66: Tadmor stressed the chronological importance of the VT, the AKL and the synchronism between Hammu-rāpi’ and Šamši-Adad I documented in the Mari texts. Since then major improvements have been made in Babylonian history and chronology (most notable are the studies by Brinkman in MSKH and PHPKB). In 1981 Veenhof wrote a perceptive article on the methods of the natural sciences and their relevance to the problems of the chronology of the Ancient Near East and Egypt, reviewing a conference on chronology that had taken place in Chicago in 1979 and presenting in condensed form the position of various scholars and their dating-methods.<sup>40</sup> A more recent reassessment and summary of past studies was provided by ZEEB (2001) 67ff. in his introduction on chronology: Zeeb opted for the NC of Gasche *et al.* Another recent study, PODANY (2002), deals with the texts

from Terqa (situated on the Euphrates close to Mari) which cover most of the 2<sup>nd</sup> millennium, including the crucial Dark Age.<sup>41</sup> She carefully used a variety of approaches including observations on formulary and the physical attributes of the tablets,<sup>42</sup> and employed the MC for all absolute dates, though taking into account the LC and NC within her historical reconstruction (esp. pp. 43ff. on the Kassite ruler Kaštiliašu). Currently the difference between the chronologies is 230 years. The central question of the chronology discussions remains the duration of the Dark Age.

#### 1.4.2. Review

Studies at the end of the 19<sup>th</sup> cent. used very high chronologies, dating Hammu-rāpi to 1923–1868 (Hommel in 1885) or even 2244–2190 (Lehmann-Haupt in 1898). These dates, in contrast to the ones proposed at the beginning of the 20<sup>th</sup> cent., were not based on the computations from the astronomical observations of the VT, but on the report of Berossus and other sources known at that time. KUGLER (1912) was the first to employ the chronology the Venus observations connected with Ammišaduqa’s 8<sup>th</sup> year. He dated Hammu-rāpi’ to 2123–2081 and these dates were widely accepted until Kugler himself in 1922 lowered them to 1947–1905 BC. Another change was caused by the text finds at Mari, which shed more light on the history of the beginning of the 2<sup>nd</sup> millennium and provided an important synchronism between Assyria and Babylonia. This information was supplemented by texts from Alalakh, which date to the

	NC	LC	MC	HC
End of Babylon I dynasty	1499	1531	1595	1651
Reign of Ammišaduqa	1550–1530	1582–1562	1646–1626	1702–1682
Reign of Hammu-rāpi’	1696–1654	1728–1686	1792–1750	1848–1806

Table 1 showing the commonly used dates for the fall of the Babylon I dynasty (“sack/fall of Babylon”) and the reigns of the rulers Ammišaduqa and Hammu-rāpi’ of that dynasty

<sup>37</sup> Hammu-rāpi’ was dated to 1730–1688 instead of 1728–1686 (LC dates).

<sup>38</sup> Also RÖLLIG in his unpublished Habilitationsschrift *Materialien zur Chronologie Vorderasiens im 2. Jahrtausend v. Chr.*, Münster (1965) 6ff. presented an overview on various views starting with the end of the 19<sup>th</sup> cent. AD (Hommel, Lehmann-Haupt).

<sup>39</sup> For example Parrot, Thureau-Dangin and Albright.

<sup>40</sup> A more recent overview, based on his 1981 approach, is VEENHOF (2001) 35–50 and 306–315.

<sup>41</sup> See the general remarks by CHARPIN, CANE (1995) 817 referring to our meagre evidence on the early Kassite and Sealand dynasties, which date to this period (→ **Babylon I**). The early 15<sup>th</sup> century was marked by a consolidation of Kassite power in Babylon. Only the **Synchronistic History** and **Chronicle P** provide some additional information on this poorly documented period. The birth of the Mittanian kingdom in Syria dates to this time.

<sup>42</sup> For another approach see MASETTI-ROUAULT (2000).



same period and later.<sup>43</sup> The end result of all these finds was another reduction of about 100 years in the dates of Hammu-rāpi', whom Albright (1938) dated to 1875–1833. The discovery of the **AKL** from Chorsabad, published by Poebel in the 1940s, reinvigorated the chronology debate. The Chorsabad **AKL** was soon supplemented by another version, the so-called **SDAS** list, which was published by Gelb in the 1950s.

The **HC** goes back to Thureau-Dangin and, especially, Goetze, who based their work on Sidersky's study of the astronomical data (his results were comparable to those of Huber).<sup>44</sup> Hammu-rāpi's year 1 was accordingly dated to 1848 and the fall of the Babylon I dynasty caused by Muršili I to 1651. Goetze calculated Hittite chronology by reckoning back the number of generations from 1450, when Hittite power resurged (at the expense of Egypt). He based his argument on average generation intervals: for seven generations he calculated ca. 200 years, which means that the length of one generation was 28 years.<sup>45</sup> Using this average, Goetze derived dates similar to Sidersky's. Goetze was the first to use the historical information from "peripheral areas", Mittani and Ḫatti of the 15<sup>th</sup> and 14<sup>th</sup> cent. BC. Subsequent chronological discussion centered on the average generation lengths or intervals, the dating of Tudḫalia II and Šuppiluliuma I, and the role of Egypt in Syria in the first half of the 2<sup>nd</sup> millennium BC. In 1953 Unger, using the Chors. **KL** and counting 15–19 years for each of the eight kings whose regnal years are lost in it, also arrived at the **HC** (SEE PALLIS, p. 479). His approach is similar to Goetze's, except he did not use average generation length but average throne tenure. On the basis of the **Bavian inscription**<sup>46</sup> of Sennacherib, Thureau-Dangin dated the beginning of the Kassite dynasty to 1729 (= first year of Gandaš; see below), which he synchronized with the rule of Abi-ešulḫ of the Babylon I dynasty. Today

the **HC** seems to be the least likely solution from an historical point of view. The **AKL** had been unknown to Thureau-Dangin; but Goetze rejected its chronological value. The **HC** is still supported as "the most likely solution" by Huber on the basis of his calculations with the **astronomical data** and **month-lengths**. The **MC** and **LC** are also based on the Venus Tablet, but differ by one Venus period/cycle of 64 years. Thus according to the main chronological systems of the present, the dates of the reign of Hammu-rāpi' are: **1848–1806 BC (HC)**, **1792–1750 BC (MC)** or **1728–1686 BC (LC)**.

In the 1930s the new material from Mari, Alalāḫ, Ugarit and the Ḫabūr region, and the synchronism with Amenemhet III of the 12<sup>th</sup> Dynasty, caused a shift towards the **MC**. Major changes for Babylonian chronology were not only due to the archives of Mari, but also to finds at Alalāḫ, Ugarit, and Platanos in Crete, specifically the "Platanos seal" (see LANDSBERGER [1954] 117–119<sup>47</sup>). For the Mari tablets and several rulers important for Mesopotamian chronology, SEE PALLIS (1956) 463–466, who based his outlines on results by Parrot and Thureau-Dangin.<sup>48</sup> Several new synchronisms resulting from these new texts were listed on p. 464 of Pallis' study (a table for the correlation between Aššur, Babylon and Mari following Parrot's study [still **UHC**] made in 1938 omitting the figures).

Albright was among the first to show the synchronism between Šamši-Adad I and Hammu-rāpi' and to include the Mari texts in his studies. His new dating, based on chronological records of Šalmaneser I and Tukulti-Ninurta I and the Mari material, was still quite high: he dated Šamši-Adad I around 1880–1860 and the Babylon I dynasty between 1970 and 1670 (**HC**). These figures were accepted by most scholars then.

In 1940 Sidersky published a revised chronology based on Albright starting with Iasmaḫ-Addu, and

<sup>43</sup> The chronology discussion has often centered on Alalāḫ, which links the north Syrian entity Iamḫad to the Hittite kings. Alalāḫ VII came to an end because of Ḫattušili, while Ḫalab, the capital of Iamḫad, was destroyed later by Muršili I. Still, we are confronted with numerous difficulties in trying to bridge these two events with the better documented period of the 15<sup>th</sup> cent. For recent overviews see VAN SOLDT (2000) 103–116, BERGOFFEN (2003) and (2005) and VON DASSOW (2008) in her introduction.

<sup>44</sup> See ZEEB (2001) 75 for the most recent review.

<sup>45</sup> → **Distanzangaben** sub 9.7.

<sup>46</sup> → **Distanzangaben** sub 9.1.

<sup>47</sup> No firm conclusions can be drawn from this Old Babylonian seal found in the Tholos B tomb at Platanos in Crete. Smith, using the **MC** based on the astronomical calculations by Sewell, attempted to compute Minoan chronology (Middle Minoan period, which synchronizes with the end of the 12<sup>th</sup> or beginning of the 13<sup>th</sup> Dynasty of Egypt and the reign of Hammu-rāpi') with the help of this seal. → fn. 57.

<sup>48</sup> See the contributions by various scholars in the 2<sup>nd</sup> **CRRAI**, Paris (1951) 35–48 (edited by THUREAU-DANGIN). The contributions were generally hostile towards the astronomical "approach" to absolute chronology (Goetze: "the astronomical tradition is dangerous").

using the synchronism between Šamši-Adad I and Hammu-rāpi' and the new calculations of the **VT** data for Ammišaduqa (superseding Fotheringham's [1928] study, which had dated Ammišaduqa to 1921–1900 BC). Sidersky found 1702/1–1682/1 for the reign of Ammišaduqa, 1848–1806 for the reign of Hammu-rāpi', and 1950–1650 for the Babylon I dynasty as a whole (= HC). He was supported in 1948 and 1951 by Thureau-Dangin and Goetze. Subsequent discussion focused on the relation between the **Kassite** and **Babylon I dynasties** (SEE PALLIS, 476–479)<sup>49</sup> – still a problem today. According to Sidersky, Ammiditana's 11<sup>th</sup> year coincided with 1729 (and the start of the Kassite dynasty based on the **Bavian inscription**, see below sub UNGNAD [1940]). Thureau-Dangin, however, doubted that this date corresponded with the beginning of the Kassites. Pallis described the dispute and discussed further issues (p. 477) – such as the difficulty of making synchronisms between Babylonian dynasties, the provisional nature of results for the Babylon I and Kassite dynasties (the 9<sup>th</sup> year of Samsuiluna had been omitted from Thureau-Dangin's argument) and the problem of the date of 1729 itself. Thureau-Dangin considered 1729, the date for the first appearance of the Kassites (corresponding in Smith's work with Samsuiluna 20<sup>th</sup> year; in Sidersky with Ammiditana 11<sup>th</sup> year); but Pallis noted that no evidence for the first appearance of the Kassites in Babylonia, or for their actual takeover of power, existed. The Kassites are only mentioned in date formulae of Samsuiluna year 9 and during Abi-ešuh's reign. Pallis concluded that the date 1729 based on Assyrian tradition (**Bavian inscription** and **Chors. KL**) could not be relied on as an absolute date linked with a certain event (see PALLIS (1956), 477–478).

In his 1940 monograph *“Alalakh and Chronology”*, Sidney SMITH seemed to know Albright's “new” chronology (see below). Previously Smith had followed the HC-UHC (see PALLIS (1956); 466) referring to archaeological material from the Ḥabūr region, Mari texts, excavation results from Alalakh and their relations with Syria and Egypt (12<sup>th</sup> Dynasty<sup>50</sup>). His work was primarily based on archaeology, namely the pottery sequences.<sup>51</sup> In his monograph he decided for the MC by including the **VT** data based on the 56/64-year Venus cycle, using new calculations by Sewell.

Ammišaduqa was consequently dated to 1645 and the fall of Babylon just after 1600, which agreed much better with the archaeological material from Anatolia. The Kassite dynasty, which **BKL A** states was 576 years long, would then be between 1740 and 1165. However, as PALLIS (1956) 478 pointed out, these figures are not compatible with the information of the **VT**.

Albright (1940) revised his 1938 views, including the indirect synchronism between Iantin-ʿAmmu of Byblos and Neferhotep I of the 13<sup>th</sup> Dynasty.<sup>52</sup> Albright now dated the Babylon I dynasty to 1900–1600 (MC) and Hammu-rāpi's first year at around 1800. Most of his arguments paralleled those put forward by Smith. However, the two scholars disagreed about the start of the **Kassite dynasty**, which Albright dated to ca. 1615–1600. Albright further based his arguments on the archaeological finds by Mallowan at Šaġar Bāzār and Tell Brak as well as the stratigraphy of Alalakh reported by Woolley.

In 1940 Ungnad, who contributed to Babylonian chronology since 1907 and had employed Kugler's astronomical studies, published an article that included all the material mentioned so far. He began with a revision of the **VT** and assumed that the first year of the Kassites coincided with Samsuiluna's year 9. As a result he dated the Babylon I dynasty to 1893–1594 (MC), the reign of Hammu-rāpi' to 1791–1749, and the 9<sup>th</sup> year of Samsuiluna to 1741 BC. Pallis pointed out that Ungnad's dates were identical with those of Smith, generally based on the same arguments. In his 1944 publication UNGNAD maintained his views in spite of the **KL** of **Chorsabad**, just communicated by POEBEL (1942 and 1943). However, he refused to accept the **VT** data as conclusive evidence for chronology since too many options existed. His starting point was Samsuiluna year 9 (working thesis of Smith – Ungnad, Sidersky's dates being 56 years higher). The relation between the **Kassite dynasty** and the **Babylon I dynasty** based on Sennacherib's **Bavian inscription** was of paramount importance to Ungnad: This inscription states that there were 418 years between Sennacherib (689 fall of Babylon) and Tiglath-pileser I/Marduk-nādin-aḥḥē.<sup>53</sup> This 418 year interval would mean that the first year of Marduk-nādin-aḥḥē was (689 + 418 =) 1116 BC. According to

<sup>49</sup> Decisive textual evidence: the **Bavian inscription** by Sennacherib (see below) and the **BKL A**.

<sup>50</sup> For another view see ZEEB (2001) 76–77 and 111<sup>233</sup> and EDER (2003) 227–289.

<sup>51</sup> See ZEEB [2001] 78–79 for a summary of Smith's work.

<sup>52</sup> Iantin and Neferhotep I are mentioned together on a

relief-fragment from Byblos. Iantin-ʿAmmu is named with Zimri-Lim in the texts from Mari. The synchronism depends on the possible identification of Iantin with Iantin-ʿAmmu. → below and fn. 81.

<sup>53</sup> On Marduk-nādin-aḥḥē (1099–1082 BC) see PNA 2/II (2001) 719.

the **BKL A** Marduk-nādin-aḥḥē ruled 43 years, and the Kassite dynasty, which came to an end at the beginning of his reign, was 576 years long; thus the Kassite dynasty began 1735 BC. According to the Chors. KL this number should be reduced by six years to 1729 BC. The year 1729 then would coincide with the raid on Babylon by Gandaš, the first Kassite king (see above sub Sidersky and Thureau-Dangin).

Neugebauer (1941) acquainted with Smith's and Albright's revised chronology, proposed 1900–1600 for the Babylon I dynasty. According to the **AKL**, Šamši-Adad I was to be dated about 1820±40. Based on the Ugarit material and various assumptions about the VT data, Hammu-rāpi's accession-date could be 1856, 1848, 1797 or 1763 with perhaps a few more dates in between. However, Neugebauer had serious doubts about the value of **astronomical data**, particularly the Venus data for Mesopotamian absolute chronology.

In the 1940s the publication of the **Chors. KL** resulted in the LC.<sup>54</sup> The tablet with the Chors. KL had been unearthed during the 1932–1933 archaeological season, but another copy of the **AKL** found in Aššur had been published in 1927 by NASSOUHI (the Nass. KL). At the time of Pallis' overview, the only information known about the Chors. KL was in POEBEL's 1942 and 1943 articles, where he had published its content with his comments and conclusions. His paper was later supplemented by WEIDNER (1941–1944) 363–365, who published a transcription of the reverse based on a photograph taken from "The Sphere" (7 April 1934).<sup>55</sup> Since the Chors. KL was still unpublished, Pallis refrained from commenting on the parts of the arguments which seemed dubious. Poebel set the accession date of Šamši-Adad I in 1726 + x. In order to determine the number x, which corresponds to the number of regnal years of Aššur-rabi I and Aššur-nādin-aḥḥē I, both scholars resorted to the Assyrian chronological traditions of Šalmaneser I, Tukulti-Ninurta I and Esarhaddon, namely the Assyrian **Distanzangaben**. Weidner suggested 1729–1697 for the date of Šamši-Adad, whereas Poebel reduced x to 0, with the result 1726/25–1694/93.

Poebel's results prompted Albright to revise his chronology for a third time in 1942. However, whereas Poebel had considered "x" to be 0 years, Albright used 22 years and thus dated all preceding kings 22

years earlier than Poebel (i.e. Šamši-Adad I 1748 BC). Since, according to the **AKL** Šamši-Adad I had reigned for 33 years and according to the Mari texts had been still alive during Hammu-rāpi's 10<sup>th</sup> year, the date of the first year of Hammu-rāpi' would have to be lowered from Albright's (and Smith's) 1940 guess. In order to achieve lower dates for the VT data, he lessened each of Fotheringham's five alternative solutions by 275 years (or 64 years after Smith's most recent date). Albright placed Hammu-rāpi' between 1728–1686 (LC) and the Babylon I dynasty from 1830 to 1530 without explicitly stating that his dates relied mainly on the Chors. KL.

Cornelius also belonged to the group of scholars now favoring the LC. Independently, and without the Mari material and the **AKL** data, in 1942 Cornelius proposed exactly the same date for the Babylon I dynasty and Hammu-rāpi' as Albright. He based his conclusions on the Berossus tradition supplemented by the Assyrian **Distanzangaben** and Ungnad's 1940 calculations of the VT data.

In the period from 1944–1948 scholars like Böhl, van der Meer and Schubert proposed other chronological figures for Hammu-rāpi' basing their arguments on the **Chors. KL** and the evidence from Mari (specifically, the synchronisms connected with the conquest of Mari and synchronism between Hammu-rāpi' and Šamši-Adad I) all arriving at the ULC with slight variations<sup>56</sup> (SEE PALLIS (1956), 474 for details): Hammu-rāpi' was dated to 1701–1659 or 1704–1662.

It was mostly archaeologists who favored Smith's chronology (see PALLIS (1956), 475 for bibliography). The chronologies of Ungnad and Albright – Cornelius have also been widely accepted. Albright's supporters mainly relied on the Chors. KL. Sidersky's results (HC) were accepted by few only: Thureau-Dangin (1942) and Goetze (1948) and (1951), who were also inclined to follow Smith's synchronization of the **Kassite dynasty** with the **Babylon I dynasty**. Pallis did not accept the arguments by Thureau-Dangin and Goetze for Sidersky's HC (for details see pp. 476–479) and concluded that only two chronologies remained in the running: Albright's LC and that of Smith's MC based on archaeological material. He accepted an accession-date of Šamši-Adad I in 1726 (+ x) or 1729 BC, and dates for Hammu-rāpi' of either 1792–1750 (Smith) or

<sup>54</sup> For example Poebel, Cornelius, and Albright.

<sup>55</sup> Weidner commented on Assyrian chronology from 1917 onwards, proposing at first very high dates. Later he favored the LC. Weidner took the Chors. KL at face value, and rejected the VT as chronologically useful.

<sup>56</sup> Böhl, for instance, excluded the astronomical data from his analysis.

1728–1686 (ALBRIGHT – CORNELIUS [1942]). ROWTON (CAH I/1 [1970] chapter 6) finally opted for the MC, mainly due to the **Distanzangabe** of Tiglath-pileser I. He rejected the HC due to <sup>14</sup>C data from Nippur, the **generation** counts of Hittite rulers, the Distanzangaben, and the LC because of the 576 years credited to the Kassite dynasty by the **BKL A**.

Goetze sharply criticized the reliance placed on the **Chors. KL** (SEE PALLIS, p. 478). He did not reckon the figures given as historical truth, but only as the historiography of late Assyrians. However, he did accept Smith's synchronization of the **Kassite dynasty** with that of **Babylon I** (compare with Thureau-Dangin above). In 1951 he made a further effort to solve the Mesopotamian chronology problem by means of Hittite chronology. He rejected the Albright – Cornelius and Böhl – Schubert chronologies (LC/ULC), preferring Sidersky's or Smith's (HC/MC). Nine Hittite kings or seven **generations** were known to have reigned between Muršili I (fall of Babylon, either in 1650 [Sidersky] or 1595 [Smith – Ungnad]) and Šuppiluliuma's predecessors (1450, i.e. the time when the Hittites regained power), for which Goetze allowed 200 years. (Pallis briefly discussed the question of generation length, pointing out that little is known about the reign lengths of these kings.) Goetze finally settled on Sidersky's chronology (HC), rejecting the others as "barely possible".

On pp. 481–482 of his study PALLIS discusses the well known LANDSBERGER paper "Assyrische Königsliste und 'Dunkles Zeitalter'", published in 1954. He rejects Landsberger's ultra-high dates (Hammu-rāpi's first year in 1900) due to Egyptian chronology as well as the archaeological remains from Ugarit and Alalah. He did, however, acknowledge the validity of some of Landsberger's thoughts on the impossibility of arriving at an incontestable Hammu-rāpi chronology. Landsberger used a thoroughly interdisciplinary

approach, discussing Assyrian chronology using various synchronisms (including the seals from Platanos and et-Tod<sup>57</sup>), **generation lengths**, and including the natural sciences, such as <sup>14</sup>C-dating (he applied the Libby dates for the Ur III rulers Šū-Sin and Ibbi-Sin, which are obsolete today). Most important, as the title of his paper indicated, was the bridging of the Dark Age with the help of the then known generations.<sup>58</sup> He rejected the **AKL** in order to fit his dates into a longer chronologically without citing exact numbers. After Landsberger, Nagel<sup>59</sup> and more recently EDER (2003) and (2004) have proposed very high chronologies (Hammu-rāpi' dated to 1862–1820 or even 1930–1887 BC, UHC<sub>1-3</sub>) thus necessitating a very long Dark Age of ca. 160–230 years. (For PALLIS' conclusions and a comment on his own studies with a time-table based on the MC see pp. 482–484.)

Next to the MC, the LC has the most adherents – as was pointed out by RÖLLIG (1965) 14 (referring to general studies by Moortgat, Schmökel, von Soden, Schmidtke and van der Meer<sup>60</sup>).<sup>61</sup> Röllig was the last scholar to attempt a detailed study on Mesopotamian chronology on the basis of the textual evidence (AKL, BKL, EL, Distanzangaben, VT) and the synchronisms between various Near Eastern rulers and Egyptian pharaohs of the 13<sup>th</sup>–18<sup>th</sup> Dynasties.<sup>62</sup> He concluded that the LC was the most likely option despite the fact that the Dark Ages (the periods after Išme-Dagān I and after the fall of Babylon) cannot be fully explained (p. 388). At the same time he pointed out that the LC, which is mainly based on the VT data,<sup>63</sup> causes difficulties for 3<sup>rd</sup> millennium chronology and its link to 2<sup>nd</sup> millennium chronology. In his study, which has remained unpublished, he demonstrated that the Old Babylonian sealings found in Platanos and et-Tod are chronologically useless due to the context in which they were found. Röllig further pointed out that refinements of Anatolian<sup>64</sup>

<sup>57</sup> See WARBURTON (2000) 67–69 (synchronizing the Egyptian Middle Kingdom with the Isin-Larsa period and the Second Intermediate Period with the Old Babylonian Period). On the et-Tod treasure and its possible Cappadocian seal with its chronological implications see WARBURTON (2001) 289 and (2004) 588–589. → fn. 47.

<sup>58</sup> For a short reassessment see ZEEB (2001) 82–84.

<sup>59</sup> For a critical view on Nagel's approach see ZEEB (2001) 95–100.

<sup>60</sup> The latter two proposed slightly lowered dates for Hammu-rāpi', 1730–1688 and 1724–1782, ignoring the astronomical data (VT).

<sup>61</sup> Unfortunately his Habilitationsschrift on Mesopotamian chronology was never published. I would like to thank A. Schuster-Brandis for making Röllig's study of the institute's library of Münster available to me.

<sup>62</sup> The period between Puzur-Aššur III and Aššur-bēl-nišešu, between Burna-Buriaš I and Kadašman-Enlil I and between Muršili I and Tudhaliya II.

<sup>63</sup> In fn. 1 of chapter VII he stressed the reliability of the astronomical data for chronological purposes and did not consider them as a source of "speculative character", a term used by NEUGEBAUER, in: THUREAU-DANGIN (ed.) (1951) 43.

<sup>64</sup> Note for instance: ASTOUR (1989); BECKMAN (2000) 19–32; BRYCE (1999) 410–414 (useful reviews by VAN DEN HOUT, *BiOr* 57 [2000] 643–646 and KLINGER [2000] 5–13); DE MARTINO (1993) 218–240; FREU (2002) 87–107, KLENGEL (1992), id. (1999) 388–390; MORA, *Athenaeum* 46 (1988) 553–577; OTTEN (1987); STEINER, *OLA* 96 (1999) 425–441; WILHELM – BOESE (1987) 74–117; WILHELM (1991) 470–476.

Author(s)	Hammu-rāpi <sup>7</sup>	Babylon I dynasty
Nagel (UHC <sub>2</sub> )	1930–1887	2032–1733
Eder (UHC <sub>3</sub> )	1862–1820	1964–1665
Landsberger (UHC <sub>1</sub> )	ca. 1900–1850	ca. 2000–1700
Thureau-Dangin, Sidersky, Goetze, Huber (HC)	<b>1848–1806</b>	<b>1950–1651</b>
Smith, Ungnad (MC)	<b>1792–1750</b>	<b>1894–1595</b>
Albright, Cornelius, Weidner (LC)	<b>1728–1686</b>	<b>1830–1531</b>
Böhl	1704–1662	1800–1507
Gasche et al. (NC)	1696–1654	1798–1499

Table 2 Summary of dates for Hammu-rāpi<sup>7</sup> since 1940

and Syrian<sup>65</sup> chronologies could be expected. Moreover, further evidence from various sources can be expected that will give greater insight in to the **ELs** and **date-lists**. New material has been added from astrochronology (**solar and lunar eclipses**); and some of the new archaeological material aims at a lower chronology. Thus the time is ripe for a new and updated general study on the chronology of 2<sup>nd</sup> millennium Mesopotamia (→ below sub **1.4.3.**).

#### 1.4.3. Recent Developments and Preview

A recent summary of chronological studies and their main results was published by ZEEB (2001) 75–87. Zeeb discussed GASCHE *et al.*'s “New Chronology”, which had been published in 1998 and reinvigorated chronological debates. The *impetus* for GASCHE *et al.*'s revised chronology came from archaeology: a systematic study of the pottery from the 2<sup>nd</sup> millennium BC of Babylonia and adjacent regions indicated that a drastic reduction of dates by a century was necessary. Combined with a new study of textual evidence with special emphasis on the Assyrian chronology, the astronomical data of the VT and lunar eclipses, this led to the NC. Accordingly the fall of Babylon was dated to 1499, Hammu-rāpi's reign 1696–1654 and Šamši-Adad I's 1719–1688 BC. The “lunar reduction”<sup>66</sup> had already been employed in *Dating ...*, but in *Akkadica* 108 (1998) 1–4 they further reduced the dates of Šamši-Adad I to 1710–1679 because of the

corrected synchronism between the Assyrian ruler and Hammu-rāpi<sup>7</sup> (→ below sub **1.5.1**). A reply was published shortly afterwards in *Akkadica* 119–120 in 2000 (proceedings of a follow-up colloquium organized by GASCHE *et al.*), which basically did not contradict their results (except for Beckman on Hittite chronology and Hunger on the historicity of the lunar eclipses in EAE).<sup>67</sup>

It is important to account for the period that is poorly documented and has therefore been labeled as the Dark Age.<sup>68</sup> This period covers the interval between the end of the Babylon I dynasty and the beginning of the Middle Assyrian period (the Middle Assyrian **EL** starts with Aššur-nīrārī II) when textual evidence increases again.<sup>69</sup> Few documents are known for the beginning of the Kassite period; only with Kara-indaš, the 15<sup>th</sup> king of this dynasty dated to the late 15<sup>th</sup> cent. BC, does our knowledge of historical events improve.<sup>70</sup> Many scholars have attempted to chronologically link the end of the **Babylon I dynasty** with the **early Kassite** and **Sealand I dynasties**, most often with the help of the correlation of archaeological finds. Basically, we need to date the Babylon I dynasty to establish some fixed points of chronological reference for the first half of the 2<sup>nd</sup> millennium BC. In the past the approach of this problem was through computations based on astronomical texts (the VT, omens, etc.) Those computations resulted in the HC, MC, and LC. The HC is favored by the

<sup>65</sup> Here the main focus has been on Alalah, Ebla, Mari, Terqa, Qatna, Tuttul and Ugarit.

<sup>66</sup> I.e. the premise that the **lunar calendar** was used until Tiglath-pileser I (→ **Calendar**).

<sup>67</sup> GASCHE (2003) 205–220 repeated the results of GASCHE *et al.*, *Dating ...* maintaining the NC without adding further evidence and refusing to accept the criticisms since 1998. However, he agreed with JOANNÈS (ed.), *Dictionnaire ...*, 188 that the NC did not resolve the problems of the Kassite dynasty. Reviews of GASCHE *et al.*, *Dating ...* were published by AMIET, *RA* 92 (1998) 163–173, HUBER (1999–2000)

287–290, SEAL (2001) 163–173 and LIVERANI (2005) 214–215.

<sup>68</sup> See HUNGER – PRUZSINSZKY (eds.), MDAR. This Dark Age lasted according to the NC 0 years, the LC ca. 20 years, the MC ca. 85 years and the HC ca. 140 years. According to the UHC the Dark Age may have lasted ca. 200–230 years. Whether or not the term “Dark Age” is appropriate will not be discussed here.

<sup>69</sup> An important study on the chronology of the Middle Assyrian period has been presented by FREYDANK (1991).

<sup>70</sup> BRINKMAN, MSKH 35.

astronomer/statistician Huber, who has provided us with the most recent computation. In 1998 GURZADYAN in GASCHE *et al.*, *Dating ...* offered another set of calculations favoring the NC, which has been widely ignored due to errors in data processing.<sup>71</sup> He dismissed the 56/64-year Venus cycle linked to the lunar calendar and based his calculation on the 8-year Venus cycle of the VT. MICHEL (2002) took a similar approach and subsequently opted for a slight reduction of the MC due to the astronomical, <sup>14</sup>C and dendrochronological evidence.<sup>72</sup>

The solution to the problem of Mesopotamian absolute chronology during the 2<sup>nd</sup> millennium BC hinges on the length of the Dark Age which is conventionally set in the 16<sup>th</sup> cent. BC. New evidence from Terqa may help.<sup>73</sup> Also useful may be the texts from Tell Muḥammad (ancient Diniktu), which date to the time immediately following the fall of Babylon (→ **Astronomical Data and Year**). Future excavations at Ugarit may uncover more texts belonging to the MBA relating to kings mentioned in the so-called Ugarit King List.<sup>74</sup> Information drawn from these texts may help to solve some of the questions related to the earlier period of Ugarit, which chronologically correlates with the Mesopotamian Dark Age and the period preceding it.<sup>75</sup> Unfortunately, numerous historical as well as archaeological studies on the Alalah material have not yielded any definite dates.<sup>76</sup> Hopefully ongoing digs, such as the one at Kinet-Höyük conducted by GATES,<sup>77</sup> will provide more ceramic material to be correlated with that from Alalah and Anatolia to achieve more precise dating and provide more evidence for (or against) the shortened chronology proposed by Gasche *et al.* on the basis of archaeological layers, which, according to them, conforms to the textual evidence from Tell Muḥammad, in the AKL, and with the eclipses mentioned in the omen tablets.

As valuable as data from dendrochronological or astronomical research may be, its direct connection with specific historical events is not easy to establish. For the time being, we are still missing this crucial con-

nection between the sciences and archaeological-historical studies. An exception may be at Acem-Höyük (→ **Dendrochronology**). Data obtained from the natural sciences should be included with some reservation to the chronological discussion. We must be open to all possibilities in our quest for an absolute chronology of 2<sup>nd</sup> millennium BC Mesopotamia and bear in mind the warning of LANDSBERGER (1954) 120: “...Wir erklären uns ausserstande eine ‘Chronologie’ zu bieten. Und wer vermässe sich heute mit gutem Gewissen, dies tun zu können? ...”

### 1.5. Basic Synchronisms

Since the exact dates for the 2<sup>nd</sup> and 3<sup>rd</sup> millennium BC Mesopotamia are still conjectural, we largely depend on king lists and chronicles as well local chronographers. Especially helpful to establish synchronisms between Mesopotamia and peripheral regions, as well as Egypt are synchronistic accounts (the Synchronistic History, Synchronistic KL, Chronicle P, etc.), diplomatic correspondences and other documents. Relative and absolute chronology may be established by interlocking synchronisms (called the “comparative chronology” by ROWTON in his 1959 and 1966 articles), which aims to collect all known synchronisms in order to provide an understanding of studies that have applied this method to gain absolute dates. Babylonian chronology of the second half of the 2<sup>nd</sup> millennium BC is basically tied to Assyrian chronology, which in turn is based primarily on the AKL, the eponym list and eclipse dates for the 1<sup>st</sup> millennium BC. Egyptian chronology is tied to Mesopotamian chronology, on both of which are Hittite and Elamite chronology dependent.<sup>78</sup>

As early as 1957 GOETZE complained that many scholars dealing with Mesopotamian chronology treated chronology solely on the basis of the king lists and astronomical dates, neglecting the full historical and archaeological evidence.<sup>79</sup> GASCHE *et al.*, *Dating ...* ignored information from peripheral areas (specifically Anatolia and the Levant) in their recent study. But it is danger-

<sup>71</sup> See HUNGER (2002) 171–176 on the historical value of the lunar eclipses mentioned in EAE.

<sup>72</sup> For a critical and insightful review note WARBURTON (2002) 108–114.

<sup>73</sup> ROUAULT, MDAR 51–59.

<sup>74</sup> See YOUNGER, in: W.W. HALLO (ed.), *The Context of Scripture I*, Leiden – New York – Köln (1997) 356–357 and ARNAUD (1998) 153–173. As of now no architectural remains are known from the first phase of the MBA settlement, which roughly corresponds to the Amorite period of the UKL. Unfortunately there are few independent sources for Ugarit’s history of the first half of the 2<sup>nd</sup> millennium, since the

documents of the “Amorite Age” (the terminology used by SINGER [1999] 616–619) are still missing.

<sup>75</sup> ARNAUD (1998) 153–173.

<sup>76</sup> See ZEEB (2001), EDER (2003) and BERGOFFEN (2003) and (2005).

<sup>77</sup> See a preliminary report by GATES (2000) 77–101.

<sup>78</sup> BOESE – WILHELM (1979) 35–37; for a summary on Hittite chronology see DE MARTINO (1993) 218–240. For Elamite chronology see VALLAT (2000) 7–17.

<sup>79</sup> The archaeological evidence cannot be included in the present study but will be covered in one of the companion projects of the special research program SCIEM 2000.

ous to neglect any relevant information. As KLINGER (1995) 236 stated: "... Entsprechend groß ist die Bedeutung von Synchronismen zwischen den hethitischen Königen und denen der benachbarten Staaten, da dies im Moment noch die verlässlichste Methode darstellt, um zu einem relativ gesicherten Bild der Ereignisabfolge und damit vielleicht auch zu den notwendigen Angelpunkten für eine absolute Chronologie zu kommen." This plea is still relevant, given that the discussions in response to Gasche *et al.* state that synchronisms with the Western neighbors of Mesopotamia have been simply neglected.<sup>80</sup> However, major improvements have recently been made in the chronology of peripheral areas, and the study of Mesopotamian chronology can benefit from this, especially with respect to the synchronisms. Synchronisms constitute the most secure textual evidence for the dating of most rulers of minor dynasties. Even indirect synchronisms, when handled with care, have value for absolute chronology. In 1976 BRINKMAN, MSKH showed uncertainties for several indirect Egypto-Babylonian synchronisms in the Kassite period (see p. 7 concerning the often used text KBo 1, 10), but it must be kept in mind that in most cases we are dealing with synchronisms that cover time spans and are not tied to specific dates (→ sub 1.2.).

As ZEEB (2001) pointed out, studies in Mesopotamian and Egyptian chronology have followed different ways and means. Some scholars have tried to show various connections between chronological systems in Mesopotamia and Egypt. Others have first focused on the chronologies of peripheral areas, such as Syria and Anatolia, before attempting to link the two major cultures' chronologies. ZEEB stressed (p. 70) "Es darf zu keinem Zeitpunkt außer acht gelassen werden, daß die Kulturen in enger Verbindung zueinander standen und keine von ihnen abgeschottet von den anderen existierte. Vielmehr hat der enge kulturelle, wirtschaftliche und politische Austausch zwar Synchronismen zur Folge, die unsere Arbeit erleichtern und überhaupt erst ermöglichen, andererseits ist zu bedenken, daß jede Änderung der Chronologie an einer Stelle zwangsläufig Änderungen an anderen

Orten zur Folge hat. ... Man darf nicht eine widerspruchsfreie Chronologie eines Ortes erheben, ohne die Auswirkungen für das gesamtchronologische System zu bedenken."

GATES, *High ...* 2, 60–61, who dealt with the 2<sup>nd</sup> millennium pottery from Alalah, stated that the chronologies from peripheral areas with fixed points of intersection with other cultural zones are to be preferred "whenever they appear to conflict with the absolute chronologies reconstructed from the 'heartland' cultures". She therefore believed that the Alalah material must suggest a correct chronology, rather than the internally consistent Mesopotamian one, and consequently chose to work out the details of Alalah chronology first.

By establishing the absolute chronological dates for Hammu-rāpi' of the Babylon I Dynasty, one can in turn establish the approximate regnal dates of the contemporary kings Neferhotep I of the 13<sup>th</sup> Dynasty of Egypt, Iantim-ʿAmmu of Byblos<sup>81</sup> and Zimri-Lim of Mari, thus connecting Egypt, the Levant and Syria with Mesopotamia. The important synchronism between Hammu-rāpi' and Šamši-Adad I of Aššur given by VAB 5, 284, 11f.,<sup>82</sup> which dates Šamši-Adad I to the 10<sup>th</sup> year of Hammu-rāpi', and the Mari correspondence<sup>83</sup> correlates Babylonian chronology with Assyrian chronology based on the AKL. Since the Hittite ruler Muršili I is understood to have been responsible for the fall of Babylon, he must be a contemporary of the last ruler of the Babylon I Dynasty, Samsuditana.<sup>84</sup> The preceding ruler Ammišaduqa is known to have ruled at the same time as Kuk-Našur II of the Elamite Sukkalmaḥ dynasty. For a later period we possess another synchronism between Babylonia and Elam: the Kassite Kadašman-Ḥarbe I and Tepti-ahar of the Kidinuids. From about 1450 BC onwards the chronology of the Near East is based on interlocking information from KLs and synchronisms that prevent the possibility of gross errors.

#### 1.5.1. Comments on absolute dates cited in various modern tables

Various absolute dates can be found in chronological tables. Basically, the Assyrian dates rely on the analy-

<sup>80</sup> See the latest comment by KÜHNE (1999) 203<sup>1</sup>. In his 1982 article on political relations in the middle of the 2<sup>nd</sup> millennium BC Kühne opted for the LC; but later, in 1999 he decided for a chronology between the MC and LC.

<sup>81</sup> See for instance RÖLLIG (1965) 267–270 on the synchronism between Iantim-ʿAmmu, ruler of Byblos attested in the Mari archives, and Neferhotep I. He pointed out that this synchronism has been often used to support the LC: but apart from the doubtful identification of the ruler Iantim-ʿAmmu with the name in the inscription attested on the three scarabs published by NEWBERRY, *JEA* 14 (1928) 109 and FOR-

RER – EHRLICH, *Early Pottery of the Jebel Region*, Philadelphia (1939) 120–121, little is known about the chronology of the Byblos rulers that could serve as a marker for absolute chronology. According to Albright and Helck (both LC), Neferhotep I reigned from 1740/38–1729/1727. (→ fn. 51)

<sup>82</sup> THUREAU-DANGIN, *RA* 34 (1937) 135–139.

<sup>83</sup> ARM 1, 93; DURAND (1997) 501. Note the synchronism between Šamši-Adad's death and year 18 of Hammu-rāpi' (see below sub 1.7.1. and → **Eponyms**).

<sup>84</sup> For possible additional reasons → **Babylon I** sub 5.

sis of the AKL (with “minor” variants: uncertainties due to the differences in interpretation of the expression DUB-*pi-šu*, variants in the manuscripts of the AKL, the assumed length of first Assyrian Dark Age, etc.) plus the assumption on whether the Assyrians used the lunar or the solar calendar before Tiglath-pileser I. Gasche *et al.* assumed that a lunar calendar was in use before Tiglath-pileser I, which resulted in the subtraction of one year per 33 years for the preceding period. This means that the absolute dates for Šamši-Adad, who according to their earlier, solar-calendar-based, chronology dated to 1737–1705, had to be lowered by 18 years to 1719–1688 BC. Only a short time later in *Akkadica* 108 (1998) 1–4 they had to further correct this date due to a corrected synchronism between the year of death of Šamši-Adad I and year 17 (instead of year 8) of Hammu-rāpi’ by lowering these dates by another nine years to 1710–1679.<sup>85</sup> The most commonly used charts based on the MC and the solar calendar “classically” date the 39<sup>th</sup> Assyrian king to 1813–1781 BC (BRINKMAN [1977], WALKER [1995]<sup>86</sup>). Depending primarily on the assumed length of the Assyrian Dark Age succeeding the reign of Išme-Dagān, the dates for Šamši-Adad I are given as 1807–1775 in the *Dictionnaire ...* and 1748–1716 BC by STARKE (2002) 311. Accordingly the regnal years for the rulers of the Babylon I dynasty are fit into this scheme depending on the VT (Fall of Babylon according to the UHC = ca. 1700 BC, HC = 1651 BC, MC = 1595 or 1587 BC, LC = 1539 or 1531 BC, NC = 1499 BC and ULC 1467 BC). This means that Samsuditana is either “classically” dated 1625–1595 (MC: BRINKMAN [1977]), or 1562–1531 (LC: STARKE [2002]<sup>87</sup>), or 1525–1499 (NC: GASCHE *et al.*, *Dating ...*).

Different versions of the AKL give different lengths of reign for the kings Aššur-dān I and Ninurta-apil-Ekur at the beginning of the 12<sup>th</sup> cent. BC. Depending on which version is accepted, a variation of 10 years in the dating of the Middle Assyrian kings is possible. The lowering of Middle Assyrian chronology by 10 years by beginning Enlil-nāšir’s reign in 1420 instead of 1430 BC results in an overlap of the Kassite and Isin II dynasties (BRINKMAN, MSKH 32<sup>89</sup> and BOESE – WILHELM [1979] 35). BRINKMAN (1970) and WALKER (1995) used the conventional “higher”

dates (i.e. 1430 BC for the start of Enlil-nāšir II). GASCHE *et al.* explained in *Dating ...* 62–63 and *Akkadica* 108 (1998) 1–4 that they arrived at their dates for the Middle Assyrian kings by the beginning with the 1430–date and subtracting eight years because of their assumption that the lunar calendar was in use in Assyria during that time (i.e. 1422 BC for the beginning of Enlil-nāšir’s reign). They rejected the otherwise widely accepted views of Boese and Wilhelm on the AKL and Assyrian Distanzangaben.

BRINKMAN, MSKH 32<sup>89</sup> pointed out that the dates for Kassite rulers can be lowered by five years depending on Assyrian chronology, the length of reign assigned to Kadašman-Enlil II, the sequence of rulers after Kaštiliašu IV, etc. This lowering has been done by BOESE (1982) 15–26 and Gasche *et al.*, *Dating ...* The lowering of one year with a margin of ±6 years depends on how many years are calculated for Aššur-nādin-apli (three rather than four). A lowering of ten years, with an uncertainty of +5/–6 years, results if one allows three rather than 13 years for the reign of Ninurta-apil-Ekur. If the alternative figures for both kings are accepted (four and three years respectively) all dates can be lowered by eleven years (with the same uncertainty). Of course the assumption of a lunar calendar in Assyria lowers all Kassite dates by five years as well: see for instance the table by BECKMAN (2000) 28 apud Kadašman-Turgu: 1281–1264 BC (Brinkman) or 1276–1259 BC (lowered Brinkman-dates cited by GASCHE *et al.*, *Dating ...*).

Differences of up to 20 years can be found in tables dealing with Hittite rulers of the second half of the 2<sup>nd</sup> millennium BC. The proposal of only 20 years reign for Šuppiluliuma I by WILHELM – BOESE (1987) 74–117 was adopted by such scholars as DE MARTINO (1993) 233 and BRYCE (1999), whereas ASTOUR (1989), FREU (1997) or STARKE (2002) 314 opted for a longer reign of up to 40 years. Like Babylonian chronology, Hittite chronology is dependent on Assyrian chronology. Therefore, a variety of absolute dates depending on which Mesopotamian chronology is adopted can be observed in the literature. Because the dates of the 2<sup>nd</sup> millennium rulers of Syria and Elam ultimately depend on the Assyrian and Babylonian chronology, they can be only approximate.

<sup>85</sup> Since they depend on the astronomical data of the VT, etc., upon which the study of Gasche *et al.* strongly relies, the dates of the Babylonian kings are invariant.

<sup>86</sup> Here, an incorrect synchronism dating the death of Šamši-Adad I to year 12 of Hammu-rāpi’ is used (on this synchro-

nism see WHITING [1990] 167–218. → **Calendar** and **Eponyms.**)

<sup>87</sup> But note the incorrect synchronism between Šamši-Adad I and Hammu-rāpi’ in this table (LC).



### 1.5.2. Specific studies and comments on chronology

*Selected older publications:* EHRLICH (ed.) (1992, based on older tables); LANDSBERGER (1954); PALLIS (1956); POEBEL (1942–1943); RÖLLIG (1965); ROWTON (1970); SCHMIDTKE (1952); SMITH (1940); VAN DER MEER (1955)

*More recent studies:* Akkadica 119–120 (2000), *Ä&L* 3 (1992); ASTOUR (1989); BOESE – WILHELM (1979); BRINKMAN (1976); CAH (1970); CANE (1995); COLLON (2000) 6–9; High 1–3 ... (1987–1989); DE MARTINO (1993) 218–223; EDER (2004) 227–289; EDER – RENGER (2004); FREYDANK (1991); GASCHE *et al.*, *Dating ...*; HUNGER – PRUZSINSZKY (eds.), MDAR; MICHEL (2002) 17–18; PRUZSINSZKY (2006, a–c); SALLABERGER (2004); SASSMANNSHAUSEN (2006) 157–177; SINGER (1999) 606–608; TADMOR (1970) 63–101; VEENHOF (1981), (2000), (2001) 35–50, (2003) and (2007); WILHELM – BOESE (1987); ZEEB (2001) 67–89

*Selected useful tables:*

a) **General:** BRINKMAN (1977) 335–348; EDER – RENGER (2004); EHRLICH (1992); GASCHE *et al.*, *Dating ...* and (1998a) 3–4; HALLO – SIMPSON (1998); JOANNÈS (ed.), *Dictionnaire ...*; NISSINEN (2003); ROAF (2000); STARKE (2002) 310–315; VAN DE MIEROOP (2003); VEENHOF (2001) 306–315; WALKER (1995) 230–238

b) **First half of the 2<sup>nd</sup> millennium BC:** EDER – RENGER (2004); EDZARD (1957), Anhang A; FRAYNE, RIME 4 (1990) xxx–xxxii; SIGRIST – KROMHOLZ (1986); SIGRIST (1988) 8 and (1990), WHITTAKER (1989)

c) **Second half of the 2<sup>nd</sup> millennium BC:** BECKMAN (2000) 26–28; BOESE (1982) 23, BOESE – WILHELM (1979) 38; BRINKMAN (1976); DE MARTINO, PdP 55 (2000) 102; EDER – RENGER (2004); FREYDANK (1991); KLENGEL (1992) and (1999) 388–393; LIVERANI (1990) 302–303; SASSMANNSHAUSEN, MDAR 67 and (2006) 177; SINGER (1999); TADMOR (1970) 98–99; VAN SOLDT, AOAT 40 (1991) 44–45; WILHELM (1982) 140–141

### 1.6. Synchronisms (General)

**General:** see above sub selected useful tables.

Mesopotamian dynasties:

- **Ur III & Isin I & Larsa:** CHARPIN (2004) 385–387; EDZARD (1957); SALLABERGER (1999) 119–390 and (2004) 37–41; SIGRIST (1990); STOL (1976); UNGNAD (1938) 159
- **Babylon I Dynasty & Isin I & Larsa:** CHARPIN (2004) 385–387; CHARPIN – ZIEGLER (2003) 262; EDZARD (1957); FRAYNE, RIME 4 (1990) xxx–xxxii; HALLO – SIMPSON (1998) 94–95; SIGRIST (1988) 8; STOL (1976); WHITTAKER (1989) 79
- **Babylon I Dynasty & Assyria:** FRAYNE, RIME 4 (1990) xxx–xxxii; GASCHE (2003) 216–217; HALLO – SIMPSON (1998) 94–95; KUHRT (1995) 91; KUPPER (1985) 147–151; LARSEN (1976); VEENHOF (1985) 216, (1998) 421–450 and (2003) 306–315
- **Babylon I Dynasty & Sealand dynasty:** BRINKMAN (1976) and (1993–1997) 6–10; VEENHOF (2001) 311

- **Babylon I Dynasty & Kassite dynasty:** BRINKMAN (1976) 28–29; EDER (2004) 214–217; GASCHE (2003) 216–217; GASCHE *et al.*, *Dating ...*; PIENKA (1998); PODANY (2002) 43–51; RICHARDSON (2002); SASSMANNSHAUSEN, MDAR 61–70; DE SMET (1990) 1–19; VAN KOPPEN, MDAR 9–34; VAN LERBERGHE (1995) 379–393; VEENHOF (2001) 311
- **Kassites & Isin II Dynasty & Assyria:** BOESE – WILHELM (1979) 19–38; BRINKMAN (1968), (1970) 305–307, (1976) and (1983) 67–74; CANKIK-KIRSCHBAUM (1996) 11–12 and (1999) 210–222; FREYDANK (1991) and (2000) 67–72; GALTER (2000) 32; HARRAK (1987); JAKOB (2003) 9–10 and 64–65; LEE-MANS (1955) 202–204; SASSMANNSHAUSEN, MDAR 67; WALKER (1982) 398–417; WILHELM (1994) 549–552

*Mesopotamia and Elam, Egypt, Syria and Anatolia*

- **Babylonia (Ur III) & Elam (Awan and Simaški):** GASCHE *et al.*, *Dating ...*; POTTS (1999) 122–125; SIGRIST (1990); STEINKELLER (1988) 197–202; VALLAT (1996) 312–315 and (2000) 7–17; VAN DIJK (1978) 193 and 198
- **Babylonia (Isin I) & Elam (Simaški):** GASCHE *et al.*, *Dating ...*; POTTS (1999) 142–144; VALLAT (1996a) 77–78, (1996) 312–315 and (2000) 7–17; VAN DIJK (1978) 189–207
- **Babylonia (Isin I and Larsa) & Elam (Sukkalmaḫs):** GASCHE *et al.*, *Dating ...*; POTTS (1999) 162; VALLAT (1990) 119–127, (1996) 312–314 and (1997) 102–103
- **Babylonia (Ešnunna) & Elam (Simaški):** GASCHE *et al.*, *Dating ...*; VALLAT (1996) 313
- **Babylonia (Ešnunna) & Elam (Sukkalmaḫs):** CHARPIN – ZIEGLER (2003) 216–230; VALLAT (1990) 119–127 and 297–319
- **Babylonia (Babylon I dynasty) & Elam (Simaški):** HALLO – SIMPSON (1998) 80–82; POTTS (1999) 146; VALLAT (1996) 312–315
- **Babylonia (Babylon I dynasty) & Elam (Sukkalmaḫs):** DURAND (1986) 111–128; GASCHE *et al.*, *Dating ...* (table); VALLAT (1990) 119–127, (1996) 301–309 and 312–315 and (2000) 7–17
- **Babylonia (Babylon I dynasty, Kassites) & Sealand dynasty:** BRINKMAN (1993–1997) 6–10; GADD (1978) 176–227; GASCHE *et al.*, *Dating ...*; GRAYSON, ABC; LAMBERT (1990) 28; LANDSBERGER (1954) 68–70; RÖLLIG (1965) 115–119
- **Babylonia (Kassites) & Elam (Kidinuids):** COLE – DE MEYER (1998) 44–45; POTTS (1999) 189 and 192–193
- **Babylonia (Kassites) & Elam (Ighalkids):** STEVE – VALLAT (1989) 223–238; VALLAT (2000) 7–17; VAN DIJK (1986) 159–170

- **Babylonia (Kassites and Isin II) & Elam (Šutrukids):** CAMERON (1936); POTTS (1999) 233 and 242–247; STEVE – VALLAT (1989) 223–238; VALLAT (1996) 228 and (2000) 7–17
- **Assyria & Elam (Sukkalmahs):** CARTER – STOLPER (1984) 218–221; CHARPIN (1999) 121–130; EIDEM – LÆSSØE (2001) 32–33; LÆSSØE, (1965) 189–196; POTTS (1999) 166–171; VALLAT (1990) 119–127 and (1996) 312–315
- **Mesopotamia & Anatolia & Egypt:** BECKMAN (2000) 19–32; BIERBRIER (1975) 109–111; BRINKMAN (1976); KITCHEN (2000) 39–52; KLINGER (2006) 304–324; V. MÜLLER (2005) 193–210; VON BECKERATH (1997) 59–68; WILHELM – BOESE (1987) 74–117
- **Mesopotamia & Anatolia (Hatti) & Syria /the Levant & Mittani:** BECKMAN (2000) 22–28; BOESE – WILHELM (1979) 38; BERGOFFEN (2003) 395–410 and (2005) 55–73; BRINKMAN (1976) 6<sup>1</sup>; CHARPIN – ZIEGLER (2003); COHEN – WESTBROOK (2000); DE MARTINO (1993); FREU (2003) and (2003a) 101–118; GIORGIERI – MORA (2005); HOUWINK TEN CATE (1996) 40–75; KEMPINSKI (1983) 197–229; KLENGEL (1992) and (1999) 388–390; KLINGER (1995) 235–248 and (2006) 204–324; KÜHNE (1973), (1982) 203–264 and (1999) 203–221; MALAMAT (1998) 411–418 and (1998a) 51–55; MORAN (1992); RÖLLIG (1965) 295ff.; SAMMAN (1997); SINGER (1999); STARKE (2002) 310–315; TADMOR (1970) 98–99; VEENHOF (2001) 313; VON DASSOW (2008); WARBURTON (2000) 33–76; WILHELM (1991) 469–476; WILHELM – BOESE (1987) 74–117; WILLIAMS (1985) 3–10; ZEEB (2001) 101–103

### 1.6.1. Synchronisms for the first half of 2<sup>nd</sup> millennium BC

Mesopotamia: Babylon I dynasty, Isin and Larsa dynasties (dates according to the MC)<sup>88</sup>

Babylon I	Isin	Larsa
	I <sub>1</sub> bi-E <sub>1</sub> rra (2017–1985)	Napl <sub>1</sub> num (2025–2005)
	Š <sub>1</sub> <sup>1</sup> -il <sub>1</sub> i <sub>1</sub> u (1984–1975)	Emi <sub>1</sub> um (2004–1977)
	Iddin-Dag <sub>1</sub> am (1974–1954)	Samium (1976–1942)
	I <sub>1</sub> me-Dag <sub>1</sub> am (1953–1935)	
	Lipit-I <sub>1</sub> tar (1934–1924)	Zab <sub>1</sub> ya (1941–1933)
		Gungunum (1932–1906)
	Ur-Ninurta (1923–1896)	
		Ab <sub>1</sub> ar <sub>1</sub> am (1905–1895)
Sumuabum (1894–1881) <sup>89</sup>	B <sub>1</sub> <sup>1</sup> r-Sin (1895–1874)	Sumuel (1894–1866)
Sumulael (1880–1845)	Lipit-Enlil (1873–1869)	
	Irra-imitt <sub>2</sub> (1868–1861)	
		N <sub>1</sub> <sup>1</sup> r-Adad (1865–1850)
	Enlil-b <sub>1</sub> am (1860–1837)	Sin-iddinam (1849–1843)
S <sub>1</sub> abium (1844–1831)	Zamb <sub>1</sub> ya (1836–1834)	Sin-er <sub>1</sub> bam (1842–1841)
		Sin-iq <sub>1</sub> am (1840–1836)
	It <sub>1</sub> <sup>1</sup> -p <sub>1</sub> am (1833–1831)	f <sub>1</sub> illi-Adad (1835)
Apil-Sin (1830–1813)	Urdu <sub>1</sub> kuga (1830–1828)	Warad-Sin (1834–1823)
	Sin-m <sub>1</sub> gir (1827–1817)	
	Damiq <sub>1</sub> -il <sub>1</sub> i <sub>1</sub> u (1816–1794)	R <sub>2</sub> <sup>1</sup> m-Sin I (1822–1763)
Sin-muballi <sub>1</sub> (1812–1793)		
Hammu-r <sub>1</sub> pi (1792–1750)		
Samsuiluna (1749–1712)		R <sub>2</sub> <sup>1</sup> m-Sin II

Table 3

Sources: CHARPIN (2004) 385–387 (with a shift of 2 years for the rulers of the Isin I dynasty according to Sigrist's results: e.g. 2019–1987 for Išbi-E<sub>1</sub>rra); EDZARD (1957); FRAYNE, RIME 4 (1990) xxx–xxxii; HALLO – SIMPSON (1998) 94–95; KRAUS, JCS 3 (1949) 26f.; MATOUŠ, ArOr 20 (1952); SIGRIST (1988) 8; WHITTAKER (1989) 79 → Year

<sup>88</sup> In the following table no direct synchronisms are marked or indicated. For direct synchronisms and their attestations see the chart in *Dating...*

<sup>89</sup> For evidence that Sumuabum and Sumulael were contemporaries see CHARPIN (2004) 80–86.

Northern Mesopotamia (dates according to the MC)

Babylon I	Ešnunna	Aššur	Mari
Sumulael	Ib <sup>2</sup> -p <sup>2</sup> -El I (?-ca. 1863)	Sargon I (1919-1880)	
S <sup>2</sup> bium	Ipiq-Adad II (ca. 1862-ca. 1818)	Puzur-Aj <sup>2</sup> ur II (1879-1872)	
Apil-Sin		Nar <sup>2</sup> m-Sin (1871-?)	Iaggid-L <sup>2</sup> m
Sin-muballi <sup>2</sup>	Nar <sup>2</sup> m-Sin (ca. 1818-?) Dadu <sup>2</sup> a (?-ca. 1779)	Šam <sup>2</sup> i <sup>2</sup> -Adad I (1807-1775)	Ia <sup>2</sup> ḏun-L <sup>2</sup> m (ca.1810-ca.1794)
Hammu-r <sup>2</sup> pi <sup>2</sup> Ÿ	Ib <sup>2</sup> -p <sup>2</sup> -El II: 1778-1765	Ij <sup>2</sup> me-Dag <sup>2</sup> m I (1775-1761 [?])	Iasma <sup>2</sup> Addu (ca. 1792-ca. 1775) Zimri-L <sup>2</sup> m (1775-1762)
Samsuiluna			

Table 4

Sources: CHARPIN (2004) 389-390; CHARPIN – ZIEGLER (2003) 262; FRAYNE, RIME 4 (1990) xxx-xxxii, HALLO – SIMPSON (1998) 94-95, VEENHOF (1985) 216, (2007) 60 and (2008) 29. For the dates of Šam<sup>2</sup>i<sup>2</sup>-Adad I → below sub 1.7.1.

The main direct synchronisms during Mesopotamia's Dark Age

Babylon I	Kassite dynasty	Sealand I dynasty	Assyria
Samsuiluna Ab <sup>2</sup> e <sup>2</sup> u <sup>2</sup>	Ganda <sup>2</sup> Agum I	Iluma-AN	
	Burna-Buria <sup>2</sup> I Ulam-Buria <sup>2</sup>	Ea-g <sup>2</sup> m <sup>2</sup> il	Puzur-Aj <sup>2</sup> ur III
	Kara-inda <sup>2</sup>		Aj <sup>2</sup> ur-b <sup>2</sup> -ni <sup>2</sup> ḡu

Table 5

Sources: BRINKMAN (1993-1997) 6-8, GASCHÉ *et al.*, *Dating ...*, VEENHOF (2001) 311

1.6.2. Synchronisms for the second half of 2<sup>nd</sup> millennium BC<sup>90</sup>

Mesopotamia, Ḫatti and Egypt<sup>91</sup>

Assyria	Babylonia	Ḫatti	Egypt	Source(s)
Puzur-Aj <sup>2</sup> ur III	Burna-Buria <sup>2</sup> I			Synchr. Hist., Synchr. KL (?)
Aj <sup>2</sup> ur-b <sup>2</sup> -ni <sup>2</sup> ḡu	Kara-inda <sup>2</sup>		Tutmosis IV	Synchr. Hist. (?)
Aj <sup>2</sup> ur-n <sup>2</sup> ḏin-a <sup>2</sup>	Kurigalzu I		Amenhotep III	EA (= El-Amarna tablets)
	Kada <sup>2</sup> man-Enlil I		Amenhotep III	EA
Aj <sup>2</sup> ur-uballi <sup>2</sup>	Burna-Buria <sup>2</sup> II	Šuppiluliuma I	Amenhotep III/IV Tutankhamon	EA, Synchr. Hist., Chronicle P
	Karakinda <sup>2</sup> Nazi-Buga <sup>2</sup> Kurigalzu II			

Table 6

<sup>90</sup> A very useful synoptic table by Starke, which includes the rulers of Assyria, Babylonia, Elam, Anatolia and Syria/Upper Mesopotamia, can be found in EDER – RENGER (2004) 59-75.

<sup>91</sup> The synchronisms between the rulers of Mesopotamia, Ḫatti and Egypt in the second half of the 2<sup>nd</sup> millennium BC on the basis of the EA tablets, etc. have been thorough-

ly discussed by RÖLLIG (1965) 295ff. and KÜHNE (1973). For some chronological considerations see also WILHELM – BOESE (1987) 74-117. Intra-Mesopotamian synchronisms have been extensively studied by BRINKMAN, MSKH and PHPKB and by SASSMANNSHAUSEN, MDAR 61-70 (→ 7.). Direct synchronisms with Hittite kings have been treated by KLENGEL (1999).

Assyria	Babylonia	Hatti	Egypt	Source(s)
Enlil-n <sup>2</sup> r <sup>2</sup> ṣ <sup>2</sup>				Synchr. Hist., Chronicle P Royal inscription, VAT 13056 = Ass. Chronicle frag., Tukult <sup>2</sup> -Ninurta epic
Adad-n <sup>2</sup> r <sup>2</sup> ṣ <sup>2</sup> I	Nazi-Maruttaḫ	Murḫili II (?)		Synchr. Hist., Chronicle P (restored), Tukult <sup>2</sup> -Ninurta epic
	Kadaḫman-Turgu	Muwatalli II	Ramses II	VAT 1520 (treaty?), Battle of Qadeḫ, CTH 174
		Murḫili III ḫattuḫili III		dynastic marriage (ḫatti & Egypt)
				VAT 15420 (WEIDNER, ITN, table 12), Treaty (ḫatti & Egypt), CTH 155ff.
Šalmaneser I	Kadaḫman-Enlil II			KBo 1, 10 (CTH 172), EA
		Tudḫalia IV		CTH 209.15, KBo 1, 14 (CTH 173), CTH 91, CTH 177
Tukult <sup>2</sup> -Ninurta I	Kaḫtiliaḫ IV			Battle of Nairi, Synchr. Hist., Chronicle P, Synchr. KL (restored), Royal inscr. BM 98730, Tukult <sup>2</sup> - Ninurta epic CTH 208
		Arnuwanda III Šuppiluliuma II	Merenptah(?)	
	Adad-ḫuma-u, ur			Chronicle P
Aḫḫur-n <sup>2</sup> r <sup>2</sup> ṣ <sup>2</sup> III				ABL 924 (ARI I, 137)
Enlil-kudurr <sup>2</sup> -u, ur				Synchr. Hist., BM 27796 (Chronicle)
Ninurta-apil-Ekur				Synchr. Hist., Synchr. KL (?)
	Meli-Šipak <sup>92</sup>			Synchr. KL, list of objects <sup>93</sup>
Aḫḫur-d <sup>2</sup> ḫn I	Zababa-ḫuma-iddina Enlil-n <sup>2</sup> ḫdin-aḫ			Synchr. Hist. Synchr. KL
Aḫḫur-r <sup>2</sup> ḫa-iḫi	Ninurta-n <sup>2</sup> ḫdin-ḫumi Nebuchadnezzar I Enlil-n <sup>2</sup> ḫdin-apli			VAT 10281 = Ass. Chronicle frag. (WEIDNER, ITN, 58f., no. 70), Synchr. KL, Synchr. Hist.
Tiglath-pileser I	Marduk-n <sup>2</sup> ḫdin-aḫḫi			Synchr. KL, Synchr. Hist., Royal inscr., VAT 10465 (AfO 17, 384f.) = Ass. Chronicle frag., OIP 2, 83
	Marduk-ḫpik-z <sup>2</sup> ḫi			Synchr. Hist., Synchr. KL Ass. Chronicle frag., Royal Inscr.
Aḫḫur-b <sup>2</sup> ḫkala				Synchr. Hist., Synchr. KL, Eclectic Chronicle
	Adad-apla-iddina			Synchr. KL (restored), Synchr. Hist.

Table 6 continued

Sources: BRINKMAN, MSKH 28–29; GASCHE *et al.*, *Dating ...*; GRAYSON, ABC, Appendix B and (1980–1983) 126–135; HECKER, TUAT N.F. 2 (2005) 42; VON BECKERATH (1997)

<sup>92</sup> For an indirect synchronism of Meli-Šipak with Ramses III note VON BECKERATH (1997) 68. Note also BOESE (1982) 15–26.

<sup>93</sup> On the synchronism between Meli-Šipak and Ninurta-apil-Ekur see FRAHM, *MDOG* 134 (2002) 75.

Egypt-Mittani-Hatti (Karkemiš)-Assyria (dates according to the MC, Assyrian dates according to the “lowered Assyrian chronology” of ten years<sup>94</sup>)

Egypt	Mittani	Hatti <sup>95</sup>	Assyria	Karkemiš
Amenhotep II (1425–1400)	Saujtatar	Tud@alia I (ca. 1425–1410)	Aj;ur-b@ni;@u (1407–1399)	
Tutmosis IV (1400–1391)	Artatama I	Arnuwanda I (ca. 1400–1380)	Aj;ur-r@n-ni;@u (1398–1391) Aj;ur-n@din-a@@@ (1390–1381)	
Amenhotep III (1391–1353)	Šuttarna II	Tud@alia II (ca. 1380–1360)		
Akhnaton (1353–1336)	Tu;ratta (ca. 1360–1330)			
Tutankhamon Ay	Šattiwaza –ca. 1300	Šuppiluliuma I (ca. 1350–1324)	Aj;ur-uballiḫ (1353–1318)	Šarri-Ku;u@
		Arnuwanda II Murjili II (ca. 1321–1298)	Adad-nḫḫḫ I (1295–1264)	Ša@runuwa
Ramses II (1279–1213)		Muwatalli II		
	Šattuara II	Murjili III/ Ur@Te;up i attu;ili III (ca. 1266–1240)	Šalmaneser I (1263–1234)	Ini-Te;up
		Tud@alia IV (ca. 1239–1209)	Tukultḫ-Ninurta I (1233–1197)	
Merenpt@ (1213–1203)		Šuppiluliuma II (ca. 1205–1175)		Talmi-Te;up
Ramses IV (1155–1150)			Aj;ur-b@kala (1073–1056)	

Table 7

The Chronology on the basis of the Amarna correspondence<sup>96</sup>

Assyria	Egypt	Babylonia	Mittani	Hittites
Aj;ur-b@ni;@u	Amenhotep II 1425–1400	Kara-inda;ı	Saujtatar	Tud@alia I ca. 1425–1410
Aj;ur-r@n-ni;@u	Tutmosis IV 1400–1391	Kada;man-ı arbe I	Artatama I	Arnuwanda ca. 1400–1380
Aj;ur-n@din-a@@@ 1393–1384	<b>Amenhotep III</b> 1391–1353	Kurigalzu I <b>Kadašman-Enlil I</b> ca. 1365–1350	Šuttarna II	Tud@alia II ca. 1380–1360
Erḫba-Adad I 1383–1354	<b>Amenhotep IV</b> 1353–1336	<b>Burna-Burias II</b> ca. 1350–1323	<b>Tušratta</b> ca. 1360–1330	<b>Šuppiluliuma I</b> ca. 1350–1324
<b>Aššur-uballit</b> 1353–1318	Smenkhkare Tutankhamon 1334–1324			
Enlil-nḫḫḫ 1317–1309	Ay Haremhab 1320–1393	Kurigalzu II ca. 1322–1298	Artatama II Šattiwaza –ca. 1300	Arnuwanda II Murjili II ca. 1321–1298 <sup>97</sup>

Table 8 Names in **bold** are the senders or recipients of the Amarna letters

<sup>94</sup> BOESE – WILHELM (1979) 38 (table). → **AKL**. The dates for the kings preceding Mutakkil-Nusku (no. 85) are ten years lower than in WALKER (1995) 232 or BRINKMAN (1977) 345.

<sup>95</sup> The reign lengths of the Hittite kings can only be estimated since their exact regnal years are unknown.

<sup>96</sup> This table is based on the one by VEENHOF (2001) 313. For

the chronology of the Amarna letters see KÜHNE (1973), MORAN (1992), BOESE (1982) 15–26 and COHEN – WESTBROOK (2000).

<sup>97</sup> These dates, which were taken from VEENHOF’s table (2001), are according to the solar eclipse of 1312 BC. Boese and Wilhelm, however, dated the eclipse to 1308 BC.

Important synchronisms between the main powers in the ANE as seen from the Hittite perspective<sup>98</sup>

Ḫatti	Kizzuwatna	Egypt	Assyria	Babylonia	Mittani
Ḫattušili I				Samsuditana	
Muršili I, Ḫantili I					
Zidanta I					
Ammuna I					
Ḫuzia I, Telipinu I, Taḫurwaili	Išputaḫšu Eḫeja				
Alluwamna					
Ḫantili II					
Zidanta II	Pilliya	Tutmosis I			Parattarna I
Ḫuzia II, Muwatalli I		Tutmosis III			
Tudḫalia II (I)	Šunnaššura				Sauštatar
Arnuwanda		Tutmosis IV	Aššur-bēl-nišešu	Kara-indaš	Artatama I
Tudḫalia III <sup>99</sup>		Amenhotep III	Eriša-Adad I	Kurigalzu I	Šuttarna II
Šuppiluliuma I		Amenhotep IV Smenkhkare Tutankhamon Ay	Aššur-uballiḫ <sup>100</sup>	Burna-Buriaš II <sup>101</sup>	Artaššumara Tušratta
			<i>Enlil-nīnānī</i> <i>Arik-dēn-ili</i> <i>Adad-nīrārī I</i>		Šuttarna III
Muršili II				Karakindaš, Nazi-Bugaš Kurigalzu II	Šattiwaza
		Ramses II	<i>Adad-nīrārī I</i> <i>Adad-nīrārī I</i> <i>Šalmaneser I</i> <i>Adad-nīrārī I</i> Šalmaneser I	Kadašman-Turgu <sup>102</sup> Kadašman-Enlil II <sup>103</sup>	
Muwatalli					
Muršili III (=Urḫi-Teššup)					
Ḫattušili III					
Tudḫalia IV					
Šuppiluliuma II		Merenptah	Tukulti-Ninurta I <sup>104</sup> <i>Aššur-nādin-apli</i> <i>Aššur-nīrārī III</i>		

Table 9

The names in *italics* indicate synchronisms between Ḫatti and Assyria that are not quite, but almost, certain.

<sup>98</sup> For a list of direct synchronisms see KLENGEL (1999) 388–390. For a list of synchronisms between Syrian dynasties see KLENGEL (1992). Assyrian-Hittite relations (direct and indirect) from the reign of Šuppiluliuma I onwards were discussed by Giorgieri at the 4<sup>th</sup> CDOG in Berlin, February 2004; see now GIORGIERI – MORA (2005). Those from the reign of Adad-nīrārī I onwards have been lately studied by FREU, in: *FS H. Hoffner* (2003) 101–118. For updated charts (according to the LC) see STARKE (2002).

<sup>99</sup> The existence of Tudḫalia III is disputed: Tudḫalia III is often identified with Tudḫalia II and Tudḫalia IV with Tudḫalia III. See VEENHOF (2001) 314 and WILHELM, MDAR 76.

<sup>100</sup> For the synchronism between Aššur-uballiḫ I and Šarri-kušuh (Amurru) of Karkemiš see LACAMBRE – TUNCA (1999) 600.

<sup>101</sup> Šuppiluliuma I was married to Tawananna, daughter of Burna-Buriaš II. She is mentioned with her husband in the context of the latter's alliance with the Ugaritic king Niqmaddu II. On the alliance during the first Syrian war see BRYCE, *AnSt* 39 (1989) 25.

<sup>102</sup> BRINKMAN, *MSKH* 38, 49 and 135–136.

<sup>103</sup> KBo 1, 10.

<sup>104</sup> Battle of Nairi: BRYCE (1999) 410 gives the wrong synchronism (not Adad-nīrārī I but Tukulti-Ninurta I). This battle is mentioned in a text from Ugarit: LACKENBACHER, *RA* 76 (1972) 141–156 and *RSO* 7 (1991) 90–100, no. 46. → **AKL** sub 2.2.1.3.

### 1.7. Periodization

This subchapter discusses the main Mesopotamian historical periods of the 2<sup>nd</sup> millennium BC. Links and references to issues concerning chronological matters that will be discussed later in this book are provided within each section.

For an overview on the history of Ancient Mesopotamia see CHARPIN in CANE 2 (1995) 807–829. Periods are, of course, abstract and artificial and do not necessarily correspond to major chronological benchmarks nor to the historical reality. In his review of KLENGEL's *Geschichte des hethitischen Reiches* (1999) KLINGER (2000) 77 pointed out that division into periods depends more on the state of research than on actual changes or breaks in historical development. An assortment of terms is used in Ancient Near Eastern studies to designate periods. NEMET-NEJAT (1998), EINWAG (1998) and SAMMAN (1997) supply helpful chronological charts paralleling various terminologies: Einwag's is an especially detailed and insightful analysis of the period designations within the Syrian-Palestinian and Mesopotamian region and the difficulties with these designations. The periodization here is the "classical" one used by Assyriologists, in which all periods are named after the so-called "Sprachstufen" of the Akkadian language, divided into Assyrian and Babylonian.<sup>105</sup>

The Mesopotamian periods covered in this book coincide with the Middle and Late Bronze Age, which can be further divided as shown in table 1 of SAMMAN (1997) 3–4. Samman also offered a very useful sequence of periods namely the preceding ("just before") and succeeding ("just after") time spans of the period between 2000 and 1500 covering Mesopotamia, Anatolia, Syria, Palestine, Egypt and the Eastern Mediterranean. Another useful chart showing the period designations used by various scholars working on Mesopotamia and its neighbors is in EINWAG (1998) 31–33 (Abb. 5 + 6; and see p. 41 [Abb. 7] for the period designations used in Syrian archaeology). However, again it must be emphasized that individual studies dealing with socio-economic, political and geopolitical developments show that the period divisions used are often artificial and misleading.

#### 1.7.1. Old Assyrian Period (→ 2., 3., 8. and 10.5.)

The term "Old Assyrian" applies to the Assyrian dialect of the early second millennium known primarily from texts of entrepreneurs from Aššur who had settled in Anatolia (Kārum Kaniš). The Old Assyrian period starts at the beginning of the 2<sup>nd</sup> millennium BC with Ērišum I (ca. 1974–1933 according to the MC) and lasts until ca. Šamši-Adad I. It is normally divided on the basis of the archaeological strata at Kültepe into

#### Simplified presentation of periods (according to the MC)

	Period	Language	Historical Developments
2100	<b>Ur III period</b> // EBA IVb	Neo-Sumerian	Centralized Ur III dynasty, invasion of the Amorites (Semitic tribes)
2000	<b>Isin-Larsa period</b> // MBA I	(Early) Old Babylonian	(Rival) city-states
1900	<b>Old Assyrian period</b> // MBA I	Old Assyrian	Assyrian Trade
1800	<b>Old Babylonian period</b> // MBA II	Old Babylonian	Mari archives
1700			Hammu-rāpiš
1600	<b>Sealand I dynasty</b> // MBA II		Hittite raid (Muršili I)
1500	<b>Kassite period</b> // LBA I		Fall of Babylon
1400	<b>Middle Babylonian period</b>	Middle Babylonian/Assyrian	Expansion of Mittani, Amarna correspondence, independence of Assyria
1300	<b>Middle Assyrian period</b> // LBA II		
1200	<b>Post-Kassite Period/</b>		Sea Peoples
1100	<b>Isin II dynasty</b> // LBA II		First Arameans
1000	<b>Neo-Assyrian period</b>	Neo-Assyrian	Struggles between Assyria and Babylonia
900	<b>Neo-Babylonian period</b>	Neo-Babylonian	Predominance of Assyria

Table 10

<sup>105</sup> For the basics of these "Sprachstufen" see VON SODEN, GAG 2–5.

**Kārum Kaniš levels II and Ib** (ca. 1927–1836 and ca. 1833/2 – ca. 1719 + x years according to the MC). Level Ib roughly starts with the reign of Šamši-Adad I. No inscriptions are known for the kings preceding Šamši-Adad I in the AKL (→ **AKL** for the structure of its earlier parts). The dating of Šamši-Adad I can possibly be narrowed down by **dendrochronological data** from excavations at Acmehöyük and by a **solar eclipse** mentioned in the **MEC** from **Mari**. The dates of the reigns of Šamši-Adad I and his predecessors can also be estimated on the basis of the **Distanzangaben** from building inscriptions of later Assyrian kings.

Chronological studies of the Old Assyrian period were recently reinvigorated by the discovery of the **KEL** from Kültepe. Not all of its seven known manuscripts have been published yet.<sup>106</sup> The **KEL** lists **eponyms** from the reign of Ērišum I onwards, setting the chronological background of Kārum Kaniš levels II and Ib. Furthermore, it shows that the time span between Ērišum I (no. 33) and Šamši-Adad I (no. 39) was 199 years, much longer than previously thought.

The single most important synchronism between Assyria and Babylonia in the first half of the 2<sup>nd</sup> millennium BC is:

Assyria	Babylonia
Šamši-Adad I (year of death) (1808–1776/1807–1775) <sup>107</sup>	Hammu-rāpi' (year 17 or 18) <sup>108</sup> (1792–1750)

Table 11

Lit.: CANCIK-KIRSCHBAUM (2003); GARELLI (1963); GÜNBATTI (2008) 117; KRYSZAT (2004); KUERT (1995) 91 (table); KUPPER (1985); LARSEN (1976); LÆSSØE (1963); MICHEL, LAPO 19 (2001); RIMA; VEENHOF (1998) 421–450, (2003), (2007) 58–62 and (2008).

### 1.7.2. Early Old Babylonian Period: Dynasty of Larsa, Isin I Dynasty, Babylon I Dynasty (→ 4., 11. and 16.)

The term “Old Babylonian period” is closely connected with the Babylon I dynasty and its famous

ruler Hammu-rāpi'. The time span between the end of the Ur III period (which is also called the “Neo-Sumerian period” or the “Sumerian Renaissance” because of the multitude of texts in the Sumerian language that have survived from it<sup>109</sup>) and the end of the Babylon I dynasty is generally termed “Old Babylonian”, the linguistic designation for the Akkadian used in Babylonia during this time. This period begins with the invasion of southern Mesopotamia by Amorite groups and the devastating sack of Ur by the Elamite Simaški dynasty. It may be subdivided into the early and late Old Babylonian periods. The transition from the Ur III period to the Isin I dynasty has been discussed by van de Mieroop, OLA 24 (1987) 125–126, who, according to a **date-list** from Ur, synchronized Išbi-Erra year 1 with Ibbi-Sin year 8. This period is characterized by conflicts between rival city-states, particularly at first between Isin and Larsa, and later between Mari and Ešnunna.

Numerous synchronisms are known for the Old Babylonian dynasties (“early Old Babylonian period”), namely the links between the Isin and Larsa period (period of city-states, of which some became large entities, such as Mari, Ešnunna, Isin, Larsa and Babylon) and the subsequent Babylon I dynasty (→ below: “late Old Babylonian period” starting with the reign of Abi-ešuh). The end of the Larsa dynasty is marked by the defeat, in his 60<sup>th</sup> year of rule, of Rim-Sin I by Hammu-rāpi' in his 30<sup>th</sup> year. Hammu-rāpi' subsequently united the whole country, including Larsa, Mari and Ešnunna, into one kingdom, which was eventually lost by his successors. The raid on Babylon by Muršili I some 168 years later marked the end of the Babylon I dynasty. Babylon then was occupied by the Kassites, causing a political and cultural change. The fall of Babylon marks the beginning of the Dark Age, a period of uncertain length characterized by a paucity of texts and inscriptions.

<sup>106</sup> VEENHOF (2003) and (2007) 58–62, MICHEL, *AfO* 51 (2007) 323, GÜNBATTI (2008) 103–132.

<sup>107</sup> CHARPIN – ZIEGLER (2003) 154 and 262 date Šamši-Adad's death to year 18 (!) of Hammu-rāpi', whose dates of reign according to the MC are 1792–1750. CHARPIN AND ZIEGLER (2003) 136–138 argue that the death of Šamši-Adad probably took place in the first two weeks of the 12<sup>th</sup> month of the eponym Tāb-šilli-Aššur. This corresponds to the year 1775 BC, as they show on p. 262<sup>748</sup>, and indicates a lowering of the MC by 15 years as shown by MICHEL (2002). Note that for instance VEENHOF (2008) 30 speaks of a reduction of the MC by “ca. 16 years” since he uses the dates 1808–1776 BC for Šamši-Adad I. One must keep in mind that the Babylonian

MC-dates serve as the basis for the synchronized rulers. A purely “Assyrian chronology” based only on the AKL, the Distanzangaben etc. may provide a different set of dates.

<sup>108</sup> Note that most of the tables by Brinkman, Walker, Gasche *et al.* (in *Dating ...*), Starke, etc. incorrectly synchronize the death of Šamši-Adad I with year 12 of Hammu-rāpi'. Gasche *et al.*'s table in *Dating ...* was corrected to Hammu-rāpi' year 17 in *Akkadica* 108 (1998) 1–4. CHARPIN – ZIEGLER (2003) 175 synchronized the year of Šamši-Adad's death with the 18<sup>th</sup> year of Hammu-rāpi' based on a chronological readjustment of calendars (→ sub 10.6.).

<sup>109</sup> For a short summary see KUERT (1995) 59. On the Ur III period see SALLABERGER (1999).



Ur III	Isin I	Larsa	Babylon I
Ibbi-Sin	Išbi-Erra Lipit-Ištar Ur-Ninurta Būr-Sin Zambiya Damiq-ilišu	Gungunum  Sumuel Sin-iqīšam Rim-Sin I Rim-Sin II	Sumuabum Sābium Hammu-rāpi' Samsuiluna <sup>110</sup>

Table 12

The absolute dating of the early Old Babylonian period is mainly based on astronomical events (**lunar eclipses** in the Akkad and Ur III period) mentioned in EAE combined with the **month-length** data of the Old Babylonian period and calculations derived from the risings and settings of the Venus recorded in the Venus Tablet (**VT**) dated to the 8<sup>th</sup> year of **Ammišaduqa** of the Babylon I dynasty. More information on the early 2<sup>nd</sup> millennium can be drawn from various **KLs** (**BKL**, **SKL**), **date-lists** containing year-names, and **chronicles**.

Late 3<sup>rd</sup> and early 2<sup>nd</sup> millennium Mesopotamian kings can also be synchronized with rulers of the Awan, Simaški and Sukkalmaḫ dynasties of Elam, as given in Table 13 (also see the table in GASCHÉ *et al.*, *Dating ...* with further references).

### 1.7.3. Late Old Babylonian Period/Fall of Babylon: Kassite Dynasty, Sealand Dynasty (→3., 4., 5., 7., 14. and 16.)

The late Old Babylonian period starts with the reign of Abi-ešuḫ of the Babylon I dynasty. This period includes the rise of the Sealand I dynasty, whose first ruler was Iluma-AN, a contemporary of Samsuiluna

and Abi-ešuḫ. Little is known about synchronisms with Assyrian rulers. We also lack detailed information on the early Kassite period and the *first* Assyrian Dark Age succeeding the rule of Išme-Dagān I: only with the Early Kassite ruler Burna-Buriaš I can a synchronization be made with the Assyrian ruler Puzur-Aššur III. The hiatus (sometimes referred to as a “major hiatus”<sup>111</sup>) of the Dark Age lies between the end of the Old Babylonian period (Babylon I dynasty) and the middle Kassite period: more texts begin to appear only with Kurigalzu II.<sup>112</sup> This era also corresponds to the transition from the MBA to the LBA (Table 14).

Apart from the **astronomical data**, further evidence for the chronology of the late Old Babylonian Period can be drawn from various **KLs** (**SKL**, **BKL** and the **Synchronistic KL**) and **date-lists** (especially important for reign lengths). Reports of historical events and synchronisms are recorded in **chronicles** and **royal inscriptions**. Because the fall of Babylon, which marks the beginning of the Dark Age, is connected with Muršili I, Hittite chronology as well as the texts from contemporary ruling Syrian dynasties (Ḫalab, Alalāḫ, Terqa) play an important role in the

Ur III	Isin I	Larsa	Babylon I	Elam
Urnammu Šulgi Amar-Sin Šū-Sin Ibbi-Sin	Išbi-Erra  Zambiya	Gungunum	Sumuabum  Hammu-rāpi'	Puzur-Inšušinak (Awan) Girname Tazitta I Iabrat I Kindattu Kuk-Našur I Atta-hušu Siruktuh Siwe-palar-huppak Kudu-zuluš I

Table 13

Lit.: CHARPIN (2004); EDZARD (1957); Frame, RIMB 2; JURSA (2004); POTTS (1999); SALLABERGER(1999) 119–390 and (2004) 37–41; STOL (1976); VALLAT (2000) 7–17

<sup>110</sup> He was also contemporary with Iluma-AN of the first Sealand dynasty.

<sup>111</sup> POSTGATE (1994) xxi.

<sup>112</sup> See for instance the introduction in RICHARDSON (2002).

Babylon I	Sealand I	Kassites	Assyria	Elam
Ab <sup>2</sup> -eš <sup>u</sup> ©	Iluma-AN	Burna-Buriaš I	Puzur-Aššur III	
	Ea-g <sup>ḫ</sup> mil	Ulam-Buriaš		
Ammi, aduqa				Kuk-Našur II

Table 14

Lit: BRINKMAN, MSKH and (1976–1980) 464–473; CHARPIN (2003) and (2004); GADD, CAH II/1 (1973); HORSNELL (1999); JURSA (2004); PIENKA (1998); RIMB; RICHARDSON (2002); SASSMANNSHAUSEN, MDAR 61–70 and (2006) 157–177

reconstruction of time spans and for linking events (**genealogy, generation**).

#### 1.7.4. Middle Babylonian Period: Kassite Dynasty, Isin II Dynasty (→ 4., 7., 9., 13., 14., 15. and 16.)

The “Middle Babylonian period” follows the onset of the Dark Age, which roughly coincides with the Early Kassite period in the 16<sup>th</sup> and beginning of the 15<sup>th</sup> centuries BC. The Middle Babylonian can be tied to **Middle Assyrian chronology**, which can be reconstructed with an uncertainty of ca. ten years up to the reign of Aššur-bēl-nišešu, a contemporary of the

Kassite ruler Kara-indaš, and beyond on to 1420/30 BC. The Middle Babylonian period thus comprises the Kassite and the succeeding Isin II dynasties.<sup>113</sup> For this period numerous synchronisms between Babylonia, Assyria, Syria, Anatolia, Egypt and Elam are known. During the period ca. 1500–1350, the Mittanian kingdom controlled most of northern Mesopotamia, the area along the upper Tigris and Euphrates. But beginning with the reign of Adad-nīrārī I and his successors, the Assyrians gained independence in the region of the middle Euphrates and expanded, while the kingdom of Mittani declined.

Essential synchronisms between Assyrian and Babylonian rulers between ca. 1500 and 1133 BC.<sup>114</sup>

Assyria <sup>115</sup>	Babylonia <sup>116</sup>
Puzur-Aššur III: ca. 1490	Burna-Buriaš I: ca. 1500
Aššur-b <sup>ḫ</sup> -nišešu (1407–1399)	Kara-indaš: ca. 1413
Aššur-uballiṭ (1353–1318)	Burna-Buriaš II (ca. 1359–1333/1354–1326)
	Kara-Cardaš/Karakindaš (1333/1328)
	Nazi-Bugaš (1333/1328)
	Kurigalzu II (1332–1308/1327–1303)
Enlil-n <sup>ḫ</sup> -ḫ <sup>ḫ</sup> (1317–1308)	Kurigalzu II
Adad-n <sup>ḫ</sup> -ḫ <sup>ḫ</sup> I (1295–1264)	Nazi-Maruttaš (1307–1282/1302–1277)
	Kadašman-Turgu (1281–1264/1276–1259)
Tukult <sup>ḫ</sup> -Ninurta I (1233–1197)	Šagarakti-Šuriaš (1245–1233/1240–1228)
	Kaštiliašu IV (1232–1225/1227–1220)
	Adad-šuma-u, ur (1216–1187/1211–1182)
Aššur-n <sup>ḫ</sup> -ḫ <sup>ḫ</sup> III (1393–1188)	Adad-šuma-u, ur
Enlil-kudurr <sup>ḫ</sup> -u, ur (1187–1183)	Adad-šuma-u, ur
Ninurta-apil-Ekur (1182–1180/70)	Adad-šuma-u, ur
	Meli-Šipak <sup>117</sup> (1186–1172/1181–1167)
Aššur-d <sup>ḫ</sup> I (1179/69–1134)	Zababa-šuma-iddina (1158/1153)

Table 15

<sup>113</sup> A slight overlap of the two dynasties is accepted nowadays. → **BKL** and **Distanzangaben**

<sup>114</sup> Brinkman, MSKH 28–29, Sassmannshausen, MDAR 67.

<sup>115</sup> These dates are according to the lowered Middle Assyrian chronology.

<sup>116</sup> These dates are according to BRINKMAN, MSKH 6–34. For a

reduction of these dates by five years see BOESE (1982) 23 (table), which was adopted in the table by GASCHÉ *et al.*, *Dating ...*. For the cause of this shift (the Assyrian chronology) see already BRINKMAN, MSKH 32<sup>89</sup>.

<sup>117</sup> See FRAHM, *MDOG* 134 (2002) 75.

Essential synchronisms between Assyrian and Babylonian rulers between 1133 and 1057 BC (Tabelle 16).<sup>118</sup>

Babylonia	Assyria
Ninurta-nādin-šumi (1131–1126)	Aššur-rēša-iši I (1132–1115)
Nebuchadnezzar I (1125–1104)	Aššur-rēša-iši I
Marduk-nādin-aḫḫē (1099–1082)	Tiglath-pileser I (1114–1076)
Marduk-šapik-zēri (1081–1069)	Tiglath-pileser I
Adad-apla-iddina (1068–1047)	Aššur-bēkalla (1073–1056)
	Aššur-bēkalla

Table 16

*Transition: Post Kassite period*

The **BKL A** furnishes most of our chronological information for the Middle Babylonian period/Post-Kassite period. Further information (especially needful for the damaged parts of the **BKL A**) is provided by **chronicles**, the **Synchronistic History**, and other **KLs** (**BKL C**, **Synchronistic KLs**). The post-Kassite period is divided into various **BALA** (“dynasties”, such as the Isin II dynasty, etc.).<sup>119</sup> BRINKMAN, PHPKB 39–41 (plate no. 1) gives a sequence of 38 kings from Marduk-kabit-ahḫēšu to Šalmaneser V (726–722 BC) covering 400 years. This time span was calculated with the help of contemporary Assyrian rulers, primarily known from the **AKL**. Absolute dates for Babylonian rulers can only be established with the help of external sources, such as the “Assyrian chronology” based on the **AKL** and **ELs**, which are firmly fixed due to the **solar eclipse** of 15 July 763 BC. A detailed study of individual rulers can be found in BRINKMAN, PHPKB 40–51, where plate no. 2 gives a chronological table of Assyrian and Babylonian kings with absolute regnal dates.

These synchronisms are drawn from various sources, letters, treaties, annals, **chronicles** (especially the **Synchronistic History**), and the **Synchronistic KL**. Although the synchronism between Marduk-nādin-ahḫē and Tiglath-pileser I is established by an eponym-date, no absolute date can be set for it.<sup>120</sup> The above synchronisms are subject to ten years of uncertainty.

Brinkman PHKB 75, plate no. 2 marked the dates of the first 20 kings of the first 215 years of the Post-Kassite period with asterisks to indicate that their dates are uncertain by  $\pm 5$  years. This uncertainty ends up in tables by scholars, who base their work on Brinkman’s PHPKB.<sup>121</sup> Problems with the proposed chronology concerning a possible Elamite interregnum between the Kassite and Isin II dynasty, and the **Distanzangaben** on BE 1, 83, the **Bavian inscription** and the **BKL C**, are discussed on pp. 78–85<sup>122</sup> ( $\rightarrow$  the **Chedor-laomer tablets sub Historical Epics**).

Since we know neither the exact date of the end of the Kassite dynasty nor that of the beginning of the Isin II dynasty, we do not know if these two dynasties ruled consecutively, overlapped<sup>123</sup> or if an Elamite interregnum took place between them. Thus for the 20 kings between ca. 1158 and 943 BC we have only approximate dates.

Lit.: BOESE (1982) 15–26; BRINKMAN, PHPKB, (1976–1980) 464–473, (1983) 67–74 and (1993–1997) 6–10; JURSA (2004); SASSMANNSHAUSEN, MDAR 61–70 and (2006) 157–177; VAN DIJK (1986) 159–170; WEIDNER (1935–1936) 1–48

**1.7.5. Middle Assyrian Period: including part of the Kassite and post Kassite Period ( $\rightarrow$  2., 7., 10., 13., 15. and 16.)**

In the Middle Assyrian (mAss) period Assyria gained independence. Between 1350 and 1300 starting with

<sup>118</sup> On the sources for these synchronisms see BRINKMAN, PHPKB 69ff.

<sup>119</sup> BRINKMAN, PHPKB 38.

<sup>120</sup> Only for the 9<sup>th</sup> century and later can absolute dates be calculated. For Marduk-nādin-ahḫē see PNA 2/II (2001) 719.  $\rightarrow$  above sub 1.4.2 on the **Bavian inscription**.

<sup>121</sup> For a different approach see ROWTON (1970) 76–77.

<sup>122</sup> Important works by UNGNAD, *Or* 13 (1944) 73–101, POEBEL (1955) and TADMOR (1958) 129–141 are cited.

<sup>123</sup> See BOESE – WILHELM (1979) 35 credit Ninurta-apil-Ekur with a reign of 13 instead of 3 years, which implies an overlap of the Kassite and Isin II dynasties. ( $\rightarrow$  **AKL** and **Dis-**

**tanzangaben**). BRINKMAN at first (PHPKB 82) came to the conclusion that no evidence exists for either overlap or interregnum; later (MSKH 29 and 33 and RIA 5 [1977] 184) he accepted a slight overlap. Boese and Wilhelm stressed that absolute Babylonian chronology depends on the Assyrian chronology: in the case of the reconstruction of the reign length of an Assyrian ruler Babylonian dates must be kept out of the discussion. Eponyms attested in various Middle Assyrian documents seem to support the proposal of Boese – Wilhelm (personal communication by H. Freydank, Berlin, February 2004).

Adad-nīrārī I, Šalmaneser I and Tukultī-Ninurta I (using lowered Middle Assyrian dates) it reasserted its importance in the international political scene (Mittani, Anatolia, Babylonia and Egypt). During the reign of Tukultī-Ninurta I the Middle Assyrian empire reached its climax. It consisted of two parts: the east with the capital Aššur; and the west, called Ḫanigalbat. In Ḫanigalbat a member of the Assyrian royal family ruled as “grand vizier” (akk. *sukallu rabū*) and “king of Ḫanigalbat” (descendants of Ibašši-ilī, a son of Adad-nīrārī I [no. 76] and a brother of Šalmaneser I [no. 77]). Towns such as Ḫarbe, Dūr Katlimmu and Tell Sabi Abyad belonged to the western part of the Assyrian empire. CANKIK-

KIRSCHBAUM (1999) has compiled all the evidence for the genealogy of the Middle Assyrian kings, starting with Aššur-nīrārī II and touched upon the most important chronological issues of that period. From ca. 1100 the first Aramaic infiltrations are attested. These lead to the struggle for the hegemony between Assyria and Babylonia (take-over by the Isin II dynasty) which ultimately resulted in Assyrian political domination.

Lit.: BOESE – WILHELM (1979) 19–38; CANKIK-KIRSCHBAUM (1999) 210–222 and (2003); FREYDANK (1991) and (2000) 67–72; HARRAK (1987); JAKOB (2003) 9–10 and 64–65; JANSSEN (2006) 64–68; RIMA; WEIDNER (1941–1944) 362–369 and ITN; WILHELM (1994) 549–552